DESKTOP PUBLISHING OPERATOR

2nd Semester

TRADE THEORY

SECTOR: IT & ITES

Directorate General of Training

DIRECTORATE GENERAL OF TRAINING
MINISTRY OF SKILL DEVELOPMENT & ENTREPRENEURSHIP
GOVERNMENT OF INDIA

NATIONAL INSTRUCTIONAL MEDIA INSTITUTE, CHENNAI

Post Box No. 3142, CTI Campus, Guindy, Chennai - 600 032

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FOREWORD

The National Instructional Media Institute (NIMI) is an autonomous body under the Directorate General of Employment and Training (DGE&T) Ministry of Labour and Employment has been developing, producing and disseminating Instructional Media Packages (IMPs are extensively used in the Industrial Training Institutes/Training centres in Industries to impart practical training and develop work-skills for the trainees and the trainers

The Ministry of Labour & Employment constituted Mentor Councils (MCs) to revampcourses run / to be run under National Council of Vocational Training (NCVT) in 25 sectors. The MCs have representatives from thought leaders among various stakeholders viz. one of the top ten industries in the sector innovative entrepreneurs who have proved to be game-changers, academic/professional institutions (IITs etc.), experts from field institutes of DGE&T, champion ITIs for each of the sectors and experts in delivering education and training through modern methods like through use of IT, distance education etc. The technical support to the MCs is provided by Central Staff Training and Research Institute (CSTARI), Kolkata and National Instructional Media Institute (NIMI), Chennai. Some of the MCs are also supported by sector-wise Core Groups which were created internally in the Ministry (in 11 sectors).

A Steering Committee to provide overall coordination and guidance to Mentor Councils has also been constituted and has representation from the MCs, Chair positions to be endowed by the Ministry, trade unions, and experts on distance education and training. The MCs are mandated to work towards revamping/suggesting new courses, improving assessment systems, overall learning etc. for subjects under the purview of the NCVT.

Accordingly NIMI with the support and assistance of MC has developed **DTPO Trade Theory 2nd Semester** in **IT & ITES sector** to enhance the employability of ITI trainees across the country and also to meet the industry requirement.

I have no doubt that the trainees and trainers of ITIs & Training centres in industries will derive maximum benefit from these books and that NIMI's effort will go a long way in improvement of Vocational Training.

I complement Director, Mentor Council members, Media Development Committee (MDC) members and staff of NIMI for their dedicated and invaluable contribution in bringing out this publication.

ALOK KUMAR, I.A.S.,

Director General of Employment &
Training/ Joint Secretary
Ministry of Labour and Employment
Government of India

New Delhi - 110 001

PREFACE

This National Instructional Media Institute (NIMI) was set up at Chennai by the Directorate General of Employment and Training (DGE&T) Ministry of Labour and Employment, Government of India with technical assistance from the Govt. of the Federal Republic of Germany. The prime objective of this institute is to develop and disseminate instructional materials for various trades as per the prescribed syllabi under the Craftsmen and Apprenticeship Training Schemes.

The instructional materials are developed and produced in the form of Instructional Media Packages (IMPs). An IMP consists of Trade Theory book, Trade Practical book, Test and Assignment book, Instructor guide, Wall Charts and Transparencies.

Hon'ble Union Minister of Finance during the budget speech 2014-2015 mentioned about developing **Skill India** and made the following announcement

"A national multi-skill programme called Skill India is proposed to be launched. It would skill the youth with an emphasis on employability and entrepreneur skills. It will also provide training and support for traditional professions like welders, carpenters, cobblers, masons, blacksmiths, weavers etc. Convergence of various schemes to attain this objective is also proposed."

The Ministry of Labour & Employment constituted Mentor Councils (MCs) to revamp courses run / to be run under National Council of Vocational Training (NCVT) in 25 sectors which will give a sustained skill based employability to the ITI trainees as the main objective of Vocational training. The ultimate approach of NIMI is to prepare the validated IMPs based on the exercises to be done during the course of study. As the skill development is progressive the theoretical content on a particular topic is limited to the requirement in every stage. Hence the reader will find a topic spread over a number of units. The test and assignment will enable the instructor to give assignments and evaluate the performance of a trainee. If a trainee possesses the same it helps the trainee to do assignment on his own and also to evaluate himself. The wall charts and transparencies are unique, as they not only help the instructor to effectively present a topic but also helps the trainees to grasp the technical topic quickly. The instructor guide enables the instructor to plan his schedule of instruction, plan the raw material requirement ,

Thus the availability of a complete Instructional Media Package in an institute helps the trainer and management to impart an effective training. Hence it is strongly recommended that the Training Institutes/Establishments should provide at least **one IMP** per unit. This will be small, one time investment but the benefits will be long lasting.

The **DTPO Trade Theory 2nd semester in IT&ITES sector** is one of the book develop by the core group members of the Mentor Councils (MCs). The 2nd semester book includes **Module1- Photoshop, Module 2 - Corel Draw, Module 3 - InDesign, Module 4 - Bi-Lingual Software, Module 5 - Printing and Publishing**

The **DTPO Trade Theory 2nd semester** is the outcome of the collective efforts of Members of Mentor Council which includes academic/professional institutions (IITs etc.) , experts from field institutes of DGE&T, champion ITIs for each of the sectors, and also Media Development Committee (MDC) members and staff of NIMI.

NIMI wishes that the above material (Trade Practical & Trade Theory) will fulfil to satisfy the long needs of the Trainees and Instructor and helps the trainees for their employability in vocational training.

NIMI would like to take this opportunity to convey sincere thanks to all the Mentor Council members and Media Development Committee (MDC) members.

A. MAHENDIRAN
Director, NIMI

Chennai - 600 032.

ACKNOWLEDGEMENT

National Instructional Media Institute (NIMI) sincerely acknowledges with thanks for the co-operation and contribution extended by the following Media Developers and their sponsoring organisation to bring out this IMP **(Trade Theory)** for the trade of **DTPO** under the **IT & ITES** Sector for Craftsman Training Scheme. This Book is prepared as per Revised Syllabus.

MEDIA DEVELOPMENT COMMITTEE MEMBERS

Dr. Sanjeev Kumar Gupta	-	Additional Director (IT), NIELIT, Deity, MCIT, New Delhi. Chairman, Mentor council.
Shri. Naresh Chandra	-	Joint Director of Training , DGE&T, New Delhi Mentor, Mentor council.
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Shri. N. Sundararajan	-	Training Officer, NIMI, Chennai - 32 Co-ordinator, NIMI, Mentor council.

NIMI records its appreciation of the Data Entry, CAD, DTP operators for their excellent and devoted services in the process of development of this instructional material.

NIMI also acknowledges with thanks, the invaluable efforts rendered by all other staff who have contributed for the development of this Instructional material.

NIMI is also grateful to all others who have directly or indirectly contributed and helped in developing this IMP.

INTRODUCTION

TRADE THEORY

The manual of trade theory consists of theoretical information for the Second Semester course of the DTPO Trade. The contents are sequenced according to the practical exercise contained in the manual on Trade practical. Attempt has been made to relate the theortical aspects with the skill covered in each exercise to the extent possible. This co-relation is maintained to help the trainees to develope the perceptional capabilities for performing the skills.

The Trade theory has to be taught and learnt along with the corresponding exercise contained in the manual on trade practical. The indicating about the corresponding practical exercise are given in every sheet of this manual.

It will be preferable to teach/learn the trade theory connected to each exercise atleast one class before performing the related skills in the shop floor. The trade theory is to be treated as an integrated part of each exercise.

The material is not the purpose of self learning and should be considered as supplementary to class room instruction.

TRADE PRACTICAL

The trade practical manual is intented to be used in workshop. It consists of a series of practical exercies to be completed by the trainees during the Second Semester course of the DTPO trade supplemented and supported by instructions/ informations to assist in performing the exercises. These exercises are designed to ensure that all the skills in the prescribed syllabus are covered.

The manual is divided into Five modules. The distribution of exercises in the Five modules are given below.

Module 1	Photoshop	11 Exercises
Module 2	Corel Draw	13 Exercises
Module 3	InDesign	9 Exercises
Module 4	Bilingual software	3 Exercises
Module 5	Printing and publishing	8 Exercises
	Total	44 Exercises

The skill training in the shop floor is planned through a series of practical exercises centred around some practical project. However, there are few instance where the individual exercise does not form a part of project.

While developing the practical manual a sincere effort was made to prepare each exercise which will be easy to understand and carry out even by below average traninee. However the development team accept that there if a scope for further improvement. NIMI, looks forward to the suggestions from the experienced training faculty for improving the manual.

CONTENTS

Image editing softwares

Objectives : At the end of this lesson you shall be able to
- **explain about the process of producing printed products**
- **describe various image editing software**
- **explain about Adobe Photoshop CS6**
- **learning about Creating, Opening, and importing images in Adobe Photoshop**
- **identifying workspace and tools.**

Graphic reproduction

The process of producing printed products can be divided into three parts: prepress, printing (press), and print finishing (postpress).

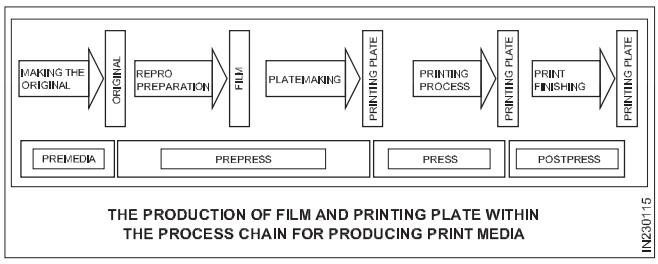
Printed products are graphic products in the widest sense: books and brochures, newspapers and magazines, leaflets and posters, labels and stickers, stamps and securities, credit and check cards, as well as folding cartons and blister packs, bags and pouches, beakers and tins, paper plates and lanterns, paper tissues, beer mats, mailings, and much more.

Prepress includes all the processing steps required to go from the preparation of the text, original images and graphics as well as the design concept right up to the production of the ready-for-print master; the master (printing plate) is then employed at the printing stage to produce the job.

The informational content and professional typographic/ graphic design of printed products are also a useful starting point for publications in the field of electronic media even outside print media, such as homepages on the Internet or CD-ROMs containing text and pictures. In a wider sense, therefore, "prepress" is also referred to as "pre-media", meaning the preparation of text and image for the several publication media. As can be seen in, the premedia production stage may already be incorporated in the actual prepress stage.

A fundamental technological change has taken place within prepress. The use of conventional typesetting machines, repro cameras, and film has been replaced by computer technology in virtually all branches of this industry. Text and image are digitized or actually created digitally, processed electronically and output directly onto the printing plate in print format, and increasingly without the use of film intermediates. Nevertheless, for many companies film remains an indispensable information carrier, albeit for a short-term transitional phase. It is for this reason that both prepress technologies.

- Conventional and
- Digital



THE PRODUCTION OF FILM AND PRINTING PLATE WITHIN THE PROCESS CHAIN FOR PRODUCING PRINT MEDIA

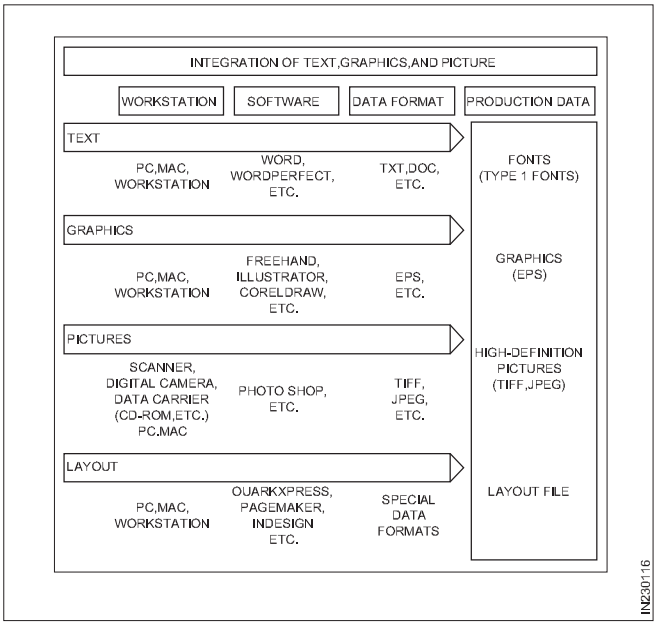
Text

The possibilities of word capturing and processing, as well as the generation of a typesetting product, are described in. The method of working has not been changed by the introduction of digital production, only the place of execution has changed in most cases: that is from the departments of typesetting and reproduction to the corresponding departments at the customer's or at the agency.

The text data are primarily prepared in "Word" format, which has virtually become the word processing standard, since it is most widely used and offers many professional tools. The text data are very rarely edited directly in word; instead they are positioned and typographically edited in a layout program (e.g., Quark XPress, InDesign, or Pagemaker).

Images

The picture objects of a printed product are usually available as photograph, slide, or reflection copy, and are scanned in, or digitized, for publication. The digital data are then available at a workstation for further processing (i.e., corrections of the image contents or geometry). In the mean time, further alternatives have been added to this classical procedure: for instance the principle of the photo CD. This procedure still includes the use of a camera and the development of the film. However, very often the result is not a slide, but a data file, for example stored on a Photo CD, containing original pictures that are already digitized. As for the scanned image, these data can also be processed directly onto the workstation.



Graphics

Graphics constitute the third main element of a printed page. They are generally generated in so called illustration programs such as Freehand, Illustrator, or Coreldraw. These data are usually saved in the form of vector-based data files, which cannot be edited or positioned in a layout program. Therefore, these software programs offer an opportunity to save graphics or drawings in EPS format and make them available in the layout for geometric processing (scaling, cropping).

Layout

Layout programs are software packages allowing for flexible, creative work and for integrating the elements (text, images, and graphics) on pages or a sequence of pages, or to position them on the page depending on the current job. Thus they have taken over a significant function of production. One particular layout program has virtually become a standard application: Quark Xpress. In 1999, a competitor appeared on the market: Indesign from Adobe. Another popular layout program is page-maker (formerly by Aldus, today Adobe), which is mostly used in offices.

Photomechanical image processing/reproduction

Image processing or reproduction is the process that information in the form of images undergoes when it is converted from an original to a ready-for-print master/plate. In photomechanical image processing the master (usually film) is produced by using optical devices to record the images (camera, optics, filters, etc.) and process them (color filters, optical screens, special properties of the film material, etc.); no digital processes are used for photomechanical recording and processing the images, which is the case in "electronic reproduction technology"

Images may be present both as line art (graphics), black-and-white or colored, and as black-and-white or colored continuous-tone images. The base material containing the image data is called the original. In the case of a continuous-tone original it is most often a photograph. A black-and-white photo contains a large number of gray values ranging from the black areas of the image, the "shadows," to the white areas, the "highlights", the range of optical density of a positive slide, which is often the original for image reproduction, is greater than that of a print, it is necessary for adjustments to be made depending on the subject matter. In addition there is scaling (enlargement/ reduction), image correction (spotting out unwanted details, smoothing or contours, addition or removal of elements of the image, etc.), color correction, and, as already mentioned, screening for the halftone reproduction of continuous-tone images for printing. This whole range of tasks must be accomplished during the image processing/ reproduction process-efficiently and within tightly controlled limits. There are two processing routes to achieve this goal, which involve different principles:

- Analog image processing and
- Digital image processing.

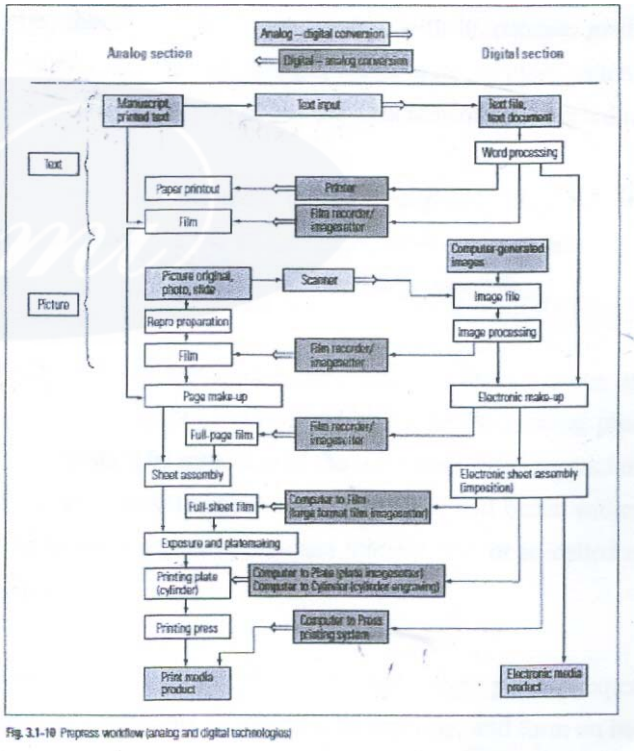


Fig. 3.1-10 Prepress workflow (analog and digital technologies)

Analog image processing uses predominantly photomechanical, chemical, and physical means to complete the tasks whereas digital image processing is carried out electronically/digitized.

Principles, tasks of photomechanical reproduction

Photomechanical reproduction technology has the task of producing masters/copies (films) for the platemaking process from original images via a photomechanical route. Knowledge of fundamental definitions and laws of light technology and the properties of films used in repro technology is required in order to fully master the optical and photographic processes involved.

Image editing softwares

Modern cameras can make digital photography seem very easy, and even the most basic models will often produce crisp, clear photos.

You'll still have occasional issues with lighting, white balance, red-eye and more, though, so it's a good idea to learn & use a photo editor around to help resolve these issues.

The extremely demanding software for image editing is Photoshop, and there's no doubt it's a great program. But it is a licensed program which is costly as well.

Some excellent free tools are also available. Lets get some brief on a few Image editing softwares before studying Photoshop.

1. GIMP

GIMP (the GNU Image Manipulation Program) first appeared way back in 1996, and has been regularly updated ever since, so it's no surprise that the package is one of the most powerful free photo editor. There are tools to correct colours, enhance contrast, brightness and more; sharpen or blur an image, fix perspective problems, remove red-eye; add special lighting effects, turn a photo into an oil painting, and create an animation.

The paint tools alone are amazing, there's full layer support and lots of ways to extend the program.

All this power does mean GIMP takes a while to learn, but don't let that put you off - if you've any previous image editing experience then you'll be doing useful work within minutes.

Fig 1

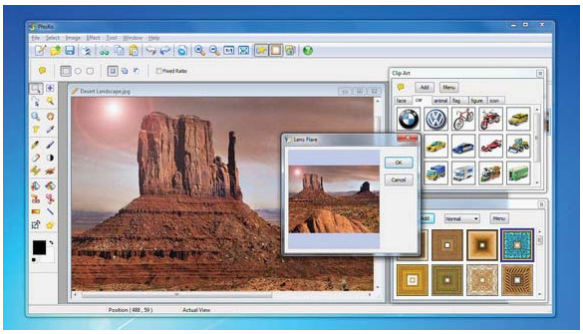
2. Paint.NET

It may not have anything like the power of GIMP, but there's still plenty to like about Paint.NET. It's strong on image editing basics, with options to resize and rotate your photos, a good range of selection and paint tools, and some excellent special effects.

Support for layers means you can apply your edits to part of an image only, and the program can be extended with plugins.

Best of all, though, Paint.NET'sar and straightforward interface means it's very easy to use, even if you're a complete graphics novice.

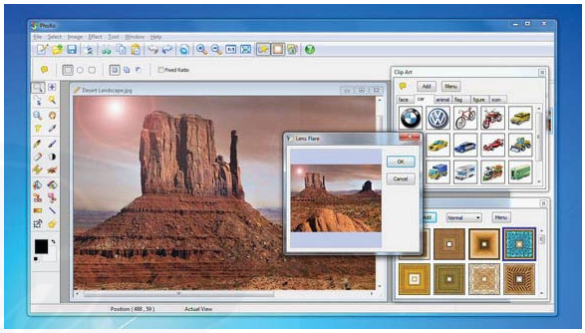
Fig 2



3. PhoXo

PhoXo has been around for almost 10 years now, and it's grown into a very useful editor with something for everyone. Kids can play around with the clipart, customising images with cartoon cats; practical types will enjoy options like the ability to add a custom watermark to an entire folder of images; and everyone else will appreciate the drawing and paint tools, image transformations, effects and more.

Fig 3



4. Funny Photo Maker

Funny Photo Maker has no layer support, no smart selection tools, no paint or drawing options. But that doesn't matter, because what it does have is an amazing range of effects which you can apply in seconds.

So you can add someone's face to a movie poster, magazine cover or a dollar bill; transform a still image into an animation; add rain or snow to a photo, apply some excellent frames, and turn your photos into a college, amongst many other options.

Fig 4

5. Photo Pos Pro

Its tiny toolbars and dated interface mean Photo Pos Prodoesn't look too promising, but begin to explore and you'll soon be impressed.

There are plenty of selection options, a wide range of paint tools, colour corrections and more.

You get reasonable support for layers and masks, lots of effects (all extremely configurable), and a scripting tool which helps you automate many editing tasks.

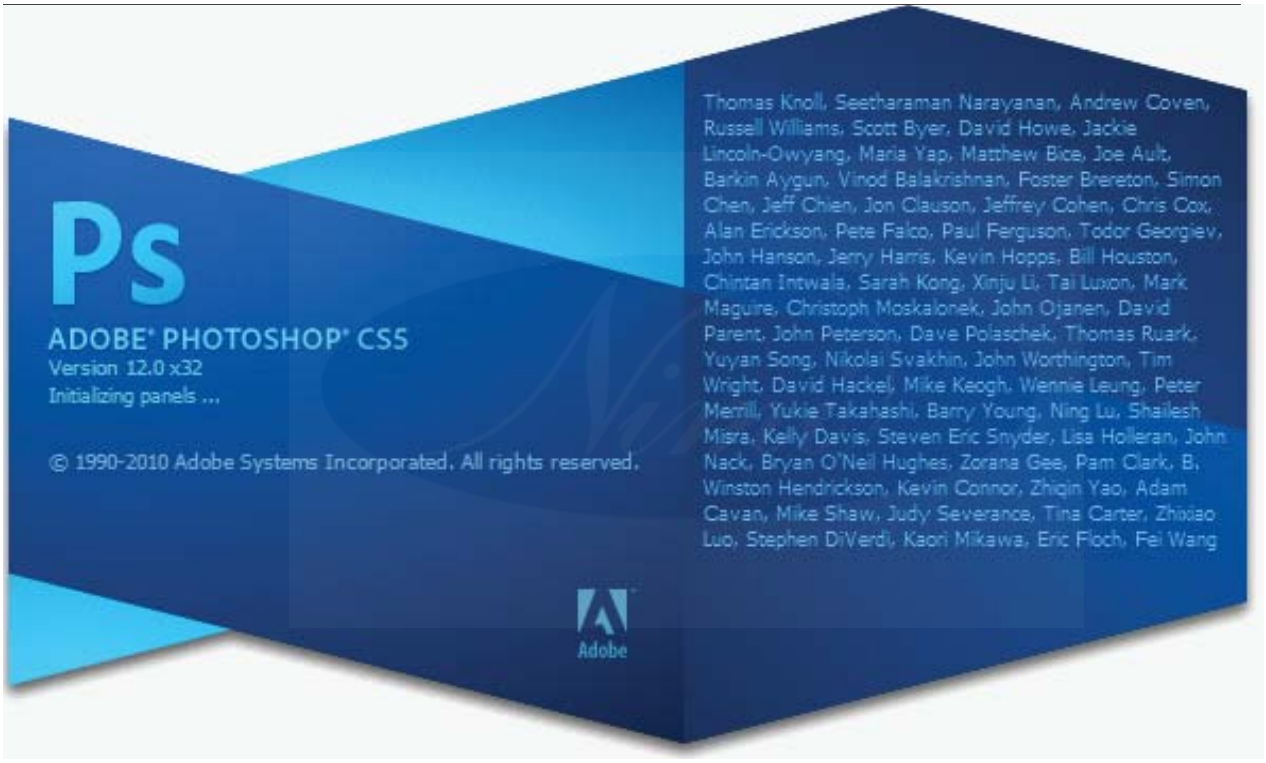
And the program offers some fun touches, too, like a set of "Magical" effects which help you add fireworks, bubbles, stardust or similar decorations to an image.

Fig 5

Introduction to photoshop CS5

Explain the capabilities and features for Photoshop

Fig 6



Introduction

Photoshop can be described as a digital editing application for digital-copy of raster images. Besides the standard colour and lighting correction tools along with filtering, painting, masking, and layering options, it provides additional functionality to work with 3D objects, digital animations, and video editing.

Photo Corrections

Photoshop's strength lies in the ability to correct digital images to restore original color and lighting as well as to correct problems introduced in images by camera lenses.

Photo composition

Image editing may be used to combine multiple images into one single image or composition. Multiple images taken from different horizontal angles from the same spot can be merged into a single panoramic image.

Artistic effects

Photoshop provides the ability to use different filters and warping tools to apply artistic effect to images. The combination of numerous tools and filters in Photoshop can create unexpected results.

Painting

Photoshop is one of the best applications available for creating digital paintings. The addition of wet brush capability in Photoshop CS5 makes it the first choice for digital painting. Many of the powerful features, such as the layering and masking, are available for use with the painting tools. The paint-brushes are integrated into many of the other tools in Photoshop.

Creating vector artwork

Photoshop also is an excellent application to use for creating vector artworks. The path tool quickly creates/ manipulates vector artwork created on a separate masked layer upon any raster image. You also can add vector artwork (including vector text) to raster images.

Adding text to images

Photoshop provides various type tools used to add text upon images. The text can be resized, warped, and adjusted to add special visual effects to the image(s).

Creating Web images

Another area where Photoshop excels is preparing images for the web. Photoshop provides utilities to quickly format images with the appropriate size, file format, and colors for use in web pages. Photoshop also provides tools for slicing of an image into clickable sections and provides the required HTML code for use of the slices in Web pages.

Print preparation

Photoshop is often used to convert the images from one colour format to another making it ready for being printed. Usually RGB colour mode is changed to CYMK for four-colour printing. Spot colors are added separately and color separations are also created.

Creating 3D objects

Photoshop has the capability to create and manipulate 3D objects. Although it is not the best utility for creating 3Dobjects, it is very good at manipulating them and then applying them to 2D images.

Adding textures to 3D objects

Photoshop has a big advantage over other 3Dapplications at applying textures to 3D objects. With photoshop's filter and painting capabilities, Edit the textures of your 3D objects in ways that you may not have thought possible.

Video corrections

Just as with 3D modeling, photoshop should not be your choice for creating video projects; however, using photoshop's color, lighting, and filter effects, Quickly apply corrections to video and even add some artistic effects,

Animating images

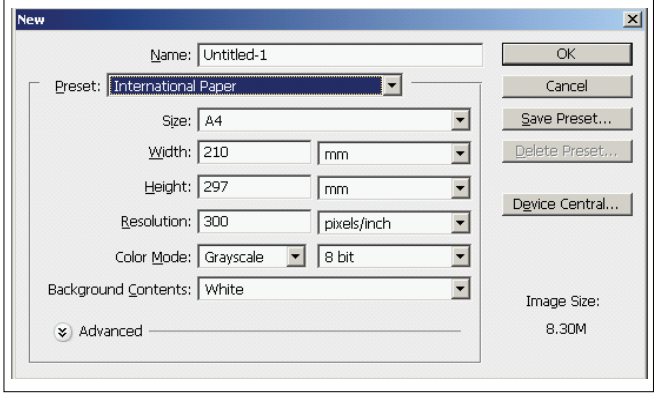
Another fun feature of Photoshop is the ability to add animation to your images. Animated images can gives life to web pages and allow you to create short animates movies.

New Photo shop document

New

Go to File Menu → Choose the Option New from file menu. The New Dialogue box opens as shown in Fig. 7

Fig 7



Name

These settings specify the name of the document which is used to locate the document in the file system later.

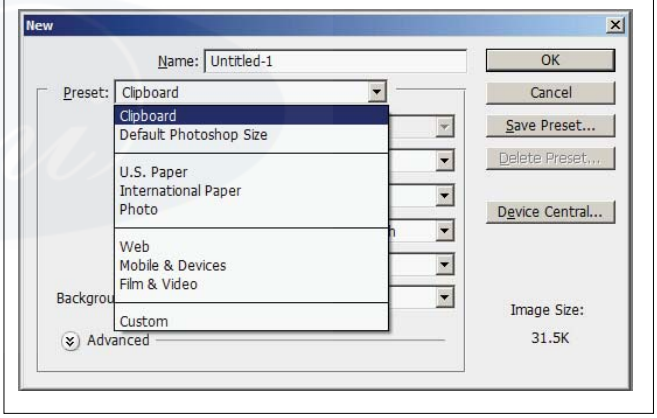
Preset

This option includes a drop down list as shown below.

Size

This settings to select drop down list based on the preset setting selected standard photo sizes and paper sizes or custom sizes available on the clip board.

Fig 8



Width

This setting specify the sizes document width area available on the size, The available units they are inches, mm, cm, picas, point, pixels and columns the available in the preset.

Height

This setting specify the sizes document height area available on the size, The available units they are inches, mm, cm, picas, point, pixels and columns the available in the preset.

Resolution

This settings specify the resolution and the units to set the resolution of the new document, The available units are pixels/inch and pixels/cm

Color mode

This settings specify the Colour mode and number of channels to use the creating document, Colour mode

(Bitmap, RGB colour, CMYK colour, Gray scale, Lab Colour and bit level (1bit,8 bit,16 bit32 bit)available on the new document

Background Contents

This setting specifies the contents of the background of the new document, This options are white, background color and transparent . background Colour is selected the Colour is selected the Colour of the back ground Photoshop toolbox is used as the background for the document.

Introduction to Adobe Photoshop CS6

Adobe® Photoshop® CS6, the benchmark for digital imaging excellence, provides strong performance, powerful image-editing features, and an intuitive interface. Adobe Camera Raw, included with Photoshop CS6, offers flexibility and control as you work with raw images as well as TIFF and JPEG images. Photoshop CS6 pushes the boundaries of digital image editing and helps you turn your dreams into designs more easily than ever before.

What's New in this Edition

This edition covers many new features in Adobe Photoshop CS6, such as intuitive video editing tools, which make it easy to create and add effects to video clips and still images; the Content-Aware Move tool, which lets you remove unwanted objects or replicate existing portions of an image; simpler and more powerful 3D controls (Photoshop CS6 Extended only); and the all-new Crop tool, providing greater flexibility in cropping, straightening, and skewing an image. In addition, these lessons introduce you to erodible brush tips, new vector layers, lens-aware adjustments, paragraph styles, and more. New exercises and lessons cover:

- Using the Timeline panel, keyframes, and motion effects to create movie files from video clips and still images within Photoshop.
- Creating and applying paragraph styles to text.
- Painting more realistic effects with erodible brush tips.
- Creating, positioning, and adding effects to objects in a 3D scene (Photoshop CS6 Extended only).

This edition is also chock-full of extra information on Photoshop features and how best to work with this robust application. You'll learn best practices for organizing, managing, and showcasing your photos, as well as how to optimize images for the web. And throughout this edition, look for tips and techniques from one of Adobe'sown experts, Photoshop evangelist Julieanne Kost.

Adobe Photoshop CS6 Extended

This edition of works with the 3D features in Adobe Photoshop CS6 Extended-a version with additional functions for professional, technical, and scientific users, intended for those creating special effects in video or in architectural, scientific, or engineering images. Photoshop Extended features include:

- The ability to import 3D images and to edit individual frames or image sequence files by painting, cloning, retouching, or transforming them.
- Support for 3D files including the U3D, 3DS, OBJ, KMZ, and Collada file formats created by programs such as Adobe Acrobat® 9 Professional and Google Earth. See Lesson 12, "Working with 3D Images," to learn about these features.
- Support for specialized file formats, such as DICOM, the most common standard for receiving medical scans; MATLAB, a high-level technical computing language and interactive environment for developing algorithms, visualizing and analyzing data, and computing numbers; and 32-bit highresolution images, including a special HDR Color Picker and the capability to paint and layer these 32-bit HDR images.

Installing adobe Photoshop

Before you begin using Adobe Photoshop CS6, make sure that your system is set up correctly and that you've installed the required software and hardware. You must purchase the Adobe Photoshop CS6 software separately. For system requirements and complete instructions on installing the software, see the Adobe Photoshop CS6 Read Me file on the application DVD or on the web at www.adobe.com/support. Note that some Photoshop CS6 Extended features, including all 3D features, require a video card that supports OpenGL 2.0. Photoshop and Bridge use the same installer. You must install these applications from the Adobe Photoshop CS6 application DVD (you cannot run the programs from the disc), or from the installation files you downloaded from Adobe, onto your hard drive. Follow the onscreen instructions. Make sure that your serial number is accessible before installing the application.

Photoshop CS6 system requirements

Windows

- Intel® Pentium® 4 or AMD Athlon® 64 processor
- Microsoft® Windows® XP with Service Pack 3 orMicrosoft Windows 7 with Service Pack 1. Adobe® Creative Suite® 5.5 and CS6 applications also support Windows 8 and Windows 8.1. See the CS6 FAQ for more information about Windows 8 support.*
- 1 GB of RAM
- 1 GB of available hard-disk space for installation; additional free space required during installation (cannot install on removable flash storage devices)
- 1024 x 768 display (1280 x 800 recommended) with 16-bit color and 512 MB (1 GB recommended) of VRAM
- OpenGL 2.0-capable system
- DVD-ROM drive

- This software doesn't operate without activation. Broadband Internet connection and registration are required for software activation, validation of subscriptions, and access to online services.

Starting to work in adobe Photoshop

The Adobe Photoshop work area includes menus, toolbars, and panels that give you quick access to a variety of tools and options for editing and adding elements to your image. You can also add commands and filters to the menus by installing third-party software known as plug-ins. Photoshop works with bitmapped, digitized images (that is, continuous-tone images that have been converted into a series of small squares, or picture elements, called pixels). You can also work with vector graphics, which are drawings made of smooth lines that retain their crispness when scaled. You can create original artwork in Photoshop, or you can import images from many sources, such as:

- Photographs from a digital camera
- Commercial CDs of digital images
- Scans of photographs, transparencies, negatives, graphics, or other documents
- Captured video images
- Artwork created in drawing programs

Open files

You can open files using the Open command and Open Recent command. You can also open files into Photoshop from Adobe Bridge or Adobe® Photoshop® Lightroom™.

When opening certain files, such as camera raw and PDF, you specify settings and options in a dialog box before the files completely open in Photoshop.

In addition to still images, Photoshop® Extended users can open and edit 3D files, video and image sequence files.

Photoshop uses plug-in modules to open and import many file formats. If a file format does not appear in the Open dialog box or in the File > Import submenu, you may need to install the format's plug-in module.

Sometimes Photoshop may not be able to determine the correct format for a file. This can happen, for example, because the file has been transferred between two operating systems. Sometimes a transfer between Mac OS and Windows can cause the file format to be mislabeled. In such cases, you must specify the correct format in which to open the file.

You can retain (where possible) layers, masks, transparency, compound shapes, slices, image maps, and editable type when bringing your Illustrator art into Photoshop. In Illustrator, export the art in the Photoshop (PSD) file format. If your Illustrator art contains elements that Photoshop doesn't support, the appearance of the artwork is preserved, but the layers are merged and the artwork is rasterized.

Specify the file format in which to open a file

If a file was saved with an extension that doesn't match its true format (for example, a PSD file saved with a .gif extension), or has no extension, Photoshop may not be able to open the file. Selecting the correct format will allow Photoshop to recognize and open the file.

(Windows) Choose File > Open As, and select the file you want to open. Then choose the desired format from the Open As pop up menu, and click Open.

If the file does not open, then the chosen format may not match the file's true format, or the file may be damaged.

Open PDF files

Adobe Portable Document Format (PDF) is a versatile file format that can represent both vector and bitmap data. It has electronic document search and navigation features. PDF is the primary format for Adobe Illustrator and Adobe Acrobat.

Some PDF files contain a single image, and others contain multiple pages and images. When you open a PDF file in Photoshop, you can choose which pages or images to open and specify rasterization options.

You can also import PDF data using the Place command, the Paste command, and the drag-and-drop feature. The page or image is placed on a separate layer as a Smart Object.

The following procedure is only for opening generic PDF files in Photoshop. You don't need to specify options in the Import PDF dialog box, when opening Photoshop PDF files.

Open an EPS file

Encapsulated PostScript (EPS) can represent both vector and bitmap data and is supported by virtually all graphic, illustration, and page-layout programs. The Adobe application that primarily produces PostScript artwork is Adobe Illustrator. When you open an EPS file containing vector art, it is rasterized-the mathematically defined lines and curves of the vector artwork are converted into the pixels or bits of a bitmap image.

You can also bring PostScript artwork into Photoshop using the Place command, the Paste command, and the drag-and-drop feature.

Opening a file with adobe Bridge

In this book, you'll work with different start files in each lesson. You may make copies of these files and save them under different names or locations, or you may work from the original start files and then copy them from the DVD again if you want a fresh start. This lesson includes three start files.

In the previous lesson, you used the Open command to open a file. Now you'll open another file using Adobe Bridge, a visual file browser that helps take the guesswork out of finding the image file that you need.

Acquiring digital images from cameras

You can copy images to your computer by connecting your camera or a media card reader to your computer.

- Use the Get Photos From Camera command in Adobe® Bridge® to download photos, and to organize, rename, and apply metadata to them.
- If your camera or the card reader appears as a drive on your computer, copy images directly to your hard disk or into Adobe Bridge.
- Use the software that came with your camera, Windows Image Acquisition (WIA), or Image Capture (Mac OS). For more information on using Windows Image Acquisition or Image Capture, see your computer documentation.

Import images from a digital camera using WIA (Windows only)

Certain digital cameras import images using Windows Image Acquisition (WIA) support. When you use WIA, Photoshop works with Windows and your digital camera or scanner software to import images directly into Photoshop.

Importing scanned images

To import scanned images, either open TIFF files saved from separate scanning software, or use a TWAIN or WIA interface directly in Photoshop. In either case, make sure to install the software necessary for your scanner. For installation instructions, see the documentation provided by the scanner manufacturer.

Scanner drivers are supported by the scanner manufacturer, not Adobe. If you have problems with scanning, make sure that you are using the latest version of the scanner driver and software.

Import images from a separate scanning application

Most scanners come with software you can run outside of Photoshop, providing identical scanning options and quality. This method avoids issues caused by outdated TWAIN drivers. It can also improve efficiency, letting you edit images in Photoshop while scanning continues in the background.

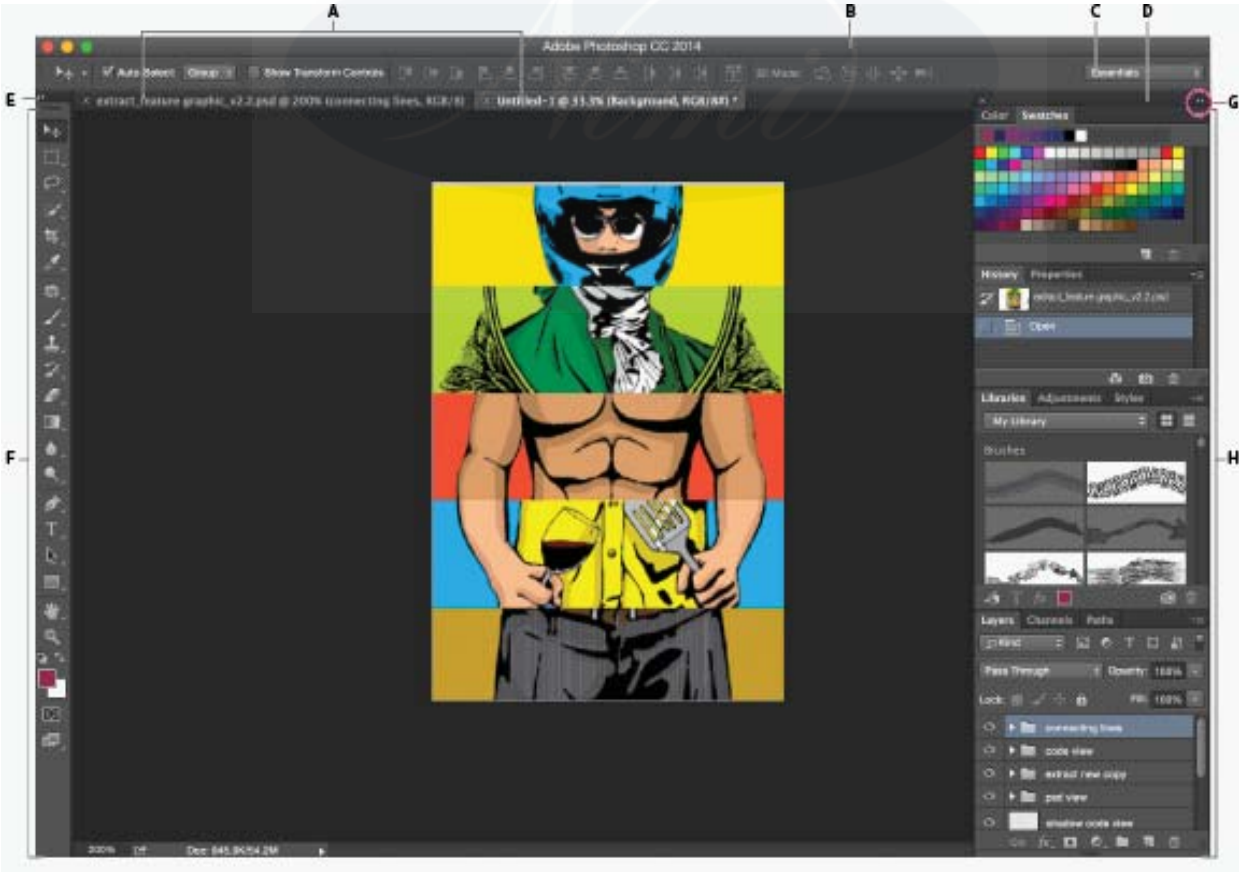
1 Start the scanning software, and set options as desired.

2 Save scanned images in TIFF format.

3 In Photoshop, open the saved TIFF files.

Workspace overview

You create and manipulate your documents and files using various elements, such as panels, bars, and windows. Any arrangement of these elements is called a workspace.



Default workspace

A. Tabbed Document windows B. Application bar C. Workspace switcher D. Panel title bar E. Control panel F. Tools panel G. Collapse To Icons button H. Four panel groups in vertical dock

- The Application bar across the top contains a workspace switcher, menus (Windows only), and other application controls.
- The Tools panel contains tools for creating and editing images, artwork, page elements, and so on. Related tools are grouped.
- The Options bar Control panel displays options for the currently selected tool.
- The Document window displays the file you're working on. Document windows can be tabbed and, in certain cases, grouped and docked.
- Panels help you monitor and modify your work. For example, the Layers panel in Photoshop. Panels can be grouped, stacked, or docked.

Hide or show all panels

- To hide or show all panels, including the Tools panel and Control panel, press Tab.
- To hide or show all panels except the Tools panel and Control panel, press Shift+Tab.

You can temporarily display hidden panels if Auto-Show Hidden Panels is selected in Interface preferences. Move the pointer to the edge of the application window (Windows®) or to the edge of the monitor (Mac OS®) and hover over the strip that appears.

Display panel options

- Click the panel menu icon in the upper-right corner of the panel.

You can open a panel menu even when the panel is minimized.

Dock and undock panels

A dock is a collection of panels or panel groups displayed together, generally in a vertical orientation. You dock and undock panels by moving them into and out of a dock.

- To dock a panel, drag it by its tab into the dock, at the top, bottom, or in between other panels.
- To dock a panel group, drag it by its title bar (the solid empty bar above the tabs) into the dock.
- To remove a panel or panel group, drag it out of the dock by its tab or title bar. You can drag it into another dock or make it free-floating.

Add and remove panels

If you remove all panels from a dock, the dock disappears. You can create a dock by moving panels to the right edge of the workspace until a drop zone appears.

- To remove a panel, right-click (Windows) or Control-click (Mac) its tab and then select Close, or deselect it from the Window menu.
- To add a panel, select it from the Window menu and dock it wherever you want.

Save a custom workspace

1. With the workspace in the configuration you want to save, choose Window > Workspace > New Workspace.
2. Type a name for the workspace.
3. Under Capture, select one or more options:

Keyboard shortcuts

Saves the current set of keyboard shortcuts (Photoshop only).

Menus or Menu Customization

Saves the current set of menus.

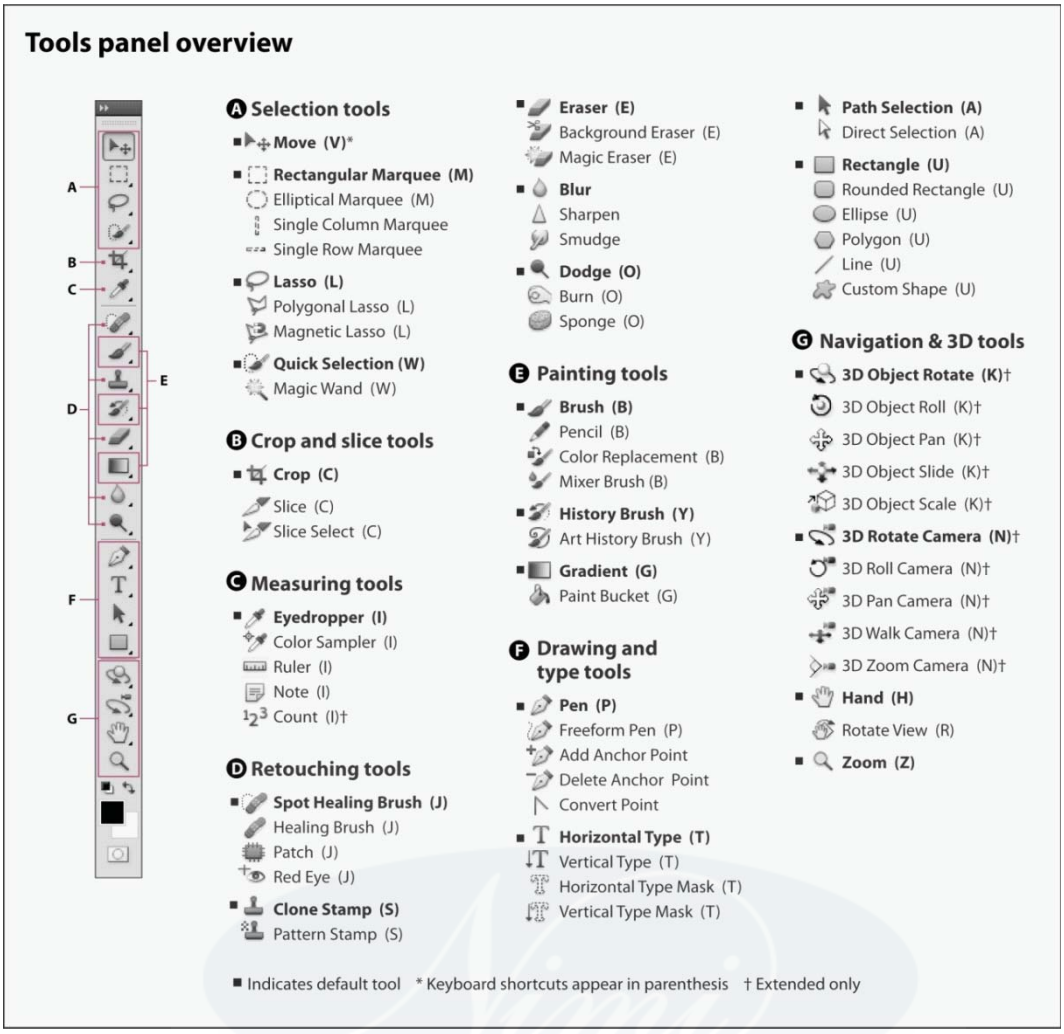
Restore the default workspace

1. Select the Default or Essentials workspace from the workspace switcher in the application bar.
2. Select Window > Workspace > Reset [Workspace Name].
3. You can view information about any tool by positioning the pointer over it. The name of the tool appears in a tool tip below.

Photoshop CS5 tools

When you start Photoshop, the Tools panel appears at the left of the screen. Some tools in the Tools panel have options that appear in the context-sensitive options bar. You can expand some tools to show hidden tools beneath them. A small triangle at the lower right of the tool icon indicates the presence of hidden tools.

You can view information about any tool by positioning the pointer over it. The name of the tool appears in a tool tip below the pointer.



When you start Photoshop, the Tools panel appears at the left of the screen. Some tools in the Tools panel have options that appear in the context-sensitive options bar.

You can expand some tools to show hidden tools beneath them. A small triangle at the lower right of the tool icon signals the presence of hidden tools.

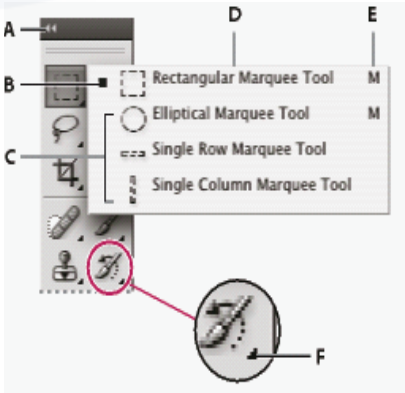
You can view information about any tool by positioning the pointer over it. The name of the tool appears in a tool tip below the pointer.

Selecting and displaying tools

Select a tool

- Click a tool in the Tools panel. If there is a small triangle at a tool's lower right corner, hold down the mouse button to view the hidden tools. Then click the tool you want to select.
- Press the tool's keyboard shortcut. The keyboard shortcut is displayed in its tool tip. For example, you can select the Move tool by pressing the V key.

Pressing and holding a keyboard shortcut key lets you temporarily switch to a tool. When you let go of the shortcut key, Photoshop returns to the tool you were using before the temporary switch.



Accessing tools

A. Tools panel **B.** Active tool **C.** Hidden tools **D.** Tool name **E.** Tool shortcut **F.** Hidden tool triangle

Change tool pointers

Each default pointer has a different hotspot, where an effect or action in the image begins. With most tools, you can switch to precise cursors, which appear as cross hairs centered around the hotspot.

In most cases, the pointer for a tool is the same as the icon for that tool; you see that pointer when you select the tool. The default pointer for the marquee tools is the cross-hair pointer ; for the text tool, the default pointer is the I beam

; and for the painting tools the default pointer is the Brush Size icon.

1. Choose Edit > Preferences > Cursors (Windows)
2. Choose tool pointer settings under Painting Cursors or Other Cursors:

Standard

Displays pointers as tool icons.

Precise

Displays pointers as cross hairs.

Normal Brush Tip

The pointer outline corresponds to approximately 50% of the area that the tool will affect. This option shows the pixels that would be most visibly affected.

Full Size Brush Tip

The pointer outline corresponds to nearly 100% of the area that the tool will affect, or nearly all the pixels that would be affected.

Show Crosshair In Brush Tip

Displays cross hairs in the center of the brush shape.

Show Only Crosshair While Painting

Improves performance with large brushes.

3. Click OK.

The Painting Cursors options control the pointers for the following tools:

Eraser, Pencil, Paintbrush, Healing Brush, Clone Stamp, Pattern Stamp, Quick Selection, Smudge, Blur, Sharpen, Dodge, Burn, and Sponge tools

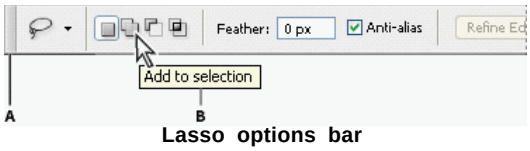
The Other Cursors options control the pointers for the following tools:

Marquee, Lasso, Polygonal Lasso, Magic Wand, Crop, Slice, Patch, Eyedropper, Pen, Gradient, Line, Paint Bucket, Magnetic Lasso, Magnetic Pen, Freeform Pen, Measure, and Color Sampler tools

Using the options bar

The options bar appears below the menu bar at the top of the workspace. The options bar is context sensitive-it changes as you select different tools. Some settings in the options bar (such as painting modes and opacity) are common to several tools, and some are specific to one tool.

You can move the options bar in the workspace by using the gripper bar, and you can dock it at the top or bottom of the screen. Tool tips appear when you position the pointer over a tool. To show or hide the options bar, choose Window > Options.



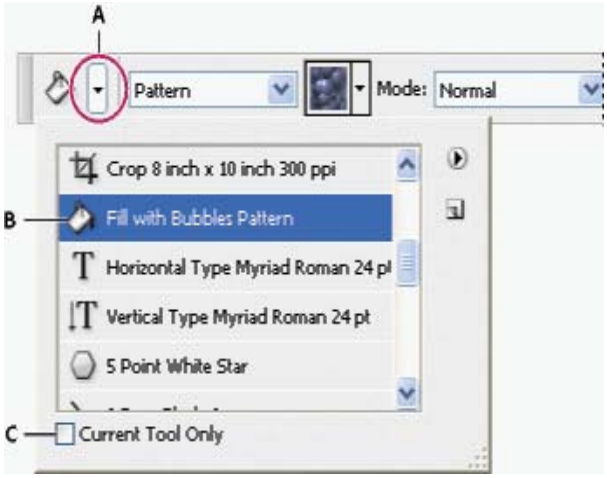
Lasso options bar

A. Gripper bar **B.** Tool tip

Tool presets

Tool presets let you save and reuse tool settings. You can load, edit, and create libraries of tool presets using the Tool Preset picker in the options bar, the Tool Presets panel, and the Preset Manager.

To choose a tool preset, click the Tool Preset picker in the options bar, and select a preset from the pop up panel. You can also choose Window > Tool Presets and select a preset in the Tools Presets panel.



Viewing the Tool Preset picker

A. Click the Tool Preset picker in the options bar to show the Tool Preset pop up panel. **B.** Select a preset to change the tool's options to the preset, which applies each time you select the tool until you choose Reset Tool from the panel menu. **C.** Deselect to show all tool presets; select to show presets for only the tool selected in the toolbox.

The **marquee tools** make rectangular, elliptical, single row, and single column selections.

The **Magic Wand tool** selects similarly colored areas.

The **Move tool** moves selections, layers, and guides.

The **lasso tools** make free hand, polygonal (straight-edged), and magnetic (snap- to) selections.

The **Quick Selection tool** lets you quickly "paint" a selection using an adjustable round brush tip

- **Crop and slice tools gallery**

Crop tool trims images.

The **tool** creates slices.

The **Slice Select tool** selects slices.

- **Retouchingtoolsgallery**

The **Spot Healing Brush tool** removes blemishes and objects

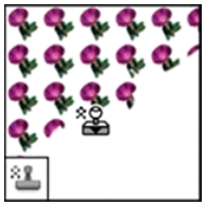
The **Clone Stamp tool** paints with a sample of an image.

The **Magic Eraser tool** erases solid-colored areas to transparency with a single click.

The **Dodge tool** lightens areas in an image.

The **Healing Brush tool** paints with a sample or pattern to repairimperfections in a image.

The **Pattern Stamp tool** paints with part of an imageas a pattern.

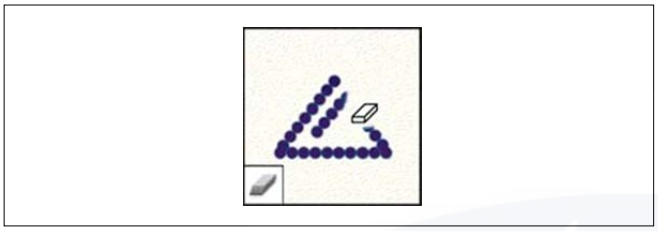


The **Blur tool** blurs hard edges in an image.

The**Burn tool darkens** are as in an image.

The **Patch tool** repairs imperfections in a selected area of an image using a sampleor pattern.

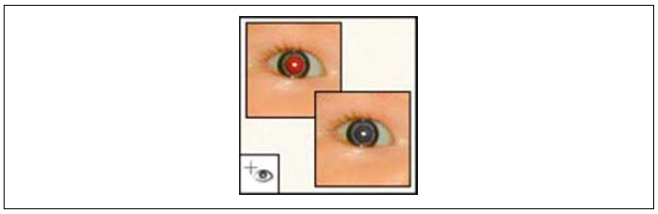
The **Eraser tool** erase spixels and restores parts of an image to a previously savedstate.



The **Sharpen tool** sharpens soft edges in an image.

The **Sponge tool** changes the color saturation of an area.

The **Red Eye tool** removes the red reflection caused by a flash.

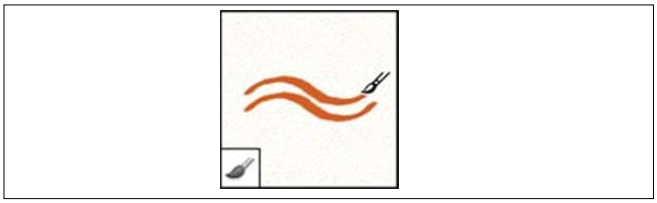


The **Background Eraser tool** erases are as to transparency by dragging.

The **Smudge tools** mudges data in an image.

- **Painting tools** gallery

The **Brush tool** paints brush strokes.

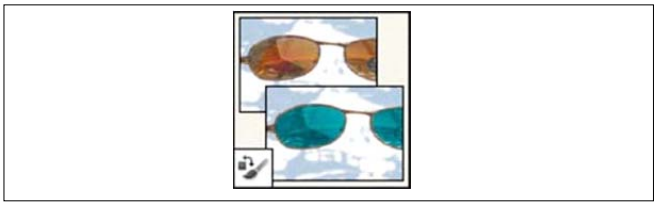


The **History Brush tool** paints a copy of the selected state or snaps hot into the current image window.

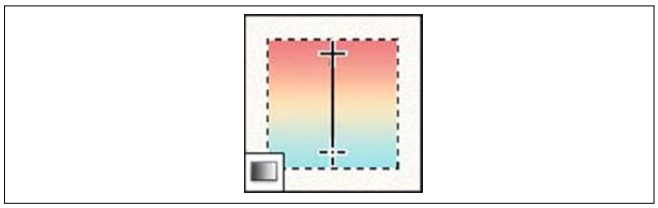
The **Pencil tool** paints hard- edged strokes.

The **Art History brush tool** paints with stylized strokes that simulate the look of different paint styles, using a selected state or snapshot.

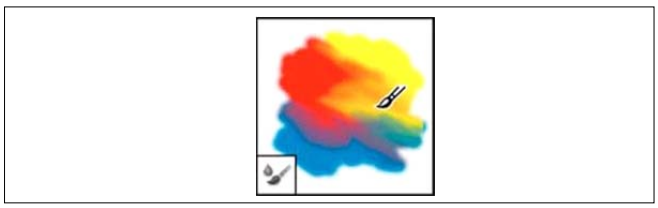
The **Color Replacement tool** replaces a selected color with a new color.



The **gradient tools** create straight-line, radial,angle, reflected, and diamond blends between colors.



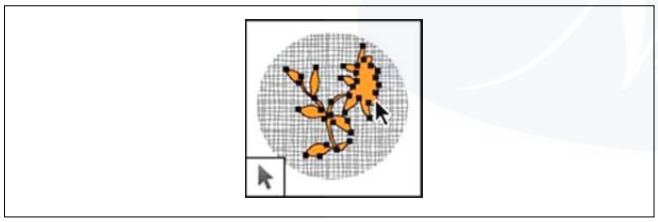
The **Mixer Brush tool** Simulates realistic painting techniques such as blending canvas colors and varying paint wetness.



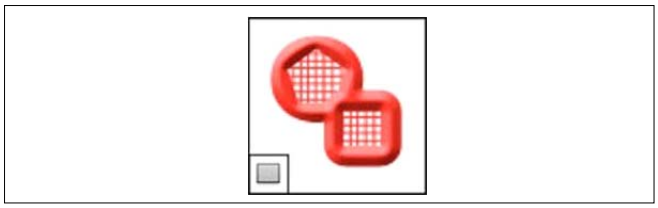
The **Paint Bucket tool** fills similarly colored areas with the fore ground color.

- **Drawing and type tools** gallery

The **path selection tools** make shape or segment selections showing anchor points, direction lines, and direction points.

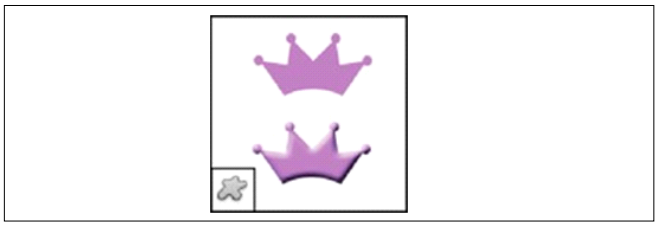


The **shape tools and Line tool** draw shapes and lines in a normal layer or a shape layer.

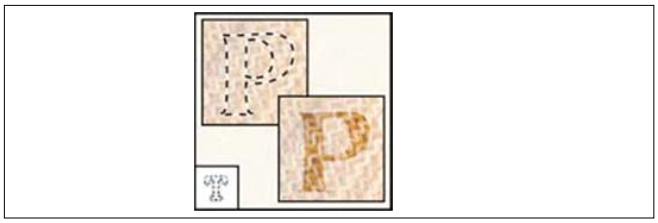


The **type tools** create type on an image.

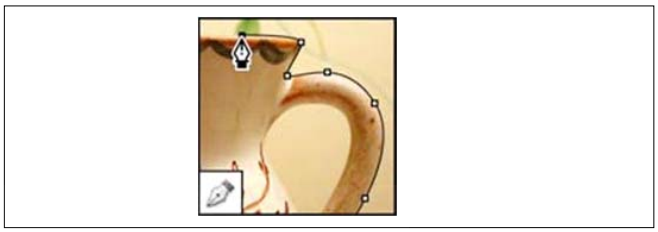
The **Custom Shape tool** makes customized shapes selected from a custom shape list.



The **type mask tools** create a selection in the shape of type.



The **pen tools** let you draw smooth-edged paths.

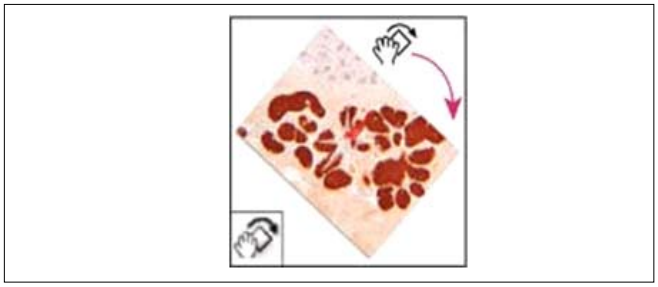


- **Navigation, notes and measuring tools** gallery

The **Hand tool** moves an image within its window.

The **Eye dropper tool** samples colors in an image.

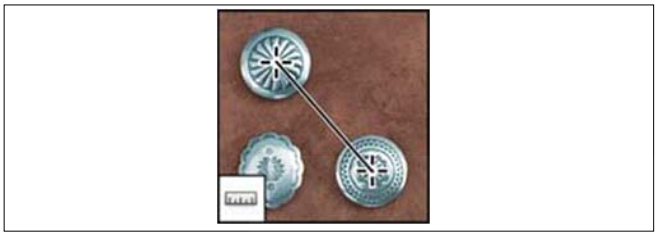
The **Rotate View tool** non- destructively rotates the canvas.



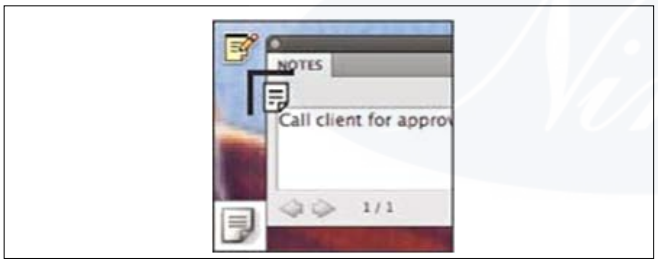
The **Color Sampler tool** displays color values for upto four areas.

The **Zoom tool** magnifies and reduces the view of an image.

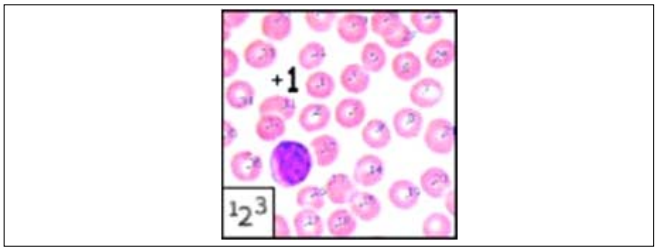
The **Ruler tool** measures distances, locations, and angles.



The **Note tool** makes notes that can be attached to an image.

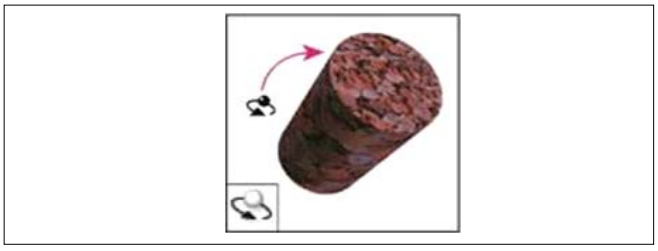


The **Count tool** counts objects in an image. (Photoshop Extended only)

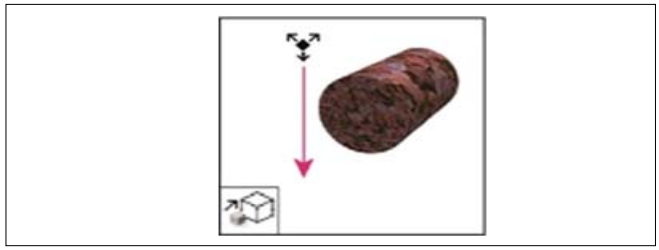


- **3D tools** gallery

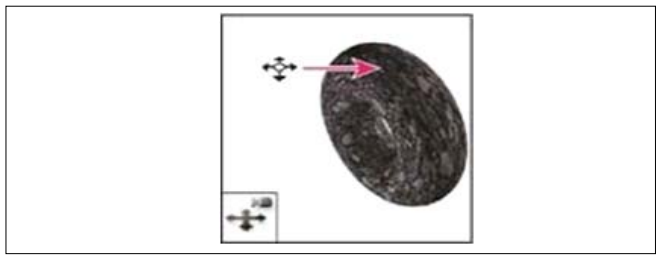
The **3D Object Rotate tool** rotates the object around its x-axis.



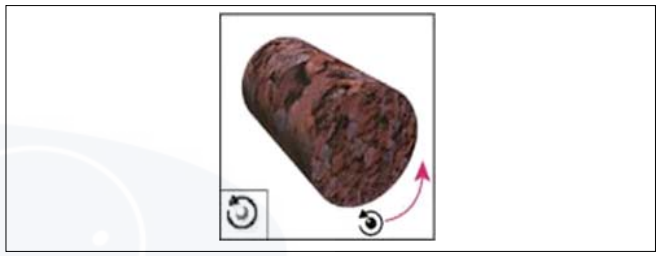
The **3D Object Scale tool** scales the object larger or smaller.



The **3D Walk Camera tool** moves laterally when you drag horizontally, or forward and back when you drag vertically.

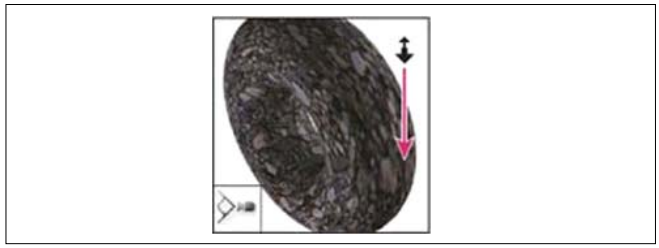


The **3D Object Roll tool** rotates the object around its z-axis.

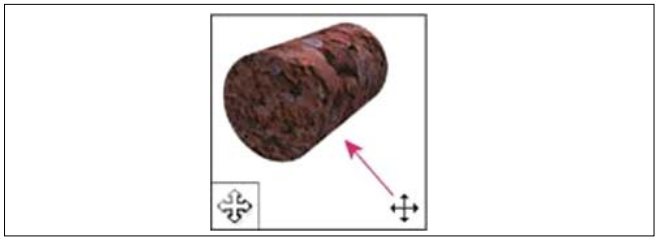


The **3D Rotate Camera tool** orbits the camera in the x or y direction.

The **3D Zoom Camera tool** changes the field of view closer or farther away.

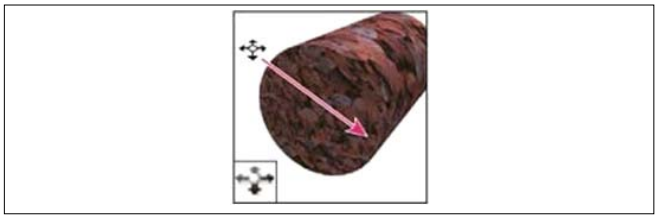


The **3D Object Pan tool** pans the object in the x or y direction.

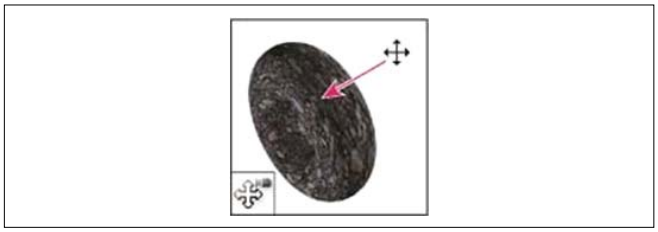


The 3**D Roll Camera tool** rotates the camera around the z-axis.

The **3D Object Slide tool** moves the object laterally when you drag horizontally, or forward and back when you drag vertically.



The **3D Pan Camera tool** pans thecamera in the x or y direction.



Selecting, Editing and Cropping the images

Objectives : At the end of this lesson you shall be able to
- **use of Marquee tools in Adobe Photoshop**
- **use of Lasso, Polygonal Lasso, and Magnetic Lasso Tools**
- **learning about Transformation, Crop, Rotation and Canvas.**

Marquee tool

The marquee tools let you select rectangles, ellipses, and 1 pixel rows and columns.

Select with the Lasso tool

The Lasso tool is useful for drawing freeform segments of a selection border.

Select with the Polygonal Lasso tool

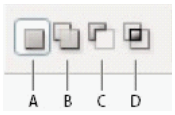
The Polygonal Lasso tool is useful for drawing straight-edged segments of a selection border.

Select with the Magnetic Lasso tool

When you use the Magnetic Lasso tool , the border snaps to the edges of defined areas in the image. The Magnetic Lasso tool is not available for 32 bits-per-channel images.

The Magnetic Lasso tool is especially useful for quickly selecting objects with complex edges set against high-contrast backgrounds.

1. Select the Magnetic Lasso tool.
2. Specify one of the selection options in the options bar.



Selection options
A. New **B.** Add To **C.** Subtract From **D.** Intersect With

3. (Optional) Set feathering and anti-aliasing in the options bar
4. Set any of these options:

Width

To specify a detection width, enter a pixel value for Width. The Magnetic Lasso tool detects edges only within the specified distance from the pointer.

To change the lasso pointer so that it indicates the lasso width, press the Caps Lock key. You can change the pointer while the tool is selected but not in use. Press the right bracket (]) to increase the Magnetic Lasso edge width by 1 pixel; press the left bracket ([) to decrease the width by 1 pixel.

Contrast

To specify the lasso's sensitivity to edges in the image, enter a value between 1% and 100% for Contrast. A higher value detects only edges that contrast sharply with their surroundings; a lower value detects lower-contrast edges.

Frequency

To specify the rate at which the lasso sets fastening points, enter a value between 0 and 100 for Frequency. A higher value anchors the selection border in place more quickly.

On an image with well-defined edges, try a higher width and higher edge contrast, and trace the border roughly. On an image with softer edges, try a lower width and lower edge contrast, and trace the border more precisely.

Stylus Pressure

If you are working with a stylus tablet, select or deselect the Stylus Pressure option. When the option is selected, an increase in stylus pressure decreases the edge width.

5. Click in the image to set the first fastening point. Fastening points anchor the selection border in place.
6. Release the mouse button or keep it depressed, and then move the pointer along the edge you want to trace.

The most recent segment of the selection border remains active. As you move the pointer, the active segment snaps to the strongest edge in the image, based on the detection width set in the options bar. Periodically, the Magnetic Lasso tool adds fastening points to the selection border to anchor previous segments.

7. If the border doesn't snap to the desired edge, click once to add a fastening point manually. Continue to trace the edge, and add fastening points as needed.

Fastening points anchor selection border to edges

8. To switch temporarily to the other lasso tools, do one of the following:
   - To activate the Lasso tool, hold down Alt (Windows) or Option (Mac OS), and drag with the mouse button depressed.
   - To activate the Polygonal Lasso tool, hold down Alt (Windows) or Option (Mac OS), and click.
9. To erase recently drawn segments and fastening points, press the Delete key until you've erased the fastening points for the desired segment.
10. Close the selection border:
    - To close the border with a magnetic segment, double-click, or press Enter or Return. (To manually close the border, drag over the starting point and click.)
    - To close the border with a straight segment, hold down Alt (Windows), and double-click.
11. (Optional) Click Refine Edge to further adjust the selection boundary.

Transforming objects

Transformations

Transforming scales, rotates, skews, stretches, or warps an image. You can apply transformations to a selection, an entire layer, multiple layers, or a layer mask. You can also apply transformations to a path, a vector shape, a vector mask, a selection border, or an alpha channel. Transforming affects image quality when you manipulate the pixels. To apply non-destructive transformations to raster images, use Smart Objects. Transforming a vector shape or path is always non-destructive because you're only changing the mathematical calculations producing the object.

To make a transformation, first select an item to transform and then choose a transformation command. If necessary, adjust the reference point before manipulating the transformation. You can perform several manipulations in succession before applying the cumulative transformation. For example, you can choose Scale and drag a handle to scale, and then choose Distort and drag a handle to distort. Then press Enter or Return to apply both transformations.

Photoshop uses the interpolation method selected in the General area of the Preferences dialog box to calculate the color values of pixels that are added or deleted during transformations. This interpolation setting directly affects the speed and quality of the transformation. Bicubic interpolation, the default, is slowest but yields the best results.

You can also warp and distort raster images using the Liquify filter

Transform submenu commands

Scale

Enlarges or reduces an item relative to its reference point, the fixed point around which transformations are performed. You can scale horizontally, vertically, or both horizontally and vertically.

Rotate

Turns an item around a reference point. By default, this point is at the center of the object; however, you can move it to another location.

Skew

Slants an item vertically and horizontally.

Distort

Stretches an item in all directions.

Perspective

Applies one-point perspective to an item.

Warp

Manipulates the shape of an item.

Rotate 180, Rotate 90 CW, Rotate 90 CCW

Rotates the item by the specified number of degrees, either clockwise or counterclockwise.

Flip

Flips the item vertically or horizontally.

Set or move the reference point for a transformation

All transformations are performed around a fixed point called the reference point. By default, this point is at the center of the item you are transforming. However, you can change the reference point or move the center point to a different location using the reference point locator in the options bar.

1 Choose a transformation command. A bounding box appears in the image.

2 Do one of the following:

- In the options bar, click a square on the reference point locator. Each square represents a point on the bounding box. For example, to move the reference point to the upper-left corner of the bounding box, click the top left square on the reference point locator.
- In the transform bounding box that appears in the image, drag the reference point . The reference point can be outside the item you want to transform.

Transform freely

The Free Transform command lets you apply transformations (rotate, scale, skew, distort, and perspective) in one continuous operation. You can also apply a warp transformation. Instead of choosing different commands, you simply hold down a key on your keyboard to switch between transformation types.

If you are transforming a shape or entire path, the Transform command becomes the Transform Path command. If you are transforming multiple path segments (but not the entire path), the Transform command becomes the Transform Points command.

Warp an item

The Warp command lets you drag control points to manipulate the shape of images, shapes, or paths, and so on. You can also warp using a shape in the Warp Style pop-up menu in the options bar. Shapes in the Warp Style pop-up menu are also malleable; drag their control points.

When using the control points to distort an item, choosing View > Extras shows or hides the warp mesh and control points.

Puppet Warp

Puppet Warp provides a visual mesh that lets you drastically distort specific image areas, while leaving other areas intact. Applications range from subtle image retouching (such as shaping hair) to total transformations (such as repositioning arms or legs).

In addition to image layers, you can apply Puppet Warp to layer and vector masks. To nondestructively distort images, use Smart Objects.

Crop images

Cropping is the process of removing portions of an image to create focus or strengthen the composition. You can crop an image using the Crop tool and the Crop command. You can also trim pixels using the Crop And Straighten and the Trim commands.

Crop or remove part of an image

Cropping is the process of removing portions of an image to create focus or strengthen the composition. Use the Crop tool to crop and straighten images in Photoshop. The Crop tools in Photoshop CC and CS6 are non-destructive and you can choose to retain the cropped pixels to optimize the crop boundaries later. The Crop tool also provides intuitive methods to straighten the image while cropping.

For all operations, visual guides provide an interactive preview. When you crop or straighten photos, real-time feedback helps you visualize the final result.

Using Crop tools

Watch how to preview the angle of your image to confirm that your crop is plumb. You can revisit a crop any time you like, so you never waste effort.

A. Active tool **B.** Size and proportions **C.** Rotate crop box **D.** Straighten image **E.** View **F.** Crop options **G.** Delete Cropped Pixels

Size and proportions

Choose a ratio or size for the crop box. You can also choose a preset, enter your own, or even define your own preset values for later use.

View

Choose a view to display overlay guides while cropping. Guides such as Rule of Thirds, Grid, and Golden Ratio are available. To cycle through all the options, press O.

Crop Options

Click the Settings menu to specify additional crop options.

Use Classic mode

Enable this option if you want to use the Crop tool like it was in previous versions of Photoshop.

Auto-center preview

Enable this option to place the preview in the center of the canvas.

Show Cropped Area

Enable this option to display the area that is cropped. If this option is disabled, only the final area is previewed.

Enable crop shield

Use the crop shield to overlay the cropped areas with a tint. You can specify a color and opacity. If you Enable Auto Adjust Opacity, the opacity is reduces when you edit the crop boundaries.

Delete cropped pixels

Disable this option to apply a non-destructive crop and retain pixels outside the crop boundaries. Non-destructive cropping does not remove any pixels. You can later click the image to see areas outside current crop borders.

Enable this option to delete any pixels that are outside the crop area. These pixels are lost and are not available for future adjustments.

Right-click the Crop box and access common crop options from the context menu.

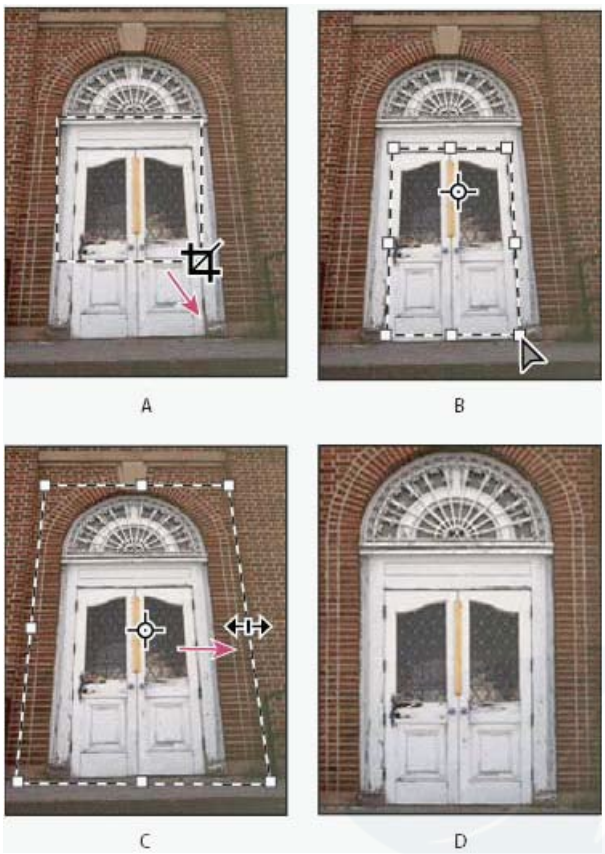
Crop an image using the Trim command

The Trim command crops an image by removing unwanted image data in different ways than the Crop command. You can crop an image by trimming surrounding transparent pixels, or background pixels of the color you specify.

Transform perspective while cropping | CS5

The Crop tool has an option that lets you transform the perspective in an image. Transforming the perspective is

useful when working with images that contain keystone distortion. Keystone distortion occurs when an object is photographed from an angle rather than from a straight on view. For example, if you take a picture of a tall building from ground level, the edges of the building appear closer to each other at the top than they do at the bottom.



A Draw initial cropping marquee **B** Adjust cropping marquee to match the object's edges **C** Extend the cropping bounds **D** Final image

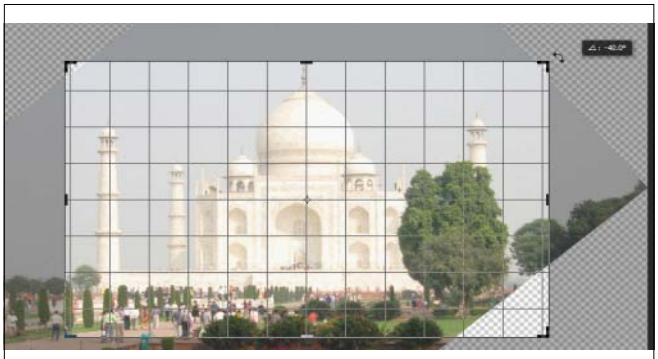
Crop and straighten scanned photos

You can place several photos on your scanner and scan them in one pass, which creates a single image file. The Crop and Straighten Photos command is an automated feature that can create separate image files from the multiple-image scan.

For best results, keep 1/8 inch between the images in your scan, and the background (typically the scanner bed) should be a uniform color with little noise. The Crop and Straighten Photos command works best on images with clearly delineated outlines. If the Crop and Straighten Photos command cannot properly process the image file, use the Crop tool.

Straighten an image

You can straighten an image while cropping. The image is rotated and aligned to straighten it. The image canvas is automatically resized to accommodate the rotated pixels.



Rotate the image using the crop tool to straighten it

- To straighten an image do one of the following:
  - Place the pointer a little outside the corner handles and drag to rotate the image. A grid displays inside the crop box and the image rotates behind it.
  - Click Straighten in the control bar and then using the Straighten tool, draw a reference line to straighten the photo. For example, draw a line along the horizon or an edge to straighten the image along it.

Straighten an image

The Ruler tool provides a Straighten option that quickly aligns images with horizon lines, building walls, and other key elements.

1. Select the Ruler tool . (If necessary, click and hold the Eyedropper tool to reveal the Ruler.)
2. In the image, drag across a key horizontal or vertical element.
3. In the options bar, click Straighten.

Photoshop straightens the image and automatically crops it. To reveal image areas that extend beyond the new document boundaries, choose Edit > Undo.

Rotate or flip an entire image

The Image Rotation commands let you rotate or flip an entire image. The commands do not work on individual layers or parts of layers, paths, or selection borders. If you want to rotate a selection or layer, use the Transform or Free Transform commands.

Choose Image > Image Rotation, and choose one of the following commands from the submenu:

180°

Rotates the image by a half-turn.

90° CW

Rotates the image clockwise by a quarter-turn.

90° CCW

Rotates the image counterclockwise by a quarter-turn.

Arbitrary

Rotates the image by the angle you specify. If you choose this option, enter an angle between -359.99 and 359.99 in the angle text box. (In Photoshop, you can select °CW or °CCW to rotate clockwise or counterclockwise.) Then click OK.

Flip Canvas Horizontal or Vertical

Flips the image along the corresponding axis.

Image Rotation is destructive editing and actually modifies the file information. If you want to non-destructively rotate the image for viewing, use the Rotation tool.

Change the canvas size

The canvas size is the full editable area of an image. The Canvas Size command lets you increase or decrease an image's canvas size. Increasing the canvas size adds space around an existing image. Decreasing an image's canvas size crops into the image. If you increase the canvas size of an image with a transparent background, the added canvas is transparent. If the image doesn't have a transparent background, there are several options for determining the color of the added canvas.

Crop and straighten photos

Cropping is the process of removing portions of an image to create focus or strengthen the composition. Use the Crop tool to crop and straighten images in Photoshop. The Crop tools in Photoshop CC and CS6 are non-destructive and you can choose to retain the cropped pixels to optimize the crop boundaries later. The Crop tool also provides intuitive methods to straighten the image while cropping.

For all operations, visual guides provide an interactive preview. When you crop or straighten photos, real-time feedback helps you visualize the final result.

Image essentials

Objectives : At the end of this lesson you shall be able to
- **explain Raster and Vector graphics**
- **learn about various file format used in Adobe Photoshop**
- **explain Tonal value and Tonal Gradation.**

Bitmap images

Bitmap images-technically called raster images-use a rectangular grid of picture elements (pixels) to represent images. Each pixel is assigned a specific location and color value. When working with bitmap images, you edit pixels rather than objects or shapes. Bitmap images are the most common electronic medium for continuous-tone images, such as photographs or digital paintings, because they can more efficiently represent subtle gradations of shades and color.

Bitmap images are resolution-dependent-that is, they contain a fixed number of pixels. As a result, they can lose detail and appear jagged if they are scaled to high magnifications on-screen or if they are printed at a lower resolution than they were created for.

Bitmap images sometimes require large amounts of storage space, and often need to be compressed to keep file sizes down when used in certain Creative Suite components. For instance, you compress an image file in its original application before you import it into a layout.

In Adobe Illustrator, you can create bitmap effects in your artwork using effects and graphic styles.

Vector graphics

Vector graphics (sometimes called vector shapes or vector objects) are made up of lines and curves defined by mathematical objects called vectors, which describe an image according to its geometric characteristics.

You can freely move or modify vector graphics without losing detail or clarity, because they are resolution-independent-they maintain crisp edges when resized, printed to a PostScript printer, saved in a PDF file, or imported into a vector-based graphics application. As a result, vector graphics are the best choice for artwork, such as logos, that will be used at various sizes and in various output media.

The vector objects you create using the drawing and shape tools in Adobe Creative Suite are examples of vector graphics. You can use the Copy and Paste commands to duplicate vector graphics betweenCreative Suite components.

Combining vector graphics and bitmap images

When combining vector graphics and bitmap images in a document, it's important to remember that how your artwork looks on-screen isn't always how it will look in its final medium (whether commercially printed, printed on a desktop printer, or viewed on the web). The following factors influence the quality of your final artwork:

Transparency

Many effects add partially transparent pixels to your artwork. When your artwork contains transparency, Photoshop performs a process called flattening before printing or exporting. In most cases, the default flattening process produces excellent results. However, if your artwork contains complex, overlapping areas and you require high-resolution output, you will probably want to preview the effects of flattening.

Image Resolution

The number of pixels per inch (ppi) in a bitmap image. Using too low a resolution for a printed image results in pixelation-output with large, coarse-looking pixels. Using too high a resolution (pixels smaller than what the output device can produce) increases the file size without increasing the quality of the printed output, and slows the printing of the artwork.

Printer resolution and screen frequency

The number of ink dots produced per inch (dpi) and the number of lines per inch (lpi) in a halftone screen. The relationship between image resolution, printer resolution, and screen frequency determines the quality of detail in the printed image.

Color channels

Every Photoshop image has one or more channels, each storing information about color elements in the image. The number of default color channels in an image depends on its color mode. By default, images in Bitmap, Grayscale, Duotone, and Indexed Color mode have one channel; RGB and Lab images have three; and CMYK images have four. You can add channels to all image types except Bitmap mode images.

Channels in color images are actually grayscale images that represent each of the color components of an image. For example, an RGB image has separate channels for red, green, and blues color values.

In addition to color channels, alpha channels, can be added to an image for storing and editing selections as masks, and spot color channels can be added to add spot color plates for printing.

Bit depth

Bit depth specifies how much color information is available for each pixel in an image. The more bits of information per pixel, the more available colors and more accurate color representation. For example, an image with a bit depth of 1 has pixels with two possible values: black and white. An image with a bit depth of 8 has 28, or 256, possible values. Grayscale mode images with a bit depth of 8 have 256 possible gray values.

RGB images are made of three color channels. An 8-bit per pixel RGB image has 256 possible values for each channel which means it has over 16 million possible color values. RGB images with 8-bits per channel (bpc) are sometimes called 24-bit images (8 bits x 3 channels = 24 bits of data for each pixel).

In addition to 8-bpc images, Photoshop can also work with images that contain 16-bpc or 32-bpc. Images with 32-bpc are also known as high dynamic range (HDR) images.

Photoshop support for 16-bit images

Photoshop provides the following support for working with 16-bpc images:

- Working in Grayscale, RGB Color, CMYK Color, Lab Color, and Multichannel, modes.
- All tools in the toolbox, except the Art History Brush tool, can be used with 16-bpc images.
- Color and tonal adjustment commands are available
- You can work with layers, including adjustment layers, in 16-bpc images.
- Many Photoshop filters can be used with 16-bpc images.

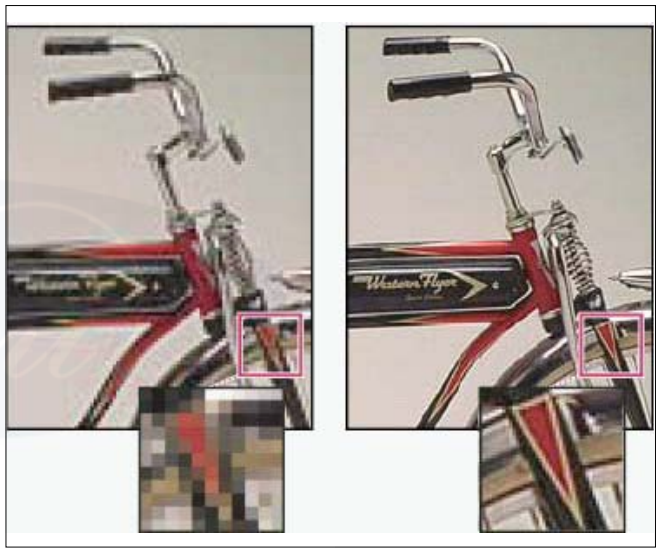
To take advantage of certain Photoshop features, such as some filters, you can convert a 16-bpc image to an 8-bpc image. It's best if you do a Save As and convert a copy of the image file so the original file retains the full 16-bpc image data.

Convert between bit depths

- Do any of the following:
  - To convert between 8 bpc and 16 bpc, Choose Image > Mode > 16 Bits/Channel or 8 Bits/Channel.
- To convert from 8 bpc or 16 bits to 32 bpc, choose Image > Mode > 32 Bits/Channel.

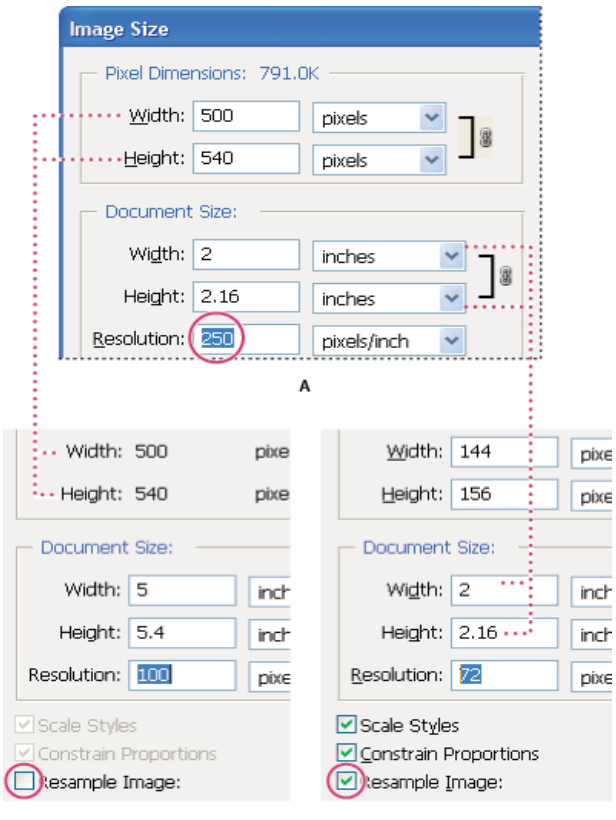
Pixel dimensions and printed image resolution

Pixel dimensions measure the total number of pixels along an image's width and height. Resolution is the fineness of detail in a bitmap image and is measured in pixels per inch (ppi). The more pixels per inch, the greater the resolution. Generally, an image with a higher resolution produces a better printed image quality.



Unless an image is resampled the amount of image data remains constant as you change either the print dimensions or resolution. For example, if you change the resolution of a file, its width and height change accordingly to maintain the same amount of image data.

In Photoshop, you can see the relationship between image size and resolution in the Image Size dialog box (choose Image >Image Size). Deselect Resample Image, because you don't want to change the amount of image data in your photo. Then change width, height, or resolution. As you change one value, the other two values change accordingly. With the Resample Image option selected, you can change the resolution, width, and height of the image to suit your printing or on-screen needs.



A Original dimensions and resolution **B** Decreasing the resolution without changing pixel dimensions (no resampling) **C** Decreasing the resolution at same document size decreases pixel dimensions (resampling).

Quickly display the current image size

If you want to quickly display a document's current image size, use the information box at the bottom of the document window.

- Position the pointer over the file information box, and hold down the mouse button.

File size

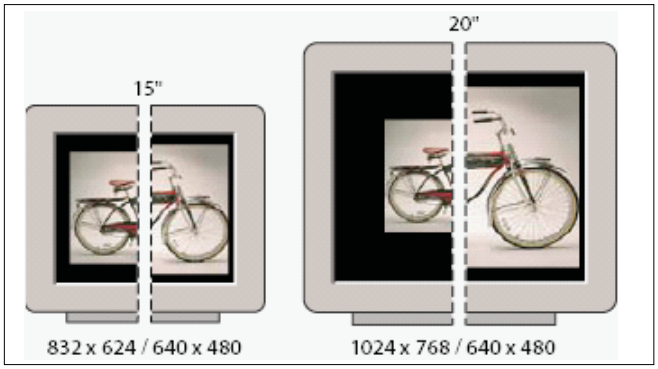
The file size of an image is the digital size of the image file, measured in kilobytes (K), megabytes (MB), or gigabytes (GB). File size is proportional to the pixel dimensions of the image. Images with more pixels may produce more detail at a given printed size, but they require more disk space to store and may be slower to edit and print. Image resolution thus becomes a compromise between image quality (capturing all the data you need) and file size.

Another factor that affects file size is file format. Because of the varying compression methods used by GIF, JPEG, PNG, and TIFF file formats, file sizes can vary considerably for the same pixel dimensions. Similarly, color bit-depth and the number of layers and channels in an image affect file size.

Photoshop supports a maximum pixel dimension of 300,000 by 300,000 pixels per image. This restriction places limits on the print size and resolution available to an image.

Monitor resolution

Your monitor's resolution is described in pixel dimensions. For example, if your monitor resolution and your photo's pixel dimensions are the same size, the photo will fill the screen when viewed at 100%. How large an image appears on-screen depends on a combination of factors-the pixel dimensions of the image, the monitor size, and the monitor resolution setting. In Photoshop, you can change the image magnification on-screen, so you can easily work with images of any pixel dimensions.



When preparing images for viewing on-screen, you should consider the lowest monitor resolution that your photo is likely to be viewed on.

Printer resolution

Printer resolution is measured in ink dots per inch, also known as dpi. Generally, the more dots per inch, the finer the printed output you'll get. Most inkjet printers have a resolution of approximately 720 to 2880 dpi. (Technically, inkjet printers produce a microscopic spray of ink, not actual dots like imagesetters or laser printers.)

Printer resolution is different from, but related to image resolution. To print a high quality photo on an inkjet printer, an image resolution of at least 220 ppi should provide good results.

Screen frequency is the number of printer dots or halftone cells per inch used to print grayscale images or color separations. Also known as screen ruling or line screen, screen frequency is measured in lines per inch (lpi)-or lines of cells per inch in a halftone screen. The higher the resolution of the output device, the finer (higher) a screen ruling you can use.

The relationship between image resolution and screen frequency determines the quality of detail in the printed image. To produce a halftone image of the highest quality, you generally use an image resolution that is from 1.5 to at most 2 times the screen frequency. But with some images and output devices, a lower resolution can produce good results. To determine your printer's screen frequency, check your printer documentation or consult your service provider.

Some imagesetters and 600-dpi laser printers use screening technologies other than halftoning. If you are printing an image on a nonhalftone printer, consult your service provider or your printer documentation for the recommended image resolutions.

Resampling

Resampling is changing the amount of image data as you change either the pixel dimensions or the resolution of an image. When you downsample(decrease the number of pixels), information is deleted from the image. When you resample up (increase the number of pixels, or upsample), new pixels are added. You specify an interpolation method to determine how pixels are added or deleted.

About file formats

Graphic file formats differ in the way they represent image data (as pixels or as vectors), in compression technique, and in which Photoshop and ImageReady features they support.

If a supported file format does not appear in the appropriate dialog box or submenu, you may need to install the format's plug-in module.

BMP

BMP is a standard Windows image format on DOS and Windows-compatible computers. BMP format supports RGB, Indexed Color, Grayscale, and Bitmap color modes. You can specify either Windows or OS/2® format and a bit depth for the image. For 4-bit and 8-bit images using Windows format, you can also specify RLE compression.

Photoshop EPS

Encapsulated PostScript (EPS) language file format can contain both vector and bitmap graphics and is supported by virtually all graphic, illustration, and page-layout programs. EPS format is used to transfer PostScript-language artwork between applications. When you open an EPS file containing vector graphics, Photoshop rasterizes the image, converting the vector graphics to pixels.

EPS format supports Lab, CMYK, RGB, Indexed Color, Duotone, Grayscale, and Bitmap color modes, and does not support alpha channels. EPS does support clipping paths. Desktop Color Separations (DCS) format, a version of the standard EPS format, lets you save color separations of CMYK images. You use DCS 2.0 format to export images containing spot channels.To print EPS files, you must use a PostScript printer.

EPS TIFF or EPS PICT Preview (Photoshop)

These formats let you open images saved in file formats that create previews but are not supported by Adobe Photoshop (such as QuarkXPress®). An opened preview image can be edited and used like any other low-resolution file. EPS PICT Preview is available only in Mac OS.

GIF

Graphics Interchange Format (GIF) is the file format commonly used to display indexed-color graphics and images in hypertext markup language (HTML) documents over the World Wide Web and other online services. GIF is an LZW-compressed format designed to minimize file size and electronic transfer time. GIF format preserves transparency in indexed-color images; however, it does not support alpha channels.

JPEG

Joint Photographic Experts Group (JPEG) format is commonly used to display photographs and other continuous-tone images in hypertext markup language (HTML) documents over the World Wide Web and other online services. JPEG format supports CMYK, RGB, and Grayscale color modes, and does not support alpha channels. Unlike GIF format, JPEG retains all color information in an RGB image but compresses file size by selectively discarding data.

A JPEG image is automatically decompressed when opened. A higher level of compression results in lower image quality, and a lower level of compression results in better image quality. In most cases, the Maximum quality option produces a result indistinguishable from the original.

PDF

Portable Document Format (PDF) is a flexible, cross-platform, cross-application file format. Based on the PostScript imaging model, PDF files accurately display and preserve fonts, page layouts, and both vector and bitmap graphics. In addition, PDF files can contain electronic document search and navigation features such as electronic links.

Photoshop and ImageReady recognize two types of PDF files: Photoshop PDF files and Generic PDF files. You can open both types of PDF files; however, you can only save images to Photoshop PDF format.

PNG

Developed as a patent-free alternative to GIF, Portable Network Graphics (PNG) format is used for lossless compression and for display of images on the World Wide Web. Unlike GIF, PNG supports 24-bit images and produces background transparency without jagged edges; however, some Web browsers do not support PNG images. PNG format supports RGB, indexed-color, grayscale, and Bitmap-mode images without alpha channels. PNG preserves transparency in grayscale and RGB images.

TIFF

Tagged-Image File Format (TIFF) is used to exchange files between applications and computer platforms. TIFF is a flexible bitmap image format supported by virtually all paint, image-editing, and page-layout applications. Also, virtually all desktop scanners can produce TIFF images.

TIFF format supports CMYK, RGB, Lab, indexed-color, and grayscale images with alpha channels and Bitmap-mode images without alpha channels. Photoshop can save layers in a TIFF file; however, if you open the file in another application, only the flattened image is visible. Photoshop can also save annotations, transparency, and multiresolution pyramid data in TIFF format.

Tonal Value is defined as the comparative flimsiness or darkness of tones linking black and white. These are the darkened lines of a drawing. Tonal values are what make a painting 'talk' not the color - no matter how much color you put in a picture.

Tone refers to the degree of lightness or darkness of an area. Tone varies from the bright white of a light source through shades of gray to the deepest black shadows. How we perceive the tone of an object depends on its actual surface lightness or darkness, color and texture, the background and lighting. Tone is may be used broadly ('global tone') to denote the major planes of an object; realist artists use 'local tone' to accurately denote subtle changes within the plane

Tonal gradation

In pictures often concentrate on the density and detail of highlights and shadows when they should actually be considering the most important or middle tones of the negative. Middle tones are the various tones of gray between the highlights and the shadows; that is, the densities that are not highlights or shadows are termed middle tones or intermediate tones.

Fig 1

The middle tones vary with the type of film and the subject contrast. A negative should have a range of middle tone densities that correspond proportionally to the middle reflective brightness of the subject. A panchromatic negative that does not have proportionate mid tones is contrasty or flat.

Continuous tone

A continuous tone image is one where each color at any point in the image is reproduced as a single tone, and not as discrete halftones, such as one single color for monochromatic prints, or a combination of halftones for color prints.

The most common continuous tone images are digital photographs every single pixel of which can take a continuous range of colors depending on the quantity of captured radiance. On the other hand, at a microscopic level, developed black-and-white photographic film consists of only two colors, and not an infinite range of continuous tones. For details, see film grain. Therefore, film is a halftone medium.

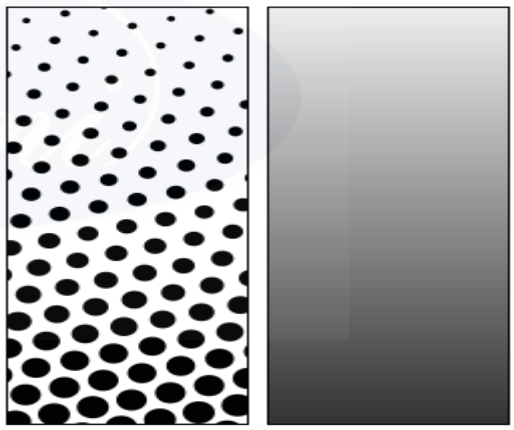
An example of a continuous-tone device is a CRT computer screen. Here, any pixel can represent any color, because the color components of the pixel are analog and can vary in infinite steps, and hence do not need halftones to make the colors. Of course, because the computer is a digital device, it cannot provide the CRT with infinite tone variations. In 24-bit color mode, it provides the monitor with 256 discrete steps for each channel (red, green, and blue), for a total of 16,777,216 (2563) discrete colors. A purely analog video signal (one that has not been manipulated by a computer of any kind) can provide infinite tone variations inside its own gamut.

A halftone device, in contrast, uses discrete dots of color, which at a certain distance printers. Magazines and most printed material also use th look closely like the intended color. Examples of this are inkjetis technique to create the colors.

Halftone

Halftone is the reprographic technique that simulates continuous tone imagery through the use of dots, varying either in size, in shape or in spacing, thus generating a gradient like effect as shown in Fig.2. "Halftone" can also be used to refer specifically to the image that is produced by this process.

Fig 2



Where continuous tone imagery contains an infinite range of colors or greys, the halftone process reduces visual reproductions to an image that is printed with only one color of ink, in dots of differing size. This reproduction relies on a basic optical illusion-that these tiny halftone dots are blended into smooth tones by the human eye. At a microscopic level, developed black-and-white photographic film also consists of only two colors, and not an infinite range of continuous tones. For details, see film grain.

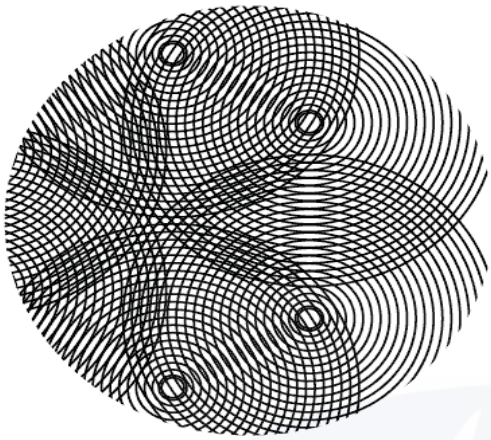
Just as color photography evolved with the addition of filters and film layers, color printing is made possible by repeating the halftone process for each subtractive color-most commonly using what is called the "CMYK color model". The semi-opaque property of ink allows halftone dots of different colors to create another optical effect-full-color imagery.

Moire pattern

A moire pattern is a secondary and visually evident superimposed pattern created, for example, when two identical (usually transparent) patterns on a flat or curved surface (such as closely spaced straight lines drawn radiating from a point or taking the form of a grid) are overlaid while displaced or rotated a small amount from one another.

This interference is called a **moire pattern**. In a scanned image, Moiré patterns are caused by interference between two sets of fine pattern grids, the scanner samples and the halftone screen in the original image as in Fig.3. Every scanner does this.

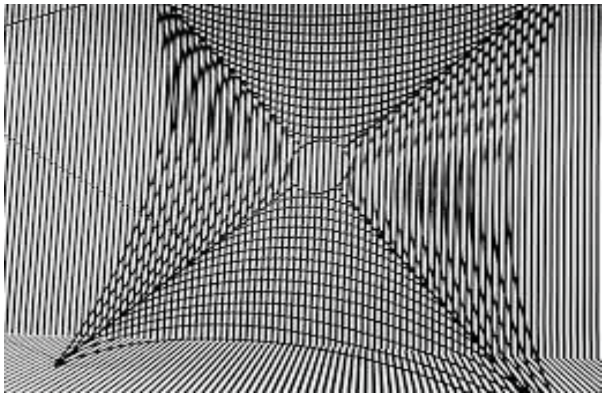
Fig 3



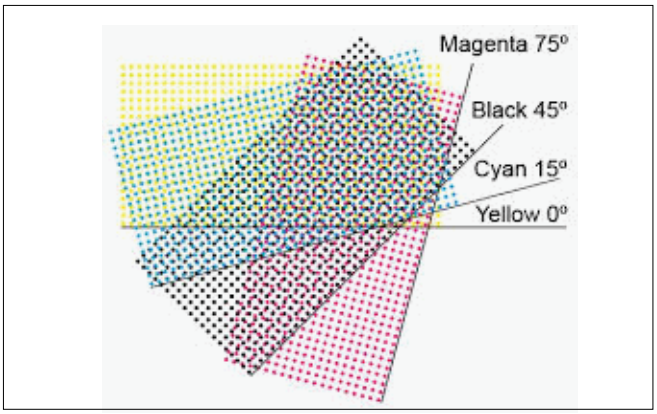
Any image printed on a printing press (like a book, magazine, newspaper, postcard, calendar, etc.) is printed with halftone screen patterns. The printed image is composed of a pattern of dots. A strong magnifying glass will show them. The halftone dots are printed entirely in black if a B&W image, or there are four screens in each of the three primary colors plus black (CMYK) if a Color image. These fine dots cause optical problems in a scanned image because the scanned image is also composed of fine dots.

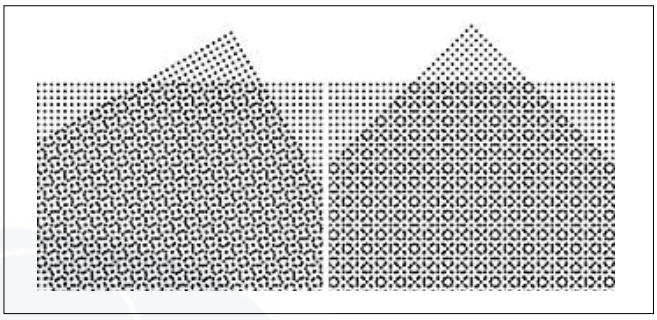
The two patterns of dots, the printed magazine's 133 or 150 lpi screened pattern, and the 300 or 600 dpi scanner CCD cells, combine into maximums or minimums every several pixels in the image, depending on the spacing of the dots as shown in Fig.4. It affects the overall light intensity in periodic patterns that become very visible. The pattern is named Moire.

Fig 4

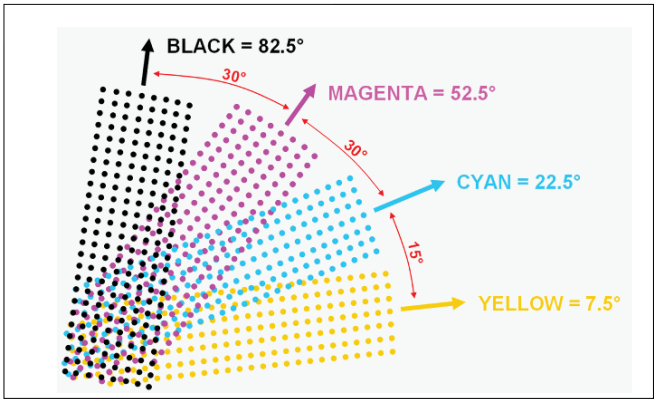


In the graphic arts, the term moiré means an excessively visible moiré pattern. Part of the prepress art consists of selecting screen angles and halftone frequencies which minimize moiré. The visibility of moiré is not entirely predictable. The same set of screens may produce good results with some images, but visible moiré with others.





In graphic arts and prepress, the usual technology for printing full-color images involves the superimposition of halftone screens. These are regular rectangular dot patterns-often four of them, printed in cyan, yellow, magenta, and black. Some kind of moiré pattern is inevitable, but the spatial frequency of the moiré is so high that it is not noticeable.



With the help of a strong magnifying glass you might discover these crosshatched or dotted pattern in your scanned images from printed material. Some image scanner driver programs provide an optional filter, called a "descreen" filter, to remove Moiré-pattern artifacts which would otherwise be produced when scanning printed halftone images to produce digital images

Highlight, middletone and shadow area

It's important to know what shadows, midtones and high-

lights in photographic in terms of photograph. These three elements are present are in every photograph color or black and white so it is important to understand how to improve an adjust these settings.

Highlight

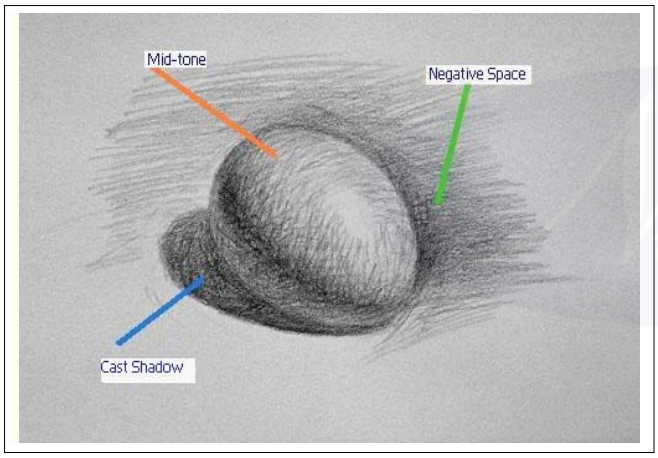
Highlight are the lightest area of an image, therefore the parts that have the most light hitting it.if something has too many highlights we may say that it is overexposed and the area is lacking in detail.

Middle tone

Midtones show the middle tones of an image - the colors that are in between. For example - If we had black and white image, the midtone would be grey somewhere between the two. You want a good amount of midtone in a balanced image but at the same time, you don't want everything to be 'grey' or flat.

Shadow area

Shadows are the darkest areas of a photograph. A shadow is also devoid of color, it could be black in the photograph or just the areas that carry little light. An image with too many shadows may be underexposed and, will not show so much detail although this can be normally adjusted.



Contrast

Contrast is the difference in luminance and/or color that makes an object (or its representation in an image or display) distinguishable. In visual perception of the real world, contrast is determined by the difference in the color and brightness of the object and other objects within the same field of view. Because the human visual system is more sensitive to contrast than absolute luminance, we can perceive the world similarly regardless of the huge changes in illumination over the day or from place to place. The maximum contrast of an image is the contrast ratio or dynamic range.

Contrast is also the difference between the color or shading of the printed material on a document and the background on which it is printed, for example in optical character recognition.

Saturation

In graphics and imaging, color saturation is used to describe the intensity of color in the image. A saturated image has overly bright colors. Using a graphics editing program you can increase saturation on under-exposed images, or vice versa.

Image editing softwares

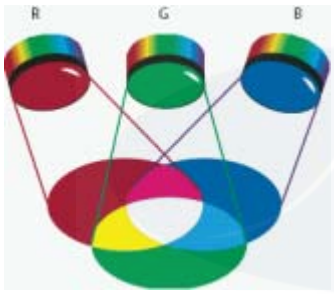
Objectives : At the end of this lesson you shall be able to
- **understanding about color**
- **convert an image to another color mode**
- **learning about Hue, Saturation and vibrance.**

Understanding color

Knowing how colors are created and how they relate to each other lets you work more effectively in Photoshop. Instead of achieving an effect by accident, you'll produce consistent results thanks to an understanding of basic color theory.

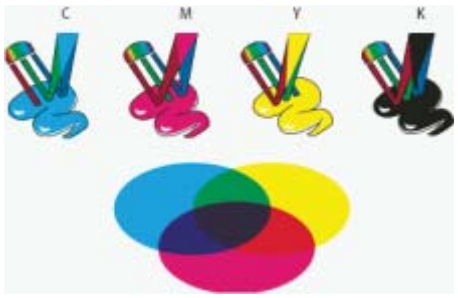
Primary colors

Additive primaries are the three colors of light (red, green, and blue) that produce all the colors in the visible spectrum when added together in different combinations. Adding equal parts of red, blue, and green light produces white. The complete absence of red, blue, and green light results in black. Computer monitors are devices that use the additive primaries to create color.



Additive colors (RGB)
A. Red **B.** Green **C.** Blue

Subtractive primaries are pigments, which create a spectrum of colors in different combinations. Unlike monitors, printers use subtractive primaries (cyan, magenta, yellow, and black pigments) to produce colors through subtractive mixing. The term "subtractive" is used because the primary colors are pure until you begin mixing them together, resulting in colors that are less pure versions of the primaries. For example, orange is created through the subtractive mixing of magenta and yellow together.



Subtractive colors (CMYK)
A. Cyan **B.** Magenta **C.** Yellow **D.** Black

The color wheel

If you're new to adjusting color components, it helps to keep a standard color wheel diagram on hand when you work on color balance. You can use the color wheel to predict how a change in one color component affects other colors and also how changes translate between RGB and CMYK color models.

Color wheel
A. Red **B.** Yellow **C.** Green **D.** Cyan **E.** Blue **F.** Magenta

For example, you can decrease the amount of any color in an image by increasing the amount of its opposite on the color wheel-and vice versa. Colors that lie opposite each other on the standard color wheel are known as complementary colors. Similarly, you can increase and decrease a color by adjusting the two adjacent colors on the wheel, or even by adjusting the two colors adjacent to its opposite.

In a CMYK image, you can decrease magenta either by decreasing the amount of magenta or by increasing its complement, which is green (the color on the opposite side of the color wheel from magenta). In an RGB image, you can decrease magenta by removing red and blue or by adding green. All of these adjustments result in an overall color balance containing less magenta.

Color models, spaces, and modes

A color model describes the colors we see and work with in digital images. Each color model, such as RGB, CMYK, or HSB, represents a different method (usually numeric) for describing color.

A color space is a variant of a color model and has a specific gamut (range) of colors. For example, within the RGB color model are a number of color spaces: Adobe RGB, sRGB, ProPhoto RGB, and so on.

Each device, like your monitor or printer, has its own color space and can only reproduce colors in its gamut. When an image moves from one device to another, image colors

may change because each device interprets the RGB or CMYK values according to its own color space. You can use color management when moving images to ensure that most colors are the same or similar enough so they appear consistent.

In Photoshop, a document's color mode determines which color model is used to display and print the image you're working on. Photoshop bases its color modes on the color models that are useful for images used in publishing. You can choose from RGB (Red, Green, Blue), CMYK (Cyan, Magenta, Yellow, Black), Lab Color (based on CIE L* a* b*), and Grayscale. Photoshop also includes modes for specialized color output such as Indexed Color and Duotone. Color modes determine the number of colors, the number of channels, and the file size of an image. Choosing a color mode also determines which tools and file formats are available.

When you work with the colors in an image, you are adjusting numerical values in the file. It's easy to think of a number as a color, but these numerical values are not absolute colors in themselves-they only have a color meaning within the color space of the device that is producing the color.

Adjusting color hue, saturation, and brightness

Based on the human perception of color, the HSB model describes three fundamental characteristics of color:

Hue

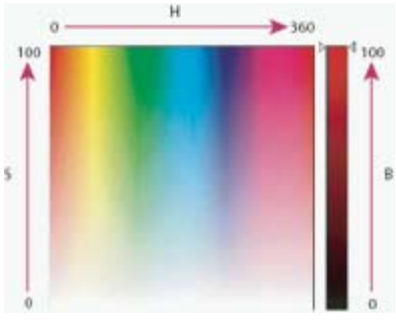
Color reflected from or transmitted through an object. It is measured as a location on the standard color wheel, expressed as a degree between 0° and 360°. In common use, hue is identified by the name of the color, such as red, orange, or green.

Saturation

Strength or purity of the color (sometimes called chroma). Saturation represents the amount of gray in proportion to the hue, measured as a percentage from 0% (grey) to 100% (fully saturated). On the standard color wheel, saturation increases from the center to the edge.

Brightness

Relative lightness or darkness of the color, usually measured as a percentage from 0% (black) to 100% (white).



HSB color model
A. Hue **B.** Saturation **C.** Brightness

Convert an image to another color mode

You can change an image from its original mode (source mode) to a different mode (target mode). When you choose a different color mode for an image, you permanently change the color values in the image. For example, when you convert an RGB image to CMYK mode, RGB color values outside the CMYK gamut (defined by the CMYK working space setting in the Color Settings dialog box) are adjusted to fall within gamut. As a result, some image data may be lost and can't be recovered if you convert the image from CMYK back to RGB.

Before converting images, it's best to do the following:

- Do as much editing as possible in the original image mode (usually RGB for images from most scanners or digital cameras, or CMYK for images from traditional drum scanners or imported from a Scitex system).
- Save a backup copy before converting. Be sure to save a copy of your image that includes all layers so that you can edit the original version of the image after the conversion.
- Flatten the file before converting it. The interaction of colors between layer blending modes changes when the mode changes.

Convert an image to Bitmap mode

- Converting an image to Bitmap mode reduces the image to two colors, greatly simplifying the color information in the image and reducing its file size.
- When converting a color image to Bitmap mode, first convert it to Grayscale mode. This removes the hue and saturation information from the pixels and leaves just the brightness values. However, because only a few editing options are available for Bitmap mode images, it's usually best to edit the image in Grayscale mode and then convert it to Bitmap mode.
- Images in Bitmap mode are 1 bit per channel. You must convert a 16 or 32 bits-per-channel image to 8 bit Grayscale mode before converting it to Bitmap mode.

50% Threshold

Converts pixels with gray values above the middle gray level (128) to white and pixels with gray values below that level to black. The result is a very high-contrast, black-and-white representation of the image.

Pattern Dither

Converts an image by organizing the gray levels into geometric configurations of black and white dots.

Diffusion Dither

Converts an image by using an error-diffusion process, starting at the pixel in the upper-left corner of the image. If the pixel's value is above middle gray (128), the pixel is changed to white-if below it, to black. Because the original pixel is rarely pure white or pure black, error is inevitably introduced. This error is transferred to surrounding pixels and diffused throughout the image, resulting in a grainy, film-like texture.

Halftone Screen

Simulates the appearance of halftone dots in the converted image. Enter values in the Halftone Screen dialog box:

- For Frequency, enter a value for the screen frequency, and choose a unit of measurement. Values can range from 1.000 to 999.999 for lines per inch and from 0.400 to 400.00 for lines per centimeter. You can enter decimal values. The screen frequency specifies the ruling of the halftone screen in lines per inch (lpi). The frequency depends on the paper stock and type of press used for printing. Newspapers commonly use an 85 line screen. Magazines use higher resolution screens, such as 133 lpi and 150 lpi. Check with your print shop for correct screen frequencies.
- Enter a value for the screen angle in degrees from 180 to +180. The screen angle refers to the orientation of the screen. Continuous-tone and black-and-white halftone screens commonly use a 45° angle.
- For Shape, choose the dot shape you want.

The halftone screen becomes part of the image. If you print the image on a halftone printer, the printer will use its own halftone screen as well as the halftone screen that is part of the image. On some printers, the result is a moiré pattern.

Custom Pattern

Simulates the appearance of a custom halftone screen in the converted image. Choose a pattern that lends itself to thickness variations, typically one with a variety of gray shades.

To use this option, you first define a pattern and then screen the grayscale image to apply the texture. To cover the entire image, the pattern must be as large as the image. Otherwise, the pattern is tiled. Photoshop comes with several self-tiling patterns that can be used as halftone screen patterns.

Convert a Bitmap mode image to Grayscale mode

You can convert a Bitmap mode image to Grayscale mode in order to edit it. Keep in mind that a Bitmap mode image edited in Grayscale mode may not look the same when you convert it back to Bitmap mode. For example, suppose a pixel that is black in Bitmap mode is edited to a shade of gray in Grayscale mode. When the image is converted back to Bitmap mode, that pixel is rendered as white if its gray value is above the middle gray value of 128.

1. Choose Image > Mode > Grayscale.
2. Enter a value between 1 and 16 for the size ratio.

The size ratio is the factor for scaling down the image. For example, to reduce a grayscale image by 50%, enter 2 for the size ratio. If you enter a number greater than 1, the program averages multiple pixels in the Bitmap mode image to produce a single pixel in the grayscale image. This process lets you generate multiple shades of gray from an image scanned on a 1 bit scanner.

Convert a grayscale or RGB image to indexed color

Converting to indexed color reduces the number of colors in the image to at most 256-the standard number of colors supported by the GIF and PNG 8 formats and many multimedia applications. This conversion reduces file size by deleting color information from the image.

To convert to indexed color, you must start with an image that is 8 bits per channel and in either Grayscale or RGB mode.

About foreground and background colors

Photoshop uses the foreground color to paint, fill, and stroke selections and the backgroundcolor to make gradient fills and fill in the erased areas of an image. The foreground and background colors are also used by some special effects filters.

You can designate a new foreground or background color using the Eyedropper tool, the Color panel, the Swatches panel, or the Adobe Color Picker.

The default foreground color is black, and the default background color is white. (In an alpha channel, the default foreground is white, and the background is black.)

Choose colors in the toolbox

The current foreground color appears in the upper color selection box in the toolbox; the current background color appears in the lower box.

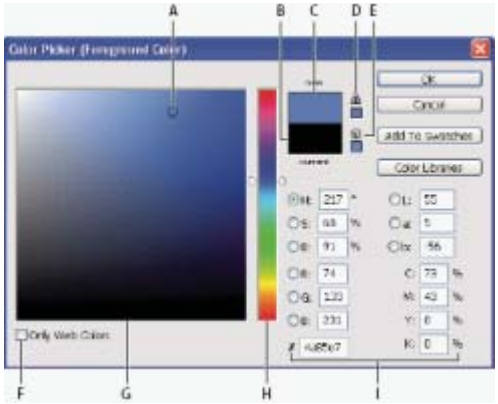
Foreground and background color boxes in toolbox
A. Default Colors icon **B.** Switch Colors icon **C.** Foreground color box **D.** Background color box

- To change the foreground color, click the upper color selection box in the toolbox, and then choose a color in the Adobe Color Picker.
- To change the background color, click the lower color selection box in the toolbox, and then choose a color in the Adobe Color Picker.
- To reverse the foreground and background colors, click the Switch Colors icon in the toolbox.
- To restore the default foreground and background colors, click the Default Colors icon in the toolbox.

Adobe Color Picker overview

In the Adobe Color Picker, you choose colors using four color models: HSB, RGB, Lab, and CMYK. Use the Adobe Color Picker to set the foreground color, background color, and text color. You can also set target colors for different tools, commands, and options.

You can configure the Adobe Color Picker to let you choose only colors that are part of the web-safe palette or choose from specific color systems. Photoshop Extended users can access an HDR (high dynamic range) picker to choose colors for use in HDR images



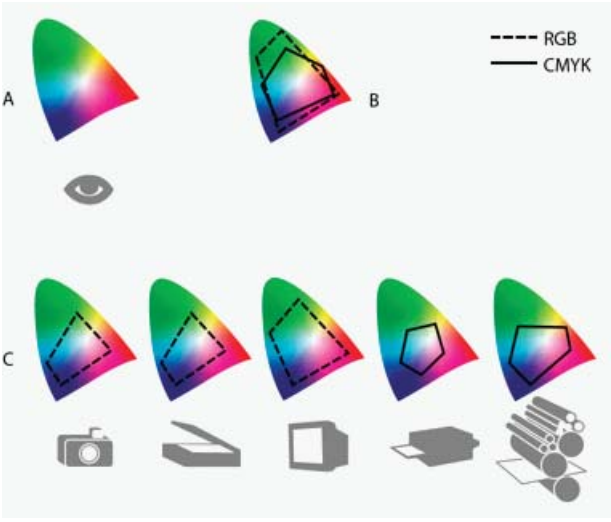
A. Picked color **B.** Original color **C.** Adjusted color **D.** Out-of-gamut alert icon **E.** Not a web-safe color alert icon **F.** Displays only web-safe colors **G.**Color field **H.**Color slider **I.**Color values

Why colors sometimes don't match

No device in a publishing system is capable of reproducing the full range of colors viewable to the human eye. Each device operates within a specific color space that can produce a certain range, or gamut, of colors.

A color model determines the relationship between values, and the color space defines the absolute meaning of those values as colors. Some color models (such as CIE L*a*b) have a fixed color space because they relate directly to the way humans perceive color. These models are described as being device-independent. Other color models (RGB, HSL, HSB, CMYK, and so forth) can have many different color spaces. Because these models vary with each associated color space or device, they are described as being device-dependent.

Because of these varying color spaces, colors can shift in appearance as you transfer documents between different devices. Color variations can result from differences in image sources; the way software applications define color; print media (newsprint paper reproduces a smaller gamut than magazine-quality paper); and other natural variations, such as manufacturing differences in monitors or monitor age.



Colorgamuts of various devices and documents

A. Lab color space **B.** Documents (working space) **C.** Devices

What is a color management system?

Color-matching problems result from various devices and software using different color spaces. One solution is to have a system that interprets and translates color accurately between devices. A color management system (CMS) compares the color space in which a color was created to the color space in which the same color will be output, and makes the necessary adjustments to represent the color as consistently as possible among different devices.

A color management system translates colors with the help of color profiles. A profile is a mathematical description of a device's color space. For example, a scanner profile tells a color management system how your scanner "sees" colors. Adobe color management uses ICC profiles, a format defined by the International Color Consortium (ICC) as a cross-platform standard.

Because no single color-translation method is ideal for all types of graphics, a color management system provides a choice of rendering intents, or translation methods, so that you can apply a method appropriate to a particular graphics element. For example, a color translation method that preserves correct relationships among colors in a wildlife photograph may alter the colors in a logo containing flat tints of color.

Do you need color management?

Without a color management system, your color specifications are device-dependent. You might not need color management if your production process is tightly controlled for one medium only. For example, you or your print service provider can tailor CMYK images and specify color values for a known, specific set of printing conditions.

The value of color management increases when you have more variables in your production process. Color management is recommended if you anticipate reusing color graphics for print and online media, using various kinds of devices within a single medium (such as different printing presses), or if you manage multiple workstations.

About color profiles

Precise, consistent color management requires accurate ICC-compliant profiles of all of your color devices. For example, without an accurate scanner profile, a perfectly scanned image may appear incorrect in another program, simply due to any difference between the scanner and the program displaying the image. This misleading representation may cause you to make unnecessary, time-wasting, and potentially damaging "corrections" to an already satisfactory image. With an accurate profile, a program importing the image can correct for any device differences and display a scan's actual colors.

A color management system uses the following kinds of profiles:

Monitor profiles

Describe how the monitor is currently reproducing color. This is the first profile you should create because viewing color accurately on your monitor allows for critical color

decisions in the design process. If what you see on your monitor is not representative of the actual colors in your document, you will not be able to maintain color consistency.

Input device profiles

Describe what colors an input device is capable of capturing or scanning. If your digital camera offers a choice of profiles, Adobe recommends that you select Adobe RGB. Otherwise, use sRGB (which is the default for most cameras). Advanced users may also consider using different profiles for different light sources. For scanner profiles, some photographers create separate profiles for each type or brand of film scanned on a scanner.

Output device profiles

Describe the color space of output devices like desktop printers or a printing press. The color management system uses output device profiles to properly map the colors in a document to the colors within the gamut of an output device's color space. The output profile should also take into consideration specific printing conditions, such as the type of paper and ink. For example, glossy paper is capable of displaying a different range of colors than matte paper.

Most printer drivers come with built in color profiles. It's a good idea to try these profiles before you invest in custom profiles.

Document profiles

Define the specific RGB or CMYK color space of a document. By assigning, or tagging, a document with a profile, the application provides a definition of actual color appearances in the document. For example, R=127, G=12, B=107 is just a set of numbers that different devices will display differently. But when tagged with the Adobe RGBcolor space, these numbers specify an actual color or wavelength of light-in this case, a specific color of purple.

When color management is on, Adobe applications automatically assign new documents a profile based on Working Space options in the Color Settings dialog box. Documents without assigned profiles are known as untagged and contain only raw color numbers. When working with untagged documents, Adobe applications use the current working space profile to display and edit colors.

Managing color with profiles

A. Profiles describe the color spaces of the input device and the document.

B. Using the profiles' descriptions, the color management system identifies the document's actual colors.

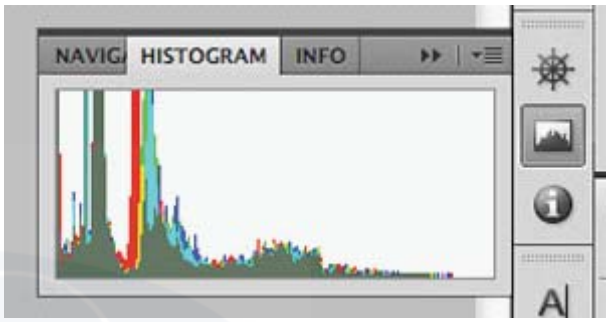
C. The monitor's profile tells the color management system how to translate the document's numeric values to the monitor's color space.

D. Using the output device's profile, the color management system translates the document's numeric values to the color values of the output device so the correct appearance of colors is printed.

Color Correction

Color correction is a lot easier than you think. You just need to know which colors are complimentary (meaning on the opposite end of the color wheel) and you can use those to cancel out too much of another color. (If you need a refresher on color, check out our color guide.) You also need to be able to spot where colors are the most prominent. This means being able to tell, for example, when red is dominating the light areas of the photo and blue is dominating the dark areas. If you simple applied a blue filter to the entire photo, you'd end up with more neutral highlights-which you want-but a photo that looks too cool because the shadows are overly saturated with blue color. To recap, you need to pay attention to two major things when color correcting: which colors are dominating the photograph and which colors aren't, and also where, tonally, those dominating colors exist.

Fig 1



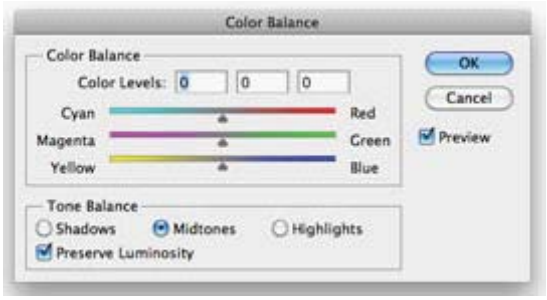
This is something you can generally do just by eying the photo, but the proper method is to consult the histogram. You can bring this up by going into the Window menu and choosing Histogram. The left side represents the shadows, the right side the highlights, leaving the middle for the midtones. If a particular color is dominating the photo in any area, you'll see it dominating that space on the histogram. This can be a handy guide for spotting necessary corrections.

Now that you've got a basic idea of what we're going to be targeting, let's take a look at some of the best color balancing tools Photoshop has to offer. You can find all the adjustments we'll be discussing in the following places:

- You can find standard adjustments that apply to a single layer by going to the Image menu, choosing Adjustments, then choosing the adjustment you want.
- If you want to create an adjustment layer that can apply to multiple layers and be adjusted after the first application you can create an adjustment layer. You can either do this by going into the Layers menu, choosing Adjustment Layer, and then selecting the adjustment you want, or just selecting the adjustment you want from the Adjustments palette.

Color Balance

Fig 2

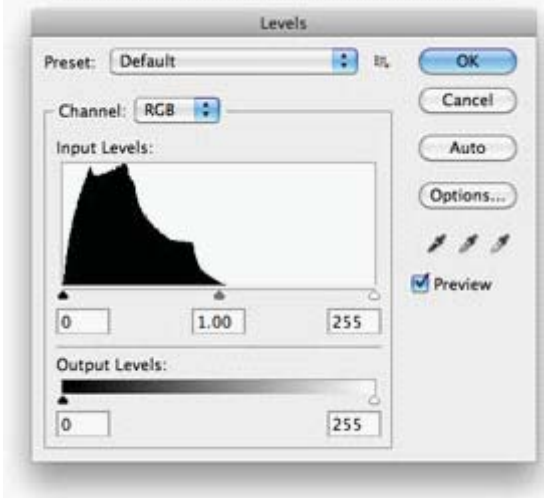


Color Balance is not a very flexible tool, but sometimes you just need minor adjustments to color and you can use Color Balance to apply them quickly. If the brightest parts of your photo are just a little bit too red-something that's common with photos taken in low light-you can just select the Highlights radio button and then move the sliders towards cyan and blue a bit until you start to see the colors look a bit more balanced and neutral. You can also use Color Balance to create some interesting color effects by emphasizing different colors in the shadows, midtones, and highlights.

Levels

Levels is like Curves (which we'll discuss next) with training wheels. You have three main sliders. On the left, you have the shadows slider. Moving it to the right will increase the intensity of the shadows. On the right, you have the highlights slider. Moving it to the left will increase the intensity of the highlights of your photo. In the middle, you have the midtones slider. Moving it to the left will brighten up your photo and moving it to the right will make it darker.

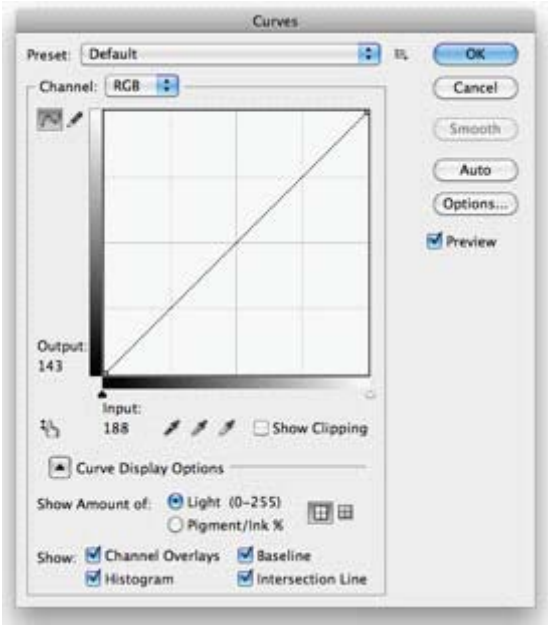
Fig 3



These sliders mainly affect contrast. The sliders under Output Levels affect brightness. Moving the black slider towards the white one will brighten things up. Moving the white slider toward the black one will darken them. By default, Levels applies any of these changes to the entire photo, but you can select a specific color channel and alter it all by itself. There's a little drop-down menu at the top of the Levels panel that lets you select from all channels-I'm going to assume you're in the RGB colorspace and it says RGB-or each individual channel (red, green, and blue). If you want to brighten or darken just the reds, select the red channel and make your adjustments.

Curves

Fig 4

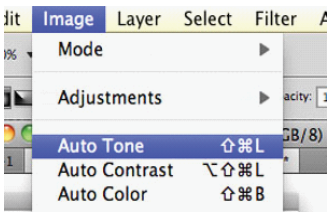


Curves is definitely the best color correction tool you've got in Photoshop, but you might find it a little intimidating and shy away from it since Levels seems to work well enough. Trust me-curves is much better, so take the time to get to know it and learn how it works so you're using it to do most of your adjustments. It's powerful, versatile, and very easy to control once you get the hang of it. That said, it works a lot like levels only you set your own points. You can adjust the entire image or just specific channels, just like you can in levels. To make a point on the curve, you just click anywhere on the line and drag in a particular direction. If you pull towards the top left corner, you'll brighten things up. If you pull down towards the bottom right corner, you'll darken things. The middle of the line in curves represents the midtones. The bottom of the line, touching the bottom left corner, represents the shadows. That would leave the top, which represents the highlights.

Here's an example of creating a simple curve: make a point at the midpoint of the line and then two more points that are each about one grid space away from the midpoint. Pull the bottom-most point down into the shadows a bit and the top-most point up into the highlights. This will create basic contrast and is the simplest adjustment you can make in curves.

Auto Tone

Fig 5



Sometimes you can just let Photoshop do a lot of the work for you. While you don't want to rely on Photoshop's Auto Tone option, you can just chose it from the Image menu to let Photoshop make an educated guess about what your photo needs in terms tone and color adjustments. Sometimes you can save yourself a little time by just using Auto Tone, but definitely don't rely on it. Sometimes it just gets it right and it takes about two seconds to try it out and see if it works. If it doesn't work, undo it, and do the corrections yourself. If it does work, you just saved yourself some time.

Photo Retouching and Enhancing

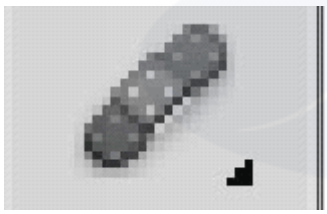
Basic photo retouching and enhancing is very easy and very effective if done with the right level of subtlety. We're going to take a look at some options for correcting problems in your photos-like cuts on a face, dry skin, dust from the lens, etc.-and also how to enhance a portrait to make it look especially nice.

Touch Ups

Most of the touch ups you're going to want to perform can be accomplished with the healing brush or the cloning stamp. If you're trying to just make a person look their best-which is all you really ought to be doing with a portrait-you can do most of what you want to do with the healing brush and clone stamp. We'll also take a brief look at some of your other options as well.

The Healing Brush Revisited

Fig 6



Basically it works by selecting a source point (which you do by option-clicking an area of the photo) and painting over the area you want to "heal" with image data from the source point. The healing brush then uses its magic to blend in the painted source material with the stuff surrounding it. Generally this results in a more realistic result than you'd get with the Clone Stamp, but not always. The Clone Stamp works in the exact same fashion as the Healing Brush, but the Clone Stamp doesn't do any healing. All it does is replace the target area with whatever you selected as a source point. While you're technically cloning another part of the photo and this may seem like it's going to look redundant, when you're correcting small areas it can sometimes look better than what the Healing Brush will give you-especially when you're near hard edges and areas of contrast.

Other Tools

Fig 7

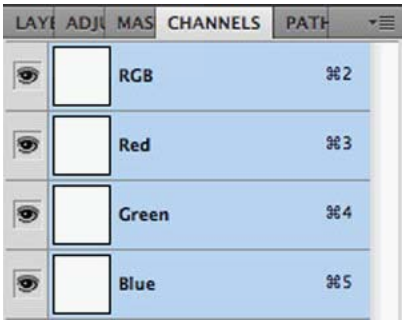
In addition to the Healing Brush and Clone Stamp, there are a few other ways to make corrections. If you're looking to reduce redness in certain parts of the skin, often times you can accomplish this by simply desaturating the red area a little bit. The Sponge Tool can help you easily desaturate a particular area. If you're removing blemishes and want some alternatives, the Spot Healing Brush can sometimes be a little easier to use than the regular Healing Brush (you can find it by clicking and holding down the Healing Brush in the tool bar). It doesn't require you to set a source point. One last option is using Content-Aware Fill, which is a new feature in Photoshop CS5. To use it, what you want to remove needs to be in the background layer. Select the part you want to remove with a Marquee or Lasso tool and press delete. You should be presented with a dialogue box asking you what you want to do. If "Use:" isn't set to Content-Aware, change that and then press OK. Once you do, Photoshop will try to figure out what your photo should look like without that element. The more precise your selection is, the more successful Photoshop will be in replacing it.

Enhancing a Portrait

Using a couple of minor enhancements, you can make a portrait look significantly better than the original photograph. Everything we're going to discuss here is designed to bring out the best in the image of the person you're working on and not necessarily look better than they actually do. Photos tend to pick up more detail than we'd normally notice and people generally don't have pimples, cuts, or other blemishes on their faces all the time. The idea is to bring out the best in the subject and not perform anything that's untrue to their appearance or is just downright unrealistic.

Color Channeling

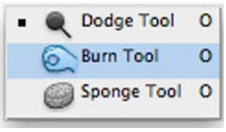
Fig 8



One of the best and easiest tricks to enhancing a portrait is making use if your color channels. You can find your color channels in the Channels palette on the right side of your screen. Assuming you're in the RGB color space, you'll see four options: RGB, red, green, and blue. RGB is the color image as you know it. The others are the respective channels. Click each of these and note their differences. You'll find that red has the most light, blue has the most detail, and green is kind of a combination of them both. When you're dealing with people, detail in skin is generally something you want to avoid and that's exactly what the red channel can help you do. Sometimes it's a near-perfect black and white photo all by itself, but if we're working with color it's still very useful. To make a nice

adjustment, select the red channel, then select all and copy the image. Now switch back to the RGB combine channel, go back to your Layers palette, and paste the red channel. This will create a new layer on top of your background and you'll see only the red channel on your canvas. From the Layers palette, select a blending mode of Overlay for your red channel layer and reduce its opacity to somewhere between 20 and 30 percent. This is one of the easiest adjustments to make and it's incredibly useful. It removes unwanted detail in the skin, adds contrast right where you want it, and often improves your photo's color as well.

Fig 9



Burning and Dodging

Burning and dodging can also be extremely useful when applying "virtual makeup" to your subject. This is something you'll want to do for men as well as women, because we're going to be very subtle and make it look as natural as possible. The idea is to place added contrast in the features of the face we want to emphasize: the eyes, nose, and mouth. You can use the burn tool to burn the midtones and shadows of the eyelashes and eyebrows, the curve of the nose, and the inner edges of the lips. You can use the dodge tool to brighten up the midtones of the colored and white parts of the eye and the inside of the lips.

While these enhancements are pretty minor, they make a significant difference in the overall look of the photo.

Hue/Saturation lets you adjust the hue, saturation, and lightness of a specific range of colors in an image or simultaneously adjust all the colors in an image. This adjustment is especially good for fine-tuning colors in a CMYK image so that they are in the gamut of an output device.

Apply a Hue/Saturation adjustment

Do one of the following:

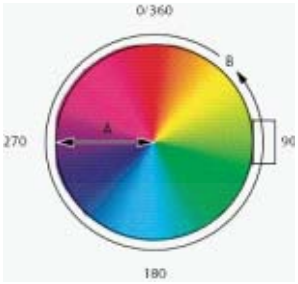
- Click the Hue/Saturation icon in the Adjustments panel.
- (CS5) Click a Hue/Saturation preset in the Adjustments panel.
- Choose Layer > New Adjustment Layer > Hue/Saturation. Click OK in the New Layer dialog box.

The two color bars in the dialog box represent the colors in their order on the color wheel. The upper color bar shows the color before the adjustment; the lower bar shows how the adjustment affects all of the hues at full saturation.

You can also choose Image > Adjustments > Hue/Saturation. But keep in mind that this method makes direct adjustments to the image layer and discards image information.

- In the Adjustments panel (CS5) or the Properties panel (CS6), choose from the menu to the right of the On-image adjustment tool .
- Choose Master to adjust all colors at once.
- Choose one of the other preset color ranges listed for the color you want to adjust. To modify the color range, Choose a Hue/Saturation preset from the Preset menu.
- For Hue, enter a value or drag the slider until you are satisfied with the colors.

The values displayed in the box reflect the number of degrees of rotation around the wheel from the original color of the pixel. A positive value indicates clockwise rotation; a negative value, counterclockwise rotation. Values can range from 180 to +180.



Color wheel

A. Saturation B. Hue

You can also select the On-image adjustment tool in the Adjustments panel (CS5) or the Properties panel (CS6), and then Ctrl-click a color in the image. Drag left or right in the image to modify the hue value.

- For Saturation, enter a value or drag the slider to the right to increase the saturation or to the left to decrease it.

The color shifts away from or toward the center of the color wheel. Values can range from 100 (percentage of desaturation, duller colors) to +100 (percentage of saturation increase).

You can also , select the On-image adjustment tool in the Adjustments panel (CS5) or the Properties panel (CS6), and click a color in the image. Drag left or right in the image to decrease or increase saturation of the color range that includes the pixel you clicked.

- For Lightness, enter a value or drag the slider to the right to increase the lightness (add white to a color) or to the left to decrease it (add black to a color). Values can range from 100 (percentage of black) to +100 (percentage of white).

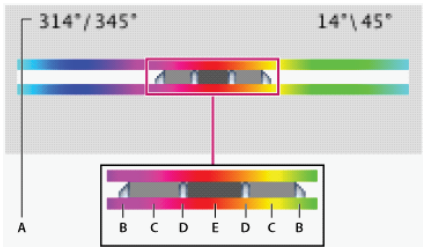
Click the Reset button to undo a Hue/Saturation setting in the Adjustments panel (CS5) or the Properties panel (CS6).

Specify the range of colors adjusted using Hue/ Saturation

- Apply a Hue/Saturation adjustment.
- In the Adjustments panel (CS5) or the Properties panel (CS6), choose a color from the menu to the right of the On-image adjustment button .

Four color wheel values (in degrees) appear in the Adjustments panel (CS5) or the Properties panel (CS6). They correspond to the adjustment sliders that appear between the color bars. The two inner vertical sliders define the color range. The two outer triangle sliders show where the adjustments on a color range "fall off" (falloff is a feathering or tapering of the adjustments instead of a sharply defined on/off application of the adjustments).

- Use either the eyedropper tools or the adjustment sliders to modify the range of colors.
  - Click or drag in the image with the Eyedropper tool to select a color range. To expand the range, click or drag in the image with the Add To Sample Eyedropper tool . To reduce the range of color, click or drag in the image with the Subtract From Sample Eyedropper tool . While an eyedropper tool is selected, you can also press Shift to add to the range, or Alt (Windows) or Option (Mac OS) to subtract from it.
  - Drag one of the white triangle sliders to adjust the amount of color falloff (feathering of adjustment) without affecting the range.
  - Drag the area between the triangle and the vertical bar to adjust the range without affecting the amount of falloff.
  - Drag the center area to move the entire adjustment slider (which includes the triangles and vertical bars) to select a different color area.
  - Drag one of the vertical white bars to adjust the range of the color component. Moving a vertical bar from the center of the adjustment slider and closer to a triangle increases the color range and decreases the falloff. Moving a vertical bar closer to the center of the adjustment slider and away from a triangle decreases the color range and increases the falloff.
  - Ctrl-drag (Windows) or Command-drag (Mac OS) the color bar so that a different color is in the center of the bar.



Hue/Saturation adjustment slider

A. Hue slider values B. Adjusts falloff without affecting range C. Adjusts range without affecting falloff D. Adjusts range of color and falloff E. Moves entire slider

If you modify the adjustment slider so that it falls into a different color range, the name in the Edit menu changes to reflect this change. For example, if you choose Yellow and alter its range so that it falls in the red part of the color bar, the name changes to Red 2. You can convert up to six of the individual color ranges to varieties of the same color range (for example, Red through Red 6).

By default, the range of color selected when you choose a color component is 30° wide, with 30° of falloff on either side. Setting the falloff too low can produce banding in the image.

Colorize a grayscale image or create a monotone effect

- (Optional) If you are colorizing a grayscale image, choose Image > Mode > RGB Color to convert the image to RGB.
- Apply a Hue/Saturation adjustment.
- In the Adjustments panel (CS5) or the Properties panel (CS6), select the Colorize option. If the foreground color is black or white, the image is converted to a red hue (0°). If the foreground color is not black or white, the image is converted to the hue of the current foreground color. The lightness value of each pixel does not change.
- (Optional) Use the Hue slider to select a new color. Use the Saturation and Lightness sliders to adjust the saturation and lightness of the pixels.

Adjust color saturation using Vibrance

- Vibrance adjusts the saturation so that clipping is minimized as colors approach full saturation. This adjustment increases the saturation of less-saturated colors more than the colors that are already saturated. Vibrance also prevents skintones from becoming over saturated.

- Do one of the following:
  - In the Adjustments panel, click the Vibrance icon .
  - Choose Layer > New Adjustment Layer > Vibrance . In the New Layer dialog box, type a name for the Vibrance adjustment layer and click OK.

You can also choose Image > Adjustments > Vibrance. But keep in mind that this method makes direct adjustments to the image layer and discards image information.

- In the Adjustments panel (CS5) or the Properties panel (CS6), drag the Vibrance slider to increase or decrease color saturation without clipping when colors become more saturated. Then, do one of the following:
  - To apply more adjustment to less saturated colors and prevent colors clipping as they reach total saturation, move the Vibrance slider to the right.
  - To apply the same amount of saturation adjustment to all colors regardless of their current saturation, move the Saturation slider. In some situations, this may produce less banding than the Saturation slider in the Hue/Saturation Adjustments panel or Hue/Saturation dialog box.
  - To decrease saturation, move either the Vibrance or the Saturation slider

Adjust color saturation in image areas

The Sponge tool subtly changes the color saturation of an area. When an image is in Grayscale mode, the tool increases or decreases contrast by moving gray levels away from or toward the middle gray.

- Select the Sponge tool .
- Choose a brush tip and set brush options in the options bar.
- In the options bar, choose the way you want to change the color from the Mode menu:

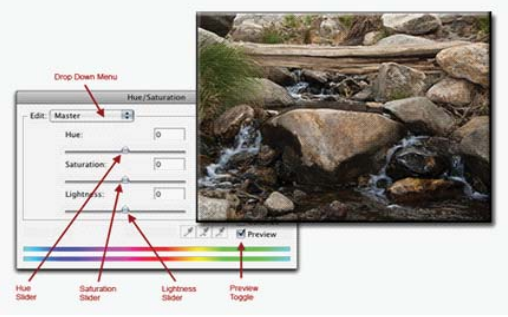
  Saturate

  Intensifies the color's saturation

  Desaturate

  Dilutes the color's saturation
- Specify the flow for the Sponge tool.
- Select the Vibrance option to minimize clipping for fully saturated or desaturated colors.
- Drag over the part of the image you want to modify.

The "Hue / Saturation" Adjustment Layer in Photoshop



In a well-exposed image, it is quite possible that Levels and Hue / Saturation are the only 2 tools that you'll need for working with the first 4 elements: Contrast, Color Balance, Luminance, and Color Saturation.

Formatting text, paragraphs using the brushes and layers

Objectives : At the end of this lesson you shall be able to
- **formatting text and Paragraph**
- **explain various options in Image, Layer, Select and Filter Menu**
- **explain arranging and displaying panels**
- **creating and Modifying brushes**
- **explain about brush and painting option**
- **filling and stroking selections, layers and paths.**

Formatting characters

Photoshop give you precise control over individual characters in type layers, including font, size, color, leading, kerning, tracking, baseline shift, and alignment. You can set type attributes before you enter characters or reset them to change the appearance of selected characters in a type layer.

Selecting characters

Before you can format individual characters, you must select them. You can select one character, a range of characters, or all characters in a type layer.

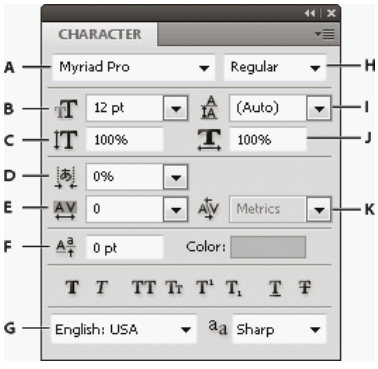
Character panel

The Character panel provides options for formatting characters. Some formatting options are also available from the options bar.

You can display the Character panel by doing one of the following:

- Choose Window > Character, or click the Character panel tab if the panel is visible but not active.
- With a type tool selected, click the Panel button in the options bar.

To set an option in the Character panel, choose a value from the pop up menu on the right side of the option. For options with numeric values, you can also use the up and down arrows to set the value, or you can edit the value directly in the text box. When you edit a value directly, press Enter or Return to apply a value, Shift+Enter or Shift+Return to apply a value and then highlight the value just edited, or Tab to apply a value and move to the next text box in the panel.



Character panel

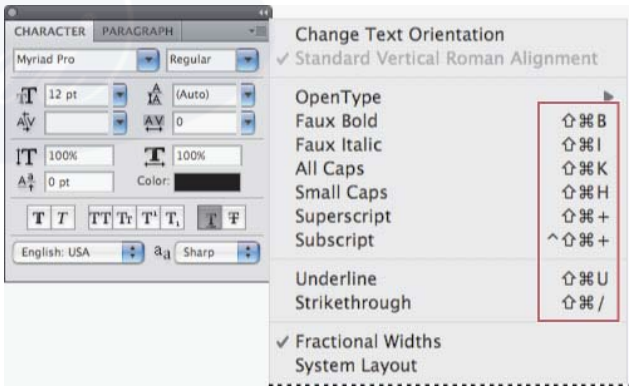
A. Font Family B. Font Size C. Vertical Scale D. Set Tsume option E. Tracking F. Baseline Shift G. Language H. Font Style I. Leading J. Horizontal scale K. Kerning

Select Show Asian Text Options in the Type preferences for the Set Tsume option to appear in the Character panel.

You can access additional commands and options in the Character panel menu. To use this menu, click the triangle in the upper right corner of the panel.

Dynamic Shortcuts

Dynamic Shortcuts are keyboard shortcuts that are accessible only when you are entering point or paragraph type, when type is selected, or when the I beam is in text. You can view Dynamic Shortcuts in the Character panel menu when they are accessible. Dynamic Shortcuts are available for type options such as Faux Bold, Faux Italic, All Caps, Small Caps, Superscript, Subscript, Underline, and Strikethrough.



Dynamic shortcuts appear in the Character panel menu only when you are entering point or paragraph type, when type is selected, or when the I beam is in text.

Specify type size

The type size determines how large the type appears in the image.

The default unit of measurement for type is points. One PostScript point is equal to 1/72 of an inch in a 72 ppi image; however, you can switch between using the PostScript and traditional definitions of point size. You can change the default unit of measurement for type in the Units & Rulers area of the Preferences dialog box.

Change the type color

The type you enter is rendered in the current foreground color; however, you can change the color before or after you enter type. When editing existing type layers, you can

change the color of individual, selected characters or of all type in a layer.

- Do one of the following:
  - Click the Color selection box in the options bar or Character panel, and select a color using the Adobe Color Picker.
  - Use fill shortcuts. To fill with the foreground color, press Alt+Backspace (Windows) or Option+Delete (Mac OS); to fill with the background color, press Ctrl+Backspace (Windows) or Command+Delete (Mac OS).
  - Apply an overlay layer style to the type layer to apply a color, gradient, or pattern on top of the existing color. You can't apply an overlay layer style selectively; it affects all characters in the type layer.
  - Click the foreground color selection box in the toolbox, and select a color using the Adobe Color Picker. Alternatively, click a color in the Color panel, or the Swatches panel. If you use this method to change the color of an existing type layer, you must first select characters on that layer.

Set leading

The vertical space between lines of type is called leading (rhymes with sledding). For Roman type, leading is measured from the baseline of one line of text to the baseline of the line above it. The baseline is the invisible line on which most letters sit. You can apply more than one leading amount within the same paragraph; however, the largest leading value in a line of type determines the leading value for that line.

Kern and track

Kerning is the process of adding or subtracting space between specific pairs of characters. Tracking is the process of loosening or tightening the spacing between the characters in selected text or an entire block of text.

Change the orientation of a type layer

The orientation of a type layer determines the direction of type lines in relation to the document window (for point type) or the bounding box (for paragraph type). When a type layer is vertical, the type flows up and down; when a type layer is horizontal, the type flows from left to right. Don't confuse the orientation of a type layer with the direction of characters in a type line.

1 Select the type layer in the Layers panel.

2 Do one of the following:
  - Select a type tool, and click the Text Orientation button in the options bar.
  - Choose Layer > Type > Horizontal, or choose Layer> Type > Vertical.
  - Choose Change Text Orientation from the Character panel menu.

Rasterize type layers

Some commands and tools-such as filter effects and painting tools-are not available for type layers. You must rasterize the type before applying the command or using the tool. Rasterizing converts the type layer into a normal layer and makes its contents uneditable as text. A warning message appears if you choose a command or tool that requires a rasterized layer. Some warning messages provide an OK button you can click to rasterize the layer.

♦ Select the type layer and choose Layer > Rasterize > Type.

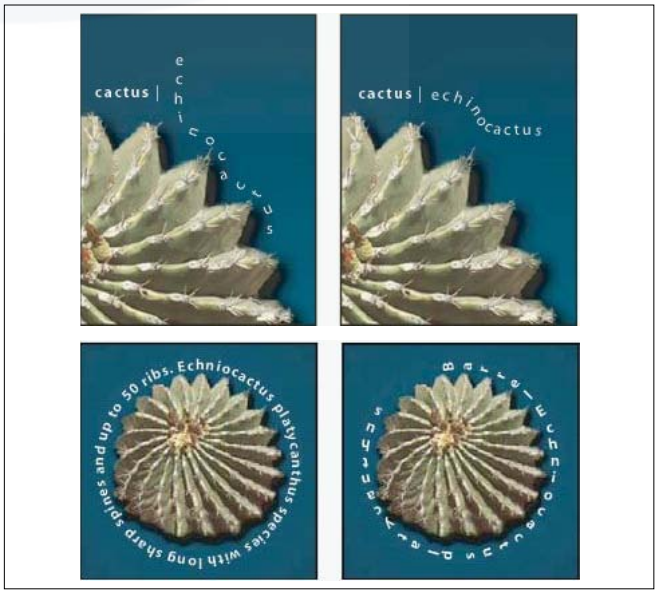
Creating type effects

You can perform various operations on type to change its appearance. For example, you can warp type, convert type to shapes, or add a drop shadow to type. One of the easiest ways to create type effects is to play the default Text Effects actions that come with Photoshop on a type layer. You can access these effects by choosing Text Effects from the Actions panel menu.

Create type along or inside a path

You can enter type that flows along the edge of a work path created by a pen or a shape tool. When you enter type along a path, the type flows in the direction that anchor points were added to the path. Entering horizontal type on a path results in letters that are perpendicular to the baseline. Entering vertical type on a path results in text orientation parallel to the baseline.

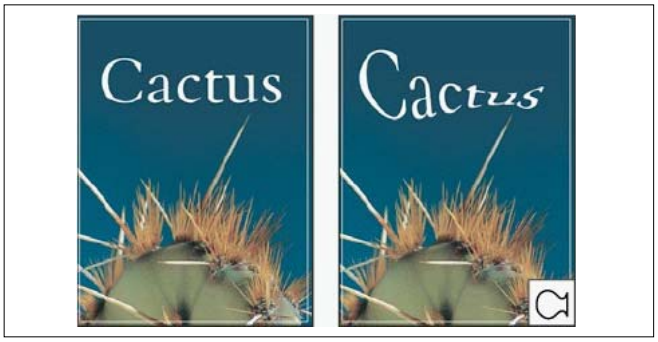
You can also enter type inside a closed path. In this case, however, the type is always oriented horizontally, with line breaks occurring wherever the type reaches path boundaries.



Warp and unwarp type

You can warp type to create a special type effect. For example, you can warp type in the shape of an arc or a wave. The warp style you select is an attribute of the type layer-you can change a layer's warp style at any time to change the overall shape of the warp. Warping options give you precise control over the orientation and perspective of

the warp effect. Note: You cannot warp type layers that include Faux Bold formatting or that use fonts without outline data (such as bitmap fonts).



Warp type

1 Select a type layer.

2 Do one of the following:

- Select a type tool, and click the Warp button in the options bar.
- Choose Type > Warp Text (CC, CS6) or Layer > Type > Warp Text (CS5).

You can use the Warp command to warp text in a type layer. Choose Edit > Transform Path > Warp.

3 Choose a warp style from the Style pop-up menu.

4 Select the orientation of the warp effect-Horizontal or Vertical.

5 If desired, specify values for additional warping options:

- Bend to specify how much warp is applied to the layer
- Horizontal Distortion or Vertical Distortion to apply perspective to the warp

Unwarp type

1 Select a type layer that has warping applied to it.

2 Select a type tool and click the Warp button in the options bar, or choose Layer > Type > Warp Text.

3 Choose None from the Style pop-up menu, and click OK.

Create a work path from type

You can work with type characters as vector shapes by converting them to a work path. A work path is a temporary path that appears in the Paths panel and defines the outline of a shape. After you create a work path from a type layer, you can save and manipulate it as you do any other path. You cannot edit characters in the path as text; however, the original type layer remains intact and editable.

- Select a type layer, and choose Type > Create Work Path (CC, CS6) or Layer > Type > Create Work Path (CS5). Note: You cannot create work paths from fonts that don't include outline data (such as bitmap fonts).

Convert type to shapes

When you convert type to shapes, the type layer is replaced by a layer with a vector mask. You can edit the vector mask and apply styles to the layer; however, you cannot edit characters in the layer as text.

- Select a type layer, and choose Type > Convert To Shape (CC, CS6) or Layer > Type > Convert To Shape (CS5). Note: You cannot create shapes from fonts that don't include outline data (such as bitmap fonts).

Format paragraphs

For point type, each line is a separate paragraph. For paragraph type, each paragraph can have multiple lines, depending on the dimensions of the bounding box.

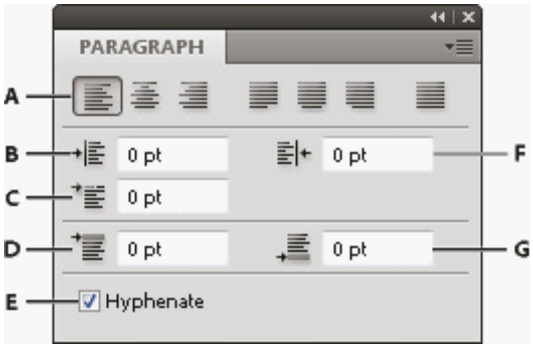
You can select paragraphs and then use the Paragraph panel to set formatting options for a single paragraph, multiple paragraphs, or all paragraphs in a type layer.

- Select the Horizontal Type tool or the Vertical Type tool .
  - To apply formatting to a single paragraph, click in a paragraph.
  - To apply formatting to multiple paragraphs, make a selection within a range of paragraphs.
  - To apply formatting to all paragraphs in the layer, select the type layer in the Layers panel.

Paragraph panel

You use the Paragraph panel to change the formatting of columns and paragraphs. To display the panel, choose Window > Paragraph, or click the Paragraph panel tab if the panel is visible but not active. You can also select a type tool and click the Panel button in the options bar.

To set options with numeric values in the Paragraph panel, you can use the up and down arrows or edit the value directly in the text box. When you edit a value directly, press Enter or Return to apply a value, Shift+Enter or Shift+Return to apply a value and then highlight the value just edited, or Tab to apply a value and move to the next text box in the panel.



Paragraph panel

A. Alignment and justification **B.** Left indent **C.** First line left indent **D.** Space before paragraph **E.** Hyphenation **F.** Right indent **G.** Space after paragraph

You can access additional commands and options in the Paragraph panel menu. To use this menu, click the triangle in the upper right corner of the panel.

Specify alignment

You can align type to one edge of a paragraph (left, center, or right for horizontal type; top, center, or bottom for vertical type). Alignment options are available only for paragraph type.

1. Do one of the following:
   - Select a type layer if you want all the paragraphs in that type layer to be affected.
   - Select the paragraphs you want affected.
2. In the Paragraph panel or options bar, click an alignment option.

The options for horizontal type are:

Left Align Text

Aligns type to the left, leaving the right edge of the paragraph ragged.

Center Text

Aligns type to the center, leaving both edges of the paragraph ragged.

Right Align Text

Aligns type to right, leaving the left edge of the paragraph ragged.

The options for vertical type are:

Top Align Text

Aligns type to the top, leaving the bottom edge of the paragraph ragged.

Center Text

Aligns type to the center, leaving both the top and bottom edges of the paragraph ragged.

Bottom Align Text

Aligns type to the bottom, leaving the top edge of the paragraph ragged.

Specify justification for paragraph type

Text is said to be justified when it is aligned with both edges. You can choose to justify all text in a paragraph excluding the last line, or you can justify text in a paragraph including the last line. The settings you choose for justification affect the horizontal spacing of lines and the aesthetic appeal of type on a page.

Justification options are available only for paragraph type and determine word, letter, and glyph spacing. Justification settings apply only to Roman characters; double byte characters available in Chinese, Japanese, and Korean fonts are not affected by these settings.

1. Do one of the following:
   - Select a type layer if you want all the paragraphs in that type layer to be affected.
   - Select the paragraphs you want affected.
2. In the Paragraph panel, click a justification option.

The options for horizontal type are:

Justify Last Left

Justifies all lines except the last, which is left aligned.

Justify Last Centered

Justifies all lines except the last, which is center aligned.

Justify Last Right

Justifies all lines except the last, which is right aligned.

Justify All

Justifies all lines including the last, which is force justified.

The options for vertical type are:

Justify Last Top

Justifies all lines except the last, which is top aligned.

Justify Last Centered

Justifies all lines except the last, which is center aligned.

Justify Last Bottom

Justifies all lines except the last, which is bottom justified.

Justify All

Justifies all lines including the last, which is force justified.

Justification (right, center, and left align, and justify all) for type on a path starts at the insertion point and ends at the end of the path.

Indent paragraphs

Indention specifies the amount of space between type and the bounding box or line that contains the type. Indention affects only the selected paragraph or paragraphs, so you can easily set different indentions for paragraphs.

1. Do one of the following:
   - Select a type layer if you want all the paragraphs in that type layer to be affected.
   - Select the paragraphs you want affected.
2. In the Paragraph panel, enter a value for an indention option:

Indent Left Margin

Indents from the left edge of the paragraph. For vertical type, this option controls the indention from the top of the paragraph.

Indent Right Margin

Indents from the right edge of the paragraph. For vertical type, this option controls the indention from the bottom of the paragraph.

Indent First Line

Indents the first line of type in the paragraph. For horizontal type, the first line indent is relative to the left indent; for vertical type, the first line indent is relative to the top indent. To create a first line hanging indent, enter a negative value.

Image menu

Fig 1

Photoshop enables you to carry out a variety of effects on various types of images. This program offers versatile tools through which you can add effects to image. It is the 'Image Menu' that enables you to add effects. Let's take a closer look at the tools offered by this menu.

When you are dealing with Images in Photoshop, the first thing that you will be using is the Image Menu. The Image menu has many submenus, each of which enable you to carry out a particular function that transforms the look of the image that you are working with.

Mode

This submenu enables you to alter an image's appearance and its color scheme. The options available here are Bitmap, Grayscale, Duotone, Indexed Color, RGB Color, CMYK Color, Lab Color, Multichannel, 8 Bits/Channel, 16 Bits/ Channel, and Color Table. These options enhance you to enhance the appearance of your image as you think is required. You can carry out many different color effects through this menu.

Adjustments

This submenu enables you to make adjustments to your image. It contains options such as the 'Curves' (which enables you to manipulate color), 'Bright/Contrast' (which enables you to set the brightness and contrast), 'Hue/ Saturation' (which enables you to set the depth of color), and 'Black and White' (which enables you to set the image as Black or White). This submenu has a variety of options through which you can perform so many different effects on the image that you are working with.

Image Size

This submenu enable you to resize the size of your image. Not only can you change the height and width of the image, you can also change the height, width and resolution of your document. This option enables you to set the size of the working area of the document.

Canvas Size

This submenu enables you to change the working area of the image so that you have more space to work with.

Crop

This submenu enables you to crop or cut off parts of an image that you feel is not necessary for including in your work area.

Trim

This submenu enables is similar to the Crop action. You can remove unnecessary areas of the image. Use it to trim parts of the image that you feel is unnecessary for your usage.

Each of these options enables you to carry out different effects on the images that you are working with. You can carry out so many different effects and in each image the result will be different, interesting and also unique.

Layers Menu

One of the most important Photoshop tools is the Layers Panel. The Layers Panel lists out all the layers that make up your working image. You can use the Layers panel to Create New Layers, Work with a Layer Group, or to Show and Hide Layers. Let's take a look at the many different things that can be done with the Layers Panel.

Fig 2

Creating a Layer

You can create a new layer by clicking the 'sheet-shaped' icon bottom of the Layers Panel. You can also create a new layer by going to the top of your Photoshop window and click Layer > New > Layer.

Renaming a Layer

When you create a new layer, it is named as Layer 1 or Layer 2, depending on when you create it. However, you can assign your own name to a layer by renaming it. You have to double-click the name of the layer to rename it.

Razterize your Layer

You can rasterize any layer by first highlighting the layer and then right clicking the layer to rasterize it.

Using Blending Options

You can use this option in three different ways. The first way to do this is by double clicking the layer and opening the Blending Options. You can also access this option by doing a right click on the layer you are working with. This opens a pop up menu that will allow you to access this option. You can also access this option from the Photoshop window and click Layer > Layer Styles > Blending Options.

Deleting Photoshop Layer

Deleting a layer is quite simple. Right click the layer you want to delete to open a pop up menu. Click Delete Layer to delete the layer. Alternatively, highlight the layer by clicking it and then click the trashcan icon at the bottom of the Layers Panel to delete it.

Locking and Unlocking Layers

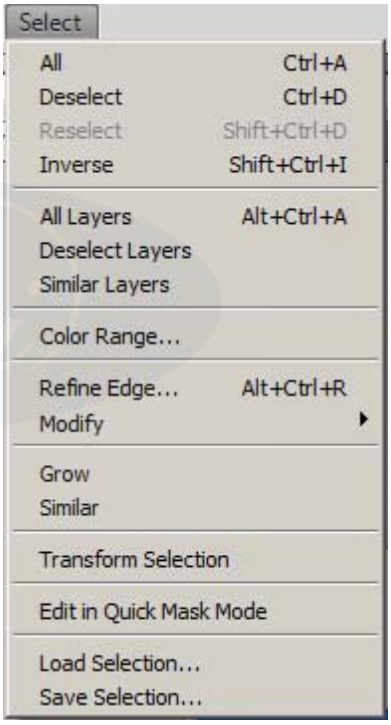
Locking a layer is easy, you just have to click the Padlock icon at the top of the Layers Panel to do this. This action locks all the layers. You can unlock a layer by clicking the Padlock Layer in the layer.

Merging Layers

You can merge layers by clicking on one layer and then pressing CTRL to click the other layers that you wish to merge with this layer. Once you have highlighted all the layers, right click on any one. A pop up menu opens, where you can click Merge Layers to carry out the merge action.

Select Menu

Fig 3



The Select menu is used when you want to add something, delete something, or make changes to one specific part of the photo, rather than the photo as a whole. This Photoshop tutorial will explain which menu option does what, and what they can be used for.

All, Deselect, and Reselect

All: Select all will select the entire photo (or layer) that you are working on. This works well if you want to copy the contents to a new layer, or a new document.

Deselect: This will rid you of the "marching ants" around whatever part of the photo you've selected. This is usually used once you've copied the contents and pasted to a new layer and no longer need to have the contents of your image selected.

Reselect: Reselecting is used when you've selected something, deselected it, and then realized you still need that portion of your image selected. This will select exactly what you had previously, rather than making you try to select the exact portion of your image again.

Inverse: This tool is probably one of the most under-estimated within the batch. I love this tool. Inverse allows you to select a part of an image, go to inverse, and Photoshop Elements will select the exact opposite of what you've just selected. I use this all the time when I want to put a portion of my photo on a new background. Rather than selecting every pixel of the background to delete it, I select an easier portion of the image, go to inverse, and it will select the background for me!

All Layers: If you're working with a multi-layer document, this is a great tool to have. If you draw a marquis around a layer, you're only selecting that layer, nothing under it. Select all layers allows you to select every layer and work with them as a whole.

Deselect Layers: Does the same as deselect, but will deselect all layers rather than just the layer you are working on.

Similar Layers: This select option allows you to select layers of the same type such as all text layers, or all adjustment layers.

Feather and Refine Edge

Feather: Feather is a great way to make your photo look more realistic if you change its background. It will blur the pixels around the selection (you can choose how many pixels) and create the illusion that the photo was on that background all along, rather than making it look like you took a portion of a photo and pasted into a new background.

Refine Edge: Refine edge gives you three options with sliders to control the density of the change. Smooth will remove the jagged edges along a selection. Feather works the same as feather above, blurring the edges to make the selection look more realistic. Contract/Expand allows you to increase or decrease the amount of selected pixels. You can choose to view the image as you would see it, or view the selection with an overlay color so that you can view the selection more in depth.

Modify

Modify gives you a few options for your selection. Border allows you to create a border around the selected pixels (up to 200 pixels) so that only the pixels within that border are selected. You can copy this selection to a new layer and fill the layer with a color to make an outline of your image. Smooth works a lot like feathering. It will give the selection a softer edge so it looks better, rather than having jagged pixels. Expand lets you make your selection bigger by up to 200 pixels so that you can select the exact portion of the image. Lastly, Contract will let you make your selection smaller to define the exact portion of the image you want to select.

Grow and Similar

Grow: Grow works by selecting more pixels that match the color of your selection. For example, you've selected a portion of a tree. Grow will choose all of the pixels that match the color of the tree portion you've selected. This works best if you have an image that has a high contrast, otherwise it may select more pixels than you need.

Similar: Similar will select all of the pixels in an image that match the color of your selected pixels. Again, this works best with high contrast images so that you don't end up selecting pixels you didn't need.

Loading, Saving, and Deleting a Selection

Load Selection, Delete Selection, and Save Selection all work together. To load a selection, you first must save it. When you are finished with selecting a portion of an image, suppose a flower, you've spent tons of time selecting the details of that flower, making sure you have selected all of the pixels. Saving the selection allows you to save that exact outline to use it later. Load selection allows you to load a previously saved selection, and delete selection deletes any saved selections you no longer want or need.

Filter Menu

One of the most important things that you can do with Photoshop is applying filters. Filters are some ready-made effects that you can apply to the image that you are working with.

Photoshop offers a wide variety of filters. You can create some of the most stunning effects through Photoshop's filters. You can access them from the Filters menu in the Photoshop Menu Bar. When you use any of the filter options available, a dialog box will open through which you can see a preview of the effect that you are going to apply on the image. This gives you information on how the image result will look after application.

Here are the many filter options on Photoshop:

- **Artistic -** This filter enables you to achieve artistic effects. You can get some of the most distinct effects through this option.
- **Blur -** This filter enables you to soften the look of an image. It can be used to soften the look of an entire image part of an image. You can use it to reduce the hard edges of an image.
- **Brush Strokes -** This filter enables you to create artistic effects using brush strokes.
- **Distort -** This filter enables you distort the image so that you can get a unique effect on the original image. This is one of the most interesting Photoshop effects to try out.
- **Noise -** This filter is used for creating textures. Many texture effects can be added using the options available here.

- **Pixelate -** It creates small cells in the image that you are working with, based on color similarity.
- **Render -** This bring about cloud and light effects in the image that you are selecting.
- **Sharpen -** This sharpens the soft edges in the image by increasing pixel contrast.
- **Sketch -** This works much like the artistic filter, excepting here you get a hand draw effect on the image.
- **Stylize -** This option enables you to create special stylish effects on the image.
- **Texture -** This option enables you to create various types of texture effects that can really enhance the way your image looks.
- **Video -** When you have image captured through video, you can use this command to smoothen them out.
- **Digimark -** You have to use his option when you want to add a digital watermark to the image.

Each of the filters enables you to create unique and stylistic effects on your image document. You can carry out so many variations in the image that you are working with and bring out some of the best results. Check out the results of each effect and carefully experiments with as many variations as possible so that you get the kind of results you want in your photo retouching or image enhancing requirements.

In Photoshop, palettes are used to help modify and monitor your documents. An understanding of how to use, organize, and adjust palettes is essential in learning how to use Photoshop.

The Palettes

In order to see how big of a role palettes play in Photoshop, simply **Press Tab** in Photoshop to hide all palettes. Palettes include everything from the toolbox, to the option bar, to the layers and colors windows.

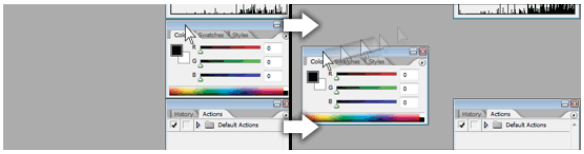
Arranging Palettes

It's possible to arrange palettes to your personal taste. Doing so can help increase your efficiency by moving your most frequently used palettes to a more accessible part of the screen.

To **move a palette** to a separate palette group, or into a palette group of its own, drag and drop that palettes tab into another group, or anywhere else in the work area.

To **move a palette group,** drag the title bar of that palette with your mouse, and release when it is positioned as you see fit.

Fig 1

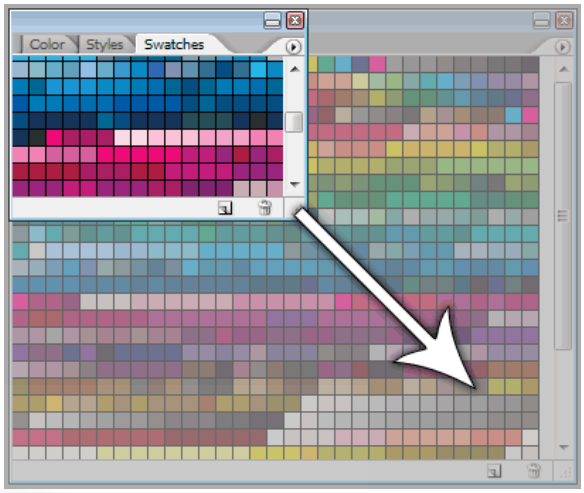


You can also **Dock Palettes** to one another by having their upper and lower edges meet one another. When a palette is docked to another, it will snap into place.

Resizing, Showing, and Hiding Palettes

Perhaps you're working with a palette with a large number of styles, colors, or layers, all of which you like to be accessible at the same time. You can resize many of the palettes by dragging the bottom right corner out to whichever size you prefer.

Fig 2



If you want to hide (minimize) a palette that you're not currently using to save up on space, simply **double click** that palettes tab. Likewise, you can expand a minimized tablet by double clicking the tab again.

Closing, Opening, and Reseting Palettes

If you have some tablets open that serve no use to you for your current work, it's possible to close out of them by clicking the "x" in the top right corner of the palette (On a mac, this will be the typical close button).

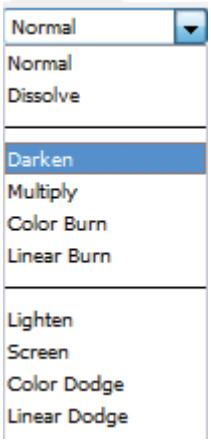
If you need to open a new palette, or a palette which you have previously closed, go to **Window in your menu bar,** and select the palette you'd like to reopen.

If you're ever having trouble getting your palettes back into place, and simply want to revert to the default palette layout, go to **Window > Workspace > Reset Palette Locations** in your **Menu Bar.** This will reset everything back to how you started when you first opened Photoshop.

Setting Options in Palettes

Inside palettes, you'll find all sorts of various settings from color choices, styles, opacity, and other values. We'll cover many of these options in detail in the future, but for now let's go over how to operate some of these options.

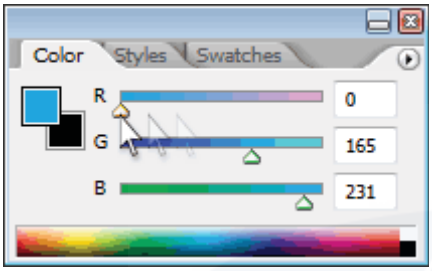
Fig 3



Drop-down Menus

To operate a drop-down menu, just click the arrow attached to the menu. A list of available inputs will drop down. Click any of these values to select them.

Fig 4



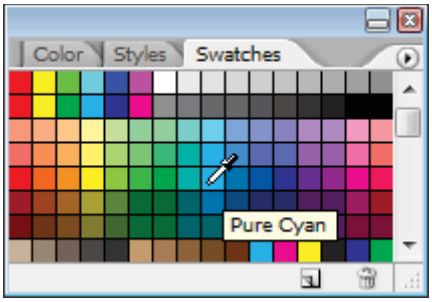
Sliders

Sliders are operated by grabbing a handle by holding down your mouse button over one, and then dragging to your desired value.

Swatches & Styles

To select a color swatch, or layer style, simply hover over it with your mouse, and click once with your mouse.

Fig 5

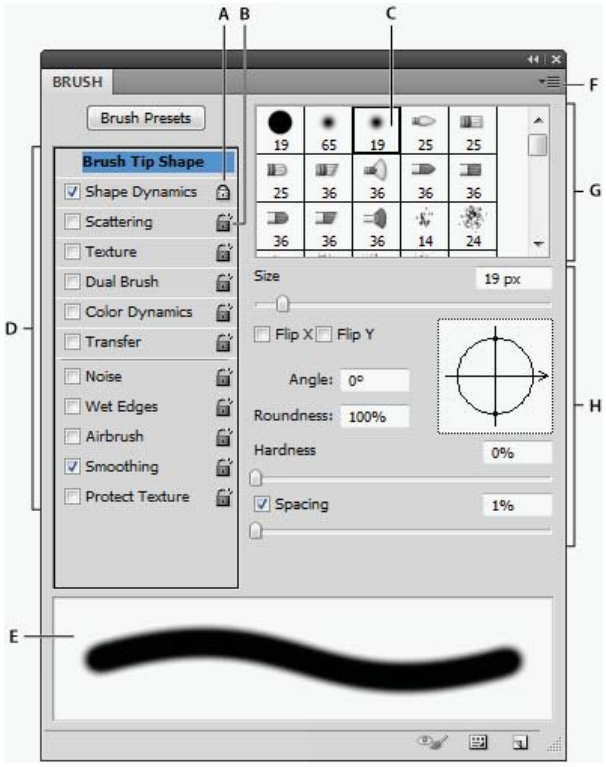


You can create brushes that apply paint to images in a variety of ways. You select an existing preset brush, a brush tip shape, or create a unique brush tip from part of an image. You choose options from the Brush panel to specify how the paint is applied.

Brush panel overview

In the Brush panel, you can select preset brushes from the Brush Presets panel, but you can also modify existing brushes and design new custom brushes. The Brush panel contains the brush tip options that determine how paint is applied to an image.

The brush stroke preview at the bottom of the panel shows how paint strokes look with the current brush options.



Brush panel with Brush Tip Shape options displayed

A. Locked **B.** Unlocked **C.** Selected brush tip **D.** Brush settings **E.** Brush stroke preview **F.** pop up menu **G.** Brush tip shapes (available when Brush Tip Shape option is selected) **H.** Brush options

Display the Brush panel and brush options

1. Choose Window > Brush. Or, select a painting, erasing, toning, or focus tool, and click the panel button on the left side of the options bar.
2. Select an option set on the left side of the panel. The available options for the set appear on the right side of the panel.

Create a brush tip from an image

1. Using any selection tool, select the image area you want to use as a custom brush. The brush shape can be up to 2500 pixels by 2500 pixels in size.

When painting, you can't adjust the hardness of sampled brushes. To create a brush with sharp edges, set Feather to zero pixels. To create a brush with soft edges, increase the Feather setting.

If you select a color image, the brush tip image is converted to grayscale. Any layer mask applied to the image doesn't affect the definition of the brush tip.

2. Choose Edit > Define Brush Preset.
3. Name the brush, and click OK.

Create a brush and set painting options

1. Select a painting, erasing, toning, or focus tool. Then choose Window > Brush.
2. In the Brush panel, select a brush tip shape, or click Brush Presets to choose an existing preset.
3. Select Brush Tip Shape on the left side of the Brush panel, and set options.
4. To set other options for the brush, see the following topics:
   - Adding dynamic elements to brushes
   - Determining the scattering in a stroke
   - Creating textured brushes
   - Determine how a brush changes dynamically
   - Drawing or painting with a graphics tablet
5. To lock brush tip shape attributes (retaining them if you select another brush preset), click the unlock icon .

   To unlock the tip, click the lock icon .
6. To save the brush for use later, choose New Brush Preset from the Brush panel menu.

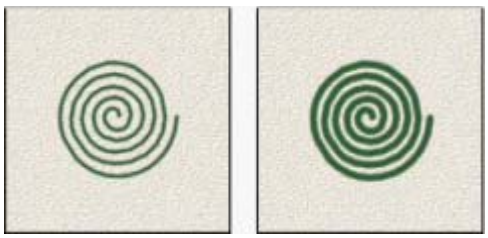
To save your new brush permanently or distribute it to other users, you must save the brush as part of a set of brushes. Choose Save Brushes from the Brush Presets panel menu, and then save to a new set or overwrite an existing set. If you reset or replace the brushes in the Brush Presets panel without saving it in a set, you could lose your new brush.

Standard brush tip shape options

For standard brush tips, you can set the following options in the Brush panel:

Size

Controls the size of the brush. Enter a value in pixels or drag the slider.



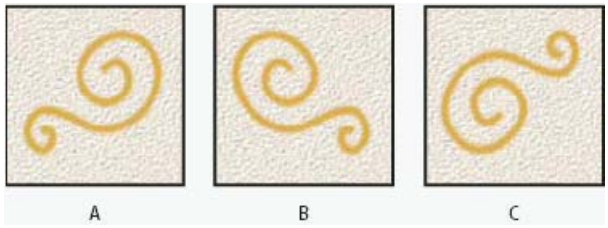
Brush strokes with different diameter values

Use Sample Size

Resets the brush to its original diameter. This option is available only if the brush tip shape was created by sampling pixels in an image.

Flip X

Changes the direction of a brush tip on its x axis.

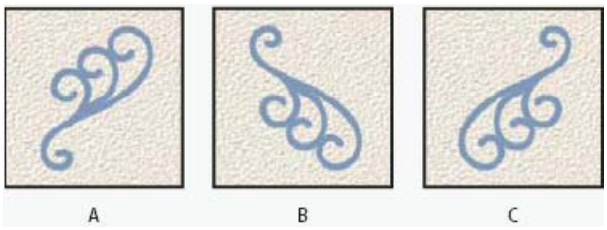


Flipping a brush tip on its x axis

A. Brush tip in its default position **B.** Flip X selected **C.** Flip X and Flip Y selected

Flip Y

Changes the direction of a brush tip on its y axis.

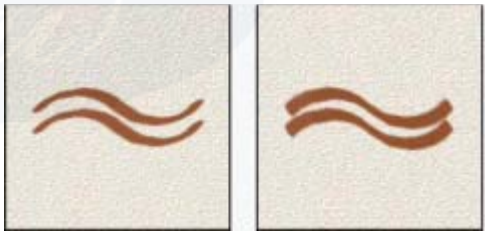


Flipping a brush tip on its y axis.

A. Brush tip in its default position **B.** Flip Y selected **C.** Flip Y and Flip X selected

Angle

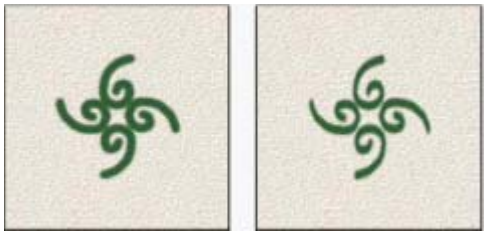
Specifies the angle by which an elliptical or sampled brush's long axis is rotated from horizontal. Type a value in degrees, or drag the horizontal axis in the preview box.



Angled brushes create a chiseled stroke

Roundness

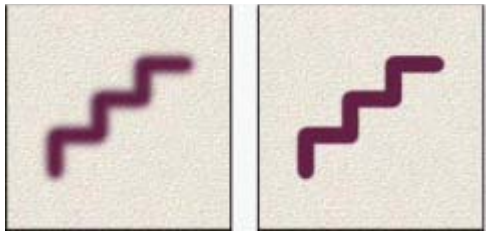
Specifies the ratio between the brush's short and long axes. Enter a percentage value, or drag the points in the preview box. A value of 100% indicates a circular brush, a value of 0% indicates a linear brush, and intermediate values indicate elliptical brushes.



Adjusting roundness to compress a brush tip shape

Hardness

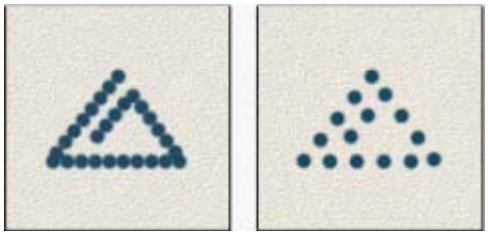
Controls the size of the brush's hard center. Type a number, or use the slider to enter a value that is a percentage of the brush diameter. You can't change the hardness of sampled brushes.



Brush strokes with different hardness values

Spacing

Controls the distance between the brush marks in a stroke. To change the spacing, type a number, or use the slider to enter a value that is a percentage of the brush diameter. When this option is deselected, the speed of the cursor determines the spacing.



Increasing the spacing makes the brush skip

Bristle tip shape options

Bristle tips let you specify precise bristle characteristics, creating highly realistic, natural-looking strokes. Set the following brush tip shape options in the Brush panel:

Shape

Determines the overall arrangement of bristles.

Bristles

Controls overall bristle density.

Length

Changes bristle length.

Thickness

Controls the width of individual bristles.

Stiffness

Controls bristle flexibility. At low settings, brush shape deforms easily.

To vary stroke creation when using a mouse, adjust the stiffness setting.

Spacing

Controls the distance between the brush marks in a stroke. To change the spacing, type a number or use the slider to specify a percentage of the brush diameter. When this option is deselected, the speed of the cursor determines the spacing.

Angle

When painting with a mouse, determines the brush tip angle.

Brush preview

Shows brush tip that reflects changes to settings above, as well as current pressure and stroke angle. Click the preview window to see the brush from different sides.

Erodible tip options | CC, CS6

Erodible tip brushes behave similar to pencils and crayons, and wear down naturally as you draw. You can see the amount of wear with the Live Brush Tip Preview to the upper left of the image.

Size

Controls the size of the brush. Enter a value in pixels or drag the slider.

Softness

Controls the rate of wear. Enter a value in percentage or drag the slider.

Shape

Controls the shape of the tip. Choose from a variety of tip options.

Sharpen Tip

Returns the tip to the original sharpness.

Spacing

Controls the distance between the brush marks in a stroke. To change the spacing, type a number or use the slider to specify a percentage of the brush diameter. When this option is deselected, the speed of the cursor determines the spacing.

Brush preview

Shows brush tip that reflects changes to settings above, as well as current pressure and stroke angle. Click the preview window to see the brush from different sides.

Airbrush tip options | CC, CS6

Airbrush tips replicate spray cans with a 3D conical spray. With a stylus, you can alter the spread of sprayed strokes by changing pen pressure.

Size

Controls the size of the brush. Enter a value in pixels or drag the slider.

Hardness

Controls the size of the brush's hard center.

Distortion

Controls the distortion to apply to the spray of paint.

Granularity

Controls how grainy the paint drops look.

Spatter Size

Controls the size of the paint droplets.

Spatter Amount

Controls the number of paint droplets.

Spacing

Controls the distance between the droplets. If this option is deselected, the speed of the cursor determines the spacing.

Brush preview

Shows brush tip that reflects changes to settings above, as well as current pressure and stroke angle. Click the preview window to see the brush from different sides.

Brush pose options | CC, CS6

Brush pose options let you achieve stylus-like effects and let you control the angle and position of the brush.

Tilt X

Determines the tilt angle of the brush from left to right.

Tilt Y

Determines the tilt angle of the brush from front to back.

Rotation

Determines the rotation angle of the bristles.

Pressure

Determines the pressure the brush applies on the canvas.

Enable Override options to maintain a static brush pose.

Other brush options

Noise

Adds additional randomness to individual brush tips. This option is most effective when applied to soft brush tips (brush tips that contain gray values).

Wet Edges

Causes paint to build up along the edges of the brush stroke, creating a watercolor effect.

Airbrush/Build-up

Applies gradual tones to an image, simulating traditional airbrush techniques. The Airbrush option in the Brush panel corresponds to the Airbrush option in the options bar.

Smoothing

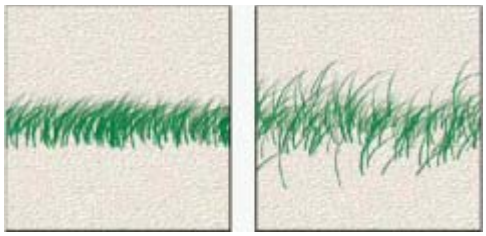
Produces smoother curves in brush strokes. This option is most effective when you are painting quickly with a stylus; however, it may produce a slight lag time in stroke rendering.

Protect Texture

Applies the same pattern and scale to all brush presets that have a texture. Select this option to simulate a consistent canvas texture when painting with multiple, textured brush tips.

Brush scattering

Brush scattering determines the number and placement of marks in a stroke.



Brush strokes without scattering (left) and with scattering (right)

Scatter and Control

Specifies how brush marks are distributed in a stroke. When Both Axes is selected, brush marks are distributed in a radial direction. When Both Axes is deselected, brush marks are distributed perpendicular to the stroke path.

To specify the maximum percentage of scattering, enter a value. To specify how you want to control the scattering variance of brush marks, choose an option from the Control pop up menu:

Off

Specifies no control over the scattering variance of brush marks.

Fade

Fades the scattering of brush marks from maximum scattering to no scattering in the specified number of steps.

Pen Pressure, Pen Tilt, Stylus Wheel, Rotation

Varies the scattering of brush marks based on the pen pressure, pen tilt, position of the pen thumbwheel, or rotation of the pen.

Count

Specifies the number of brush marks applied at each spacing interval.

If you increase the count without increasing the spacing or scattering values, painting performance may decrease.

Count Jitter and Control

Specifies how the number of brush marks varies for each spacing interval. To specify the maximum percentage of brush marks applied at each spacing interval, enter a value. To specify how you want to control the count variance of brush marks, choose an option from the Control pop up menu:

Off

Specifies no control over the count variance of brush marks.

Fade

Fades the number of brush marks from the Count value to 1 in the specified number of steps.

Pen Pressure, Pen Tilt, Stylus Wheel, Rotation

Varies the number of brush marks based on the pen pressure, pen tilt, position of the pen thumbwheel, or rotation of the pen.

Clear brush options

You can clear all options that you changed for a brush preset (except brush shape settings) at once.

- Choose Clear Brush Controls from the Brush panel menu.

Filling and stroking selections, layers, and paths

You can fill the inside of a selection, path, or layer with a color or pattern. You can also add color to the outline of a selection or path, called stroking

Fill with the Paint Bucket tool

The Paint Bucket tool fills adjacent pixels that are similar in color value to the pixels you click.

The Paint Bucket tool cannot be used with images in Bitmap mode.

1. Choose a foreground color.
2. Select the Paint Bucket tool .

The Paint Bucket tool is grouped with the Gradient tool in the toolbar. If you can't find the Paint Bucket tool, click and hold the Gradient tool to access it.

3. Specify whether to fill the selection with the foreground color or with a pattern.
4. Specify a blending mode and opacity for the paint.
5. Enter the tolerance for the fill.

The tolerance defines how similar in color a pixel must be (to the pixel you click) to be filled. Values can range from 0 to 255. A low tolerance fills pixels within a range of color values very similar to the pixel you click. A high tolerance fills pixels within a broader range.

6. To smooth the edges of the filled selection, select Anti-aliased.
7. To fill only pixels contiguous to the one you click, select Contiguous; leave Contiguous unselected to fill all similar pixels in the image.
8. To fill pixels based on the merged color data from all visible layers, select All Layers.
9. Click the part of the image you want to fill. All specified pixels within the specified tolerance are filled with the foreground color or pattern.

If you're working on a layer and don't want to fill transparent areas, make sure that the layer's transparency is locked in the Layers panel.

Content-aware, pattern, or history fills

- Select the part of the image you want to fill.
- Choose Edit > Fill.

On the Background layer, press Delete or Backspace to quickly access the Fill dialog box.

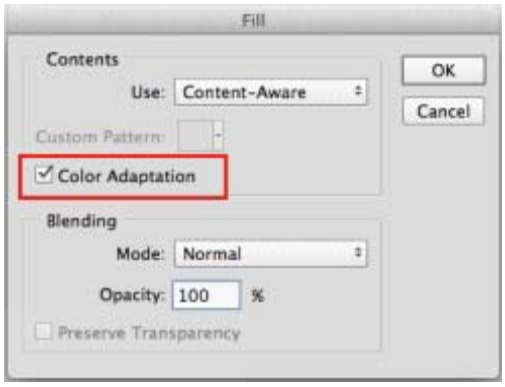
- From the Use menu, select one of the following:

Content-Aware

Seamlessly fills the selection with similar image content nearby. For the best results, create a selection that extends slightly into the area you want to replicate. (A quick lasso or marquee selection is often sufficient.)

1. Color Adaptation

Algorithmically blends the color of the fill with the surrounding color



Content-Aware Fill with Color Adaptation

Pattern

Click the inverted arrow next to the pattern sample, and select a pattern from the pop up panel. You can load additional patterns using the pop up panel menu. Select the name of a library of patterns, or choose Load Patterns and navigate to the folder containing the patterns you want to use.

(CC, CS6) You can also apply one of five included Scripted Patterns to easily create a variety of geometic fill patterns. Select Scripted Patterns at the bottom of the fill dialog box, and then choose a fill pattern from the Script pop-up menu.

If Pattern is dimmed, you need to load a pattern library prior to making a selection.

History

Restores the selected area to the source state or snapshot set in the History panel.

Content-aware fill

A. Create selection that extends slightly into area you want to replicate **B.** Seamlessly replace selection with Content-Aware fill

Fill the work canvas

The work canvas surrounds the image area. You can fill the canvas with a different color that contrasts better with a given image.

- Right-click the work canvas, and choose Gray, Black, or Custom. (To specify the custom color, choose Select Custom Color.)

Stroke a selection or layer with color

You can use the Stroke command to paint a colored border around a selection, path, or layer. When you create a border this way, it becomes a rasterized part of the current layer.

To create shape or layer borders that can be turned on or off like overlays and are anti-aliased to create softer-edged corners and edges, use the Stroke layer effect instead of the Stroke command.

1. Choose a foreground color.
2. Select the area or layer you want to stroke.
3. Choose Edit > Stroke.
4. In the Stroke dialog box, specify the width of the hard-edged border.
5. For Location, specify whether to place the border inside, outside, or centered over the selection or layer boundaries.

If the layer contents fill the entire image, a stroke applied outside the layer will not be visible.

6. Specify an opacity and a blending mode.
7. If you're working in a layer and want to stroke only areas containing pixels, select the Preserve Transparency option.

Draw a circle or square

You can draw a circle or square using the elliptical or rectangular marquee tools, and then add a line (called a stroke) to the selection marquee. Stroking a selection is a quick way to add a border or frame around an object. You can stroke any selection you create with the selection tools.

1. In the Layers panel, click the New Layer button to create a new layer for the circle or square. Isolating the circle or square on its own layer makes it easier to work with.
2. Select the Elliptical Marquee tool or the Rectangular Marquee tool in the toolbox.
3. Drag in the document window to create the shape. Hold down the Shift key while dragging to constrain the shape to a circle or square.
4. Choose Edit > Stroke.
5. In the Stroke dialog box, type a value for Width, and then click the color swatch to display the Adobe Color Picker.
6. In the Adobe Color Picker, locate the color range you want using the triangle sliders on the color spectrum bar, and then click the desired color in the color field. The color you select appears in the top half of the color swatch. The original color remains in the bottom half. Click OK.
7. Set the location for the stroke in relationship to the marquee by choosing Inside, Center, or Outside. Adjust the other settings as desired, and click OK. Photoshop strokes the line using the color and stroke settings you set.

Retouching and repairing images

Objectives : At the end of this lesson you shall be able to
- **explain about clone stamp tool**
- **explain about lens distortion.**

Clone Source panel

The Clone Source panel (Window > Clone Source) has options for the Clone Stamp tools or Healing Brush tools. You can set up to five different sample sources and quickly select the one you need without resampling each time you change to a different source. You can view an overlay of your sample source to make it easier to clone the source in a specific location. You can also scale or rotate the sample source to better match the size and orientation of the cloning destination.

Retouch with the Clone Stamp tool

The Clone Stamp tool paints one part of an image over another part of the same image or over another part of any open document that has the same color mode. You can also paint part of one layer over another layer. The Clone Stamp tool is useful for duplicating objects or removing a defect in an image.

To use the Clone Stamp tool, you set a sampling point on the area you want to copy (clone) the pixels from and paint over another area. To paint with the most current sampling point whenever you stop and resume painting, select the Aligned option. Deselect the Aligned option to paint starting from the initial sampling point no matter how many times you stop and resume painting.

You can use any brush tip with the Clone Stamp tool, which gives you precise control over the size of the clone area. You can also use opacity and flow settings to control the paint application to the cloned area.

Altering an image with the Clone Stamp tool

Set sample sources for cloning and healing

Using the Clone Stamp or Healing Brush tool, you can sample sources in the current document or any open document in Photoshop.

(Photoshop Extended) When cloning video or animation, you can set sampling points in the current frame you're painting or sample sources in a different frame, even if the frame is in a different video layer or in a different open document.

You can set up to five different sampling sources at a time in the Clone Source panel. The Clone Source panel saves the sampling sources until you close the document.

1. (Photoshop Extended only) To clone video or animation frames, open the Animation panel (if you're not cloning video or animation frames, skip to step 2). Select the timeline animation option and move the current-time indicator to the frame with the source you want to sample.
2. To set the sampling point, select the Clone Stamp tool and Alt-click in any open document window.
3. (Optional) To set another sampling point, click a different Clone Source button in the Clone Source panel.

You can change the sampling source for a Clone Source button by setting a different sampling point.

Scale or rotate the sample source

1. Select the Clone Stamp or Healing Brush tool and set one or more source samples.
2. In the Clone Source panel, select a clone source and then do any of the following:
   - To scale the sample source, enter a percentage value for W (width) or H (height) or scrub W or H. The default is to constrain proportions. To adjust the dimensions independently or restore the constrain option, click the Maintain Aspect Ratio button .
   - To rotate the sample source, enter a degree value or scrub the Rotate The Clone Source icon .
   - To reset the sample source to its original size and orientation, click the Reset Transform button .

Adjust the sample source overlay options

Adjust the sample source overlay options to see the overlay and underlying images better when painting with the Clone Stamp and Healing Brush tools.

To temporarily display the overlay while painting with the Clone Stamp tool, press Alt+Shift (Windows). The brush changes temporarily to the Move Source Overlay tool. Drag to move the overlay to another location.

- In the Clone Source panel, select Show Overlay and do any of the following:

- To hide the overlay while you apply the paint strokes, select Auto Hide.
- To clip overlay to the brush size, enable the Clipped option.
- To set the opacity of the overlay, enter a percentage value in the Opacity text box.
- To set the appearance of the overlay, choose either the Normal, Darken, Lighten, or Difference blending mode from the pop up menu at the bottom of the Clone Source panel.
- To invert the colors in the overlay, select Invert.

Specify the clone source offset

When using the Clone Stamp tool or Healing Brush tool, you can paint with the sampled source anywhere in the target image. The overlay options help you visualize where you want to paint. However, if you paint in a specific location relative to the sampling point, you can specify the x and y pixel offset.

- In the Clone Source panel, select the source you want to use and enter the x and y pixel values for the Offset option.

Retouch with the Healing Brush tool

The Healing Brush tool lets you correct imperfections, causing them to disappear into the surrounding image. Like the cloning tools, you use the Healing Brush tool to paint with sampled pixels from an image or pattern. However, the Healing Brush tool also matches the texture, lighting, transparency, and shading of the sampled pixels to the pixels being healed. As a result, the repaired pixels blend seamlessly into the rest of the image.

(Photoshop Extended) The Healing Brush tool can be applied to video or animation frames.

Sampled pixels and healed image

1. Select the Healing Brush tool .
2. Click the brush sample in the options bar and set brush options in the pop up panel:

If you're using a pressure-sensitive digitizing tablet, choose an option from the Size menu to vary the size of the healing brush over the course of a stroke. Choose Pen Pressure to base the variation on the pen pressure. Choose Stylus Wheel to base the variation on the position of the pen thumbwheel. Choose Off if you don't want to vary the size.

Mode

Specifies the blending mode. Choose Replace to preserve noise, film grain, and texture at the edges of the brush stroke when using a soft edge brush.

Source

Specifies the source to use for repairing pixels. Sampled to use pixels from the current image, or Pattern to use pixels from a pattern. If you chose Pattern, select a pattern from the Pattern pop up panel.

Aligned

Samples pixels continuously, without losing the current sampling point, even if you release the mouse button. Deselect Aligned to continue to use the sampled pixels from the initial sampling point each time you stop and resume painting.

Sample

Samples data from the layers you specify. To sample from the active layer and visible layers below it, choose Current And Below. To sample only from the active layer, choose Current Layer. To sample from all visible layers, choose All Layers. To sample from all visible layers except adjustment layers, choose All Layers and click the Ignore Adjustment Layers icon to the right of the Sample pop up menu.

3. Set the sampling point by positioning the pointer over an area of the image and Alt-clicking (Windows) or Option-clicking (Mac OS).

If you are sampling from one image and applying to another, both images must be in the same color mode unless one of the images is in Grayscale mode.

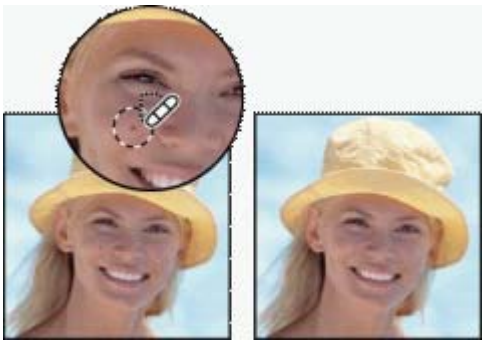
4. (Optional) In the Clone Source panel, click a clone source button and set an additional sampling point.

You can set up to 5 different sampling sources. The Clone Source panel remembers the sampled sources until you close the document you're editing.

5. (Optional) In the Clone Source panel, click a clone source button to select the sampled source you want.
6. (Optional) Do any of the following in the Clone Source panel:
   - To scale or rotate the source that you're cloning, enter a value for W (width), H (height), or the rotation in degrees .
   - To show an overlay of the source that you're cloning, select Show Overlay and specify the overlay options.
7. Drag in the image.

Retouch with the Spot Healing Brush tool

The Spot Healing Brush tool quickly removes blemishes and other imperfections in your photos. The Spot Healing Brush works similarly to the Healing Brush: it paints with sampled pixels from an image or pattern and matches the texture, lighting, transparency, and shading of the sampled pixels to the pixels being healed. Unlike the Healing Brush, the Spot Healing Brush doesn't require you to specify a sample spot. The Spot Healing Brush automatically samples from around the retouched area.



Using the Spot Healing Brush to remove a blemish

Patch an area

The Patch tool lets you repair a selected area with pixels from another area or a pattern. Like the Healing Brush tool, the Patch tool matches the texture, lighting, and shading of the sampled pixels to the source pixels. You can also use the Patch tool to clone isolated areas of an image. The Patch tool works with 8 bits or 16 bits-per-channel images.

Lens distortion

Barrel distortion is a lens defect that causes straight lines to bow out toward the edges of the image. Pincushion distortion is the opposite effect, where straight lines bend inward.

Examples of barrel distortion (left) and pincushion distortion (right)

Vignetting is a defect that darkens the corners of an image due to light falloff around the perimeter of the lens. Chromatic aberration appears as a color fringe along the edges of objects, caused by the lens focusing on different colors of light in different planes.

Some lenses exhibit different defects at certain focal lengths, f stops, and focus distances. With the Lens Correction filter, you can specify the combination of settings used to make the image.

Correct lens distortion and adjust perspective

The Lens Correction filter fixes common lens flaws such as barrel and pincushion distortion, vignetting, and chromatic aberration. The filter works only with 8 and 16 bit-per-channel images in RGB or Grayscale mode.

You can also use the filter to rotate an image or fix image perspective caused by vertical or horizontal camera tilt. The filter's image grid makes these adjustments easier and more accurate than using the Transform command.

Automatically correct image perspective and lens flaws

Using lens profiles, the default Auto Correction option quickly and accurately fixes distortion. For proper automatic correction, Photoshop requires Exit metadata that identifies the camera and lens that created the image, and a matching lens profile on your system.

1. Choose Filter > Lens Correction.
2. Set the following options:

Correction

Select the problems you want to fix. If corrections undesirably extend or contract the image beyond original dimensions, select Auto Scale Image.

The Edge menu specifics how to handle blank areas that result from pincushion, rotation, or perspective corrections. You can fill blank areas with transparency or a color, or you can extend the edge pixels of the image.

Search Criteria

Filters the Lens Profiles list. By default, profiles based on image sensor size appear first. To list RAW profiles first, click the pop-up menu , and select Prefer RAW Profiles.

Lens Profiles

Select a matching profile. By default, Photoshop displays only profiles that match the camera and lens used to create the image. (The camera model does not have to match perfectly.) Photoshop also automatically selects a matching sub-profile for the selected lens based on focal length, f-stop and focus distance. To change the automatic selection, right-click the current lens profile, and select a different sub-profile.

If you find no matching lens profile, click Search Online to acquire additional profiles created by the Photoshop community. To store online profiles for future use, click the pop-up menu , and choose Save Online Profile Locally.

Manually correct image perspective and lens flaws

You can apply manual correction alone or use it to refine automatic lens correction.

1. Choose Filter > Lens Correction.
2. In the upper-right corner of the dialog box, click the Custom tab.

3. (Optional) Choose a preset list of settings from the Settings menu. Lens Default uses settings that you previously saved for the camera, lens, focal length, f stop, and focus distance used to create the image. Previous Conversion uses the settings used in your last lens correction. Any group of custom settings you saved are listed at the bottom of the menu.
4. Set any of the following options to correct your image.

Remove Distortion

Corrects lens barrel or pincushion distortion. Move the slider to straighten horizontal and vertical lines that bend either away from or toward the center of the image. You can also use the Remove Distortion tool  to make this correction. Drag toward the center of the image to correct for barrel distortion and toward the edge of the image to correct for pincushion distortion. To compensate for any blank image edges that result, adjust the Edge option on the Auto Correction tab.

Fix Fringe settings

Compensate for fringing by adjusting the size of one color channel relative to another.

Zoom in on the image preview to get a closer view of the fringing as you make the correction.

Vignette Amount

Sets the amount of lightening or darkening along the edges of an image. Corrects images that have darkened corners caused by lens faults or improper lens shading.

You can also apply vignetting for a creative effect.

Vignette Midpoint

Specifies the width of area affected by the Amount slider. Specify a lower number to affect more of the image. Specify a higher number to restrict the effect to the edges of the image.

Vertical Perspective

Corrects image perspective caused by tilting the camera up or down. Makes vertical lines in an image parallel.

Horizontal Perspective

Corrects image perspective, making horizontal lines parallel.

Angle

Rotates the image to correct for camera tilt or to make adjustments after correcting perspective. You can also use the Straighten tool  to make this correction. Drag along a line in the image that you want to make vertical or horizontal.

To avoid unintended scaling when adjusting perspective or angle settings, deselect Auto Scale Image on the Auto Correction tab.

Scale

Adjusts the image scale up or down. The image pixel dimensions aren't changed. The main use is to remove blank areas of the image caused by pincushion, rotation, or perspective corrections. Scaling up effectively results in cropping the image and interpolating up to the original pixel dimensions.

Adjust the Lens Correction preview and grid

Adjust the preview magnification and grid lines to better judge the necessary amount of correction.

- To change the image preview magnification, use the Zoom tool or the zoom controls in the lower left side of the preview image.
- To move the image in the preview window, select the Hand tool and drag in the image preview.
- To use the grid, select Show Grid at the bottom of the dialog box. Use the Size control to adjust the grid spacing and the Color control to change the color of the grid. You can move the grid to line it up with your image using the Move Grid tool  .

Reduce image noise and JPEG artifacts

Image noise appears as random extraneous pixels that aren't part of the image detail. Noise can be caused by photographing with a high ISO setting on a digital camera, underexposure, or shooting in a dark area with a long shutter speed. Low end consumer cameras usually exhibit more image noise than high end cameras. Scanned images may have image noise caused by the scanning sensor. Often, the film's grain pattern appears in the scanned image.

Image noise can appear in two forms: luminance (grayscale) noise, which makes an image look grainy or patchy, and color noise, which is usually visible as colored artifacts in the image.

Luminance noise may be more pronounced in one channel of the image, usually the blue channel. You can adjust the noise for each channel separately in Advanced mode. Before opening the filter, examine each channel in your image separately to see if noise is prevalent in one channel. You preserve more image detail by correcting one channel rather than making an overall correction to all channels.

1. Choose Filter > Noise > Reduce Noise.
2. Zoom in on the preview image to get a better view of image noise.
3. Set options:

Strength

Controls the amount of luminance noise reduction applied to all image channels.

Preserve Details

Preserves edges and image details such as hair or texture objects. A value of 100 preserves the most image detail, but reduces luminance noise the least. Balance the Strength and Preserve Details controls to fine tune noise reduction.

Reduce Color Noise

Removes random color pixels. A higher value reduces more color noise.

Sharpen Details

Sharpens the image. Removing noise reduces image sharpness. Use the sharpening control in the dialog box or use one of the other Photoshop sharpening filters later to restore sharpness.

Remove JPEG Artifacts

Removes blocky image artifacts and halos caused by saving a image using a low JPEG quality setting.

4. If luminance noise is more prevalent in one or two color channels, click the Advanced button and then choose the color channel from the Channel menu. Use the Strength and Preserve Details controls to reduce noise in that channel.

Drawing and painting

Objectives : At the end of this lesson you shall be able to
- **understanding Shapes and Paths**
- **explain about drawing shapes**
- **painting Tools**
- **managing Paths**
- **editing paths.**

Understanding shapes and paths

Drawing in Adobe Photoshop involves creating vector shapes and paths. In Photoshop, you can draw with any of the shape tools, the Pen tool, or the Freeform Pen tool. Options for each tool are available in the options bar.

Before you begin drawing in Photoshop, you must choose a drawing mode from the options bar. The mode you choose to draw in determines whether you create a vector shape on its own layer, a work path on an existing layer, or a rasterized shape on an existing layer.

Vector shapes are lines and curves you draw using the shape or pen tools. Vector shapes are resolution-independent-they maintain crisp edges when resized, printed to a PostScript printer, saved in a PDF file, or imported into a vector-based graphics application. You can create libraries of custom shapes and edit a shape's outline (called a path) and attributes (such as stroke, fill color, and style).

Paths are outlines that you can turn into selections, or fill and stroke with color. You can easily change the shape of a path by editing its anchor points.

A work path is a temporary path that appears in the Paths panel and defines the outline of a shape.

You can use paths in several ways:

- Use a path as a vector mask to hide areas of a layer.
- Convert a path to a selection.
- Fill or stroke a path with color.

Designate a saved path as a clipping path to make part of an image transparent when exporting the image to a page-layout or vector-editing application.

Drawing modes

When you work with the shape or pen tools, you can draw in three different modes. You choose a mode by selecting an icon in the options bar when you have a shape or pen tool selected.

Shape Layers

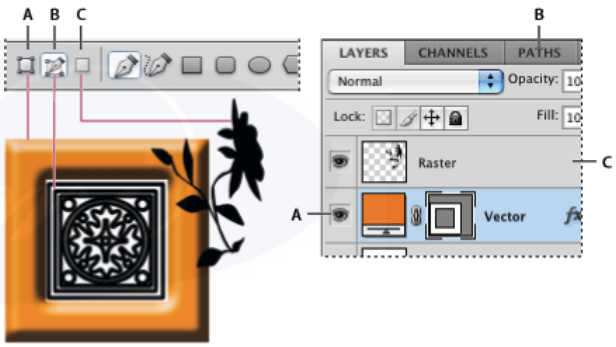
Creates a shape on a separate layer. You can use either the shape tools or the pen tools to create shape layers. Because they are easily moved, resized, aligned, and distributed, shape layers are ideal for making graphics for web pages. You can choose to draw multiple shapes on a layer. A shape layer consists of a fill layer that defines the shape color and a linked vector mask that defines the shape outline. The outline of a shape is a path, which appears in the Paths panel.

Paths

Draws a work path on the current layer that you can then use to make a selection, create a vector mask, or fill and stroke with color to create raster graphics (much as you would using a painting tool). A work path is temporary unless you save it. Paths appear in the Paths panel.

Fill Pixels

Paints directly on a layer-much as a painting tool does. When you work in this mode, you're creating raster images-not vector graphics. You work with the shapes you paint just as you do with any raster image. Only the shape tools work in this mode.



Drawing options

A. Shape Layers **B.** Paths **C.** Fill Pixels

Draw a wheel shape

You cut out a shape within an existing shape so that the layers underneath show through. This procedure shows you how to create a doughnut shape, but you can use this technique with any combination of the shape tools, including custom shapes.

Draw a custom shape

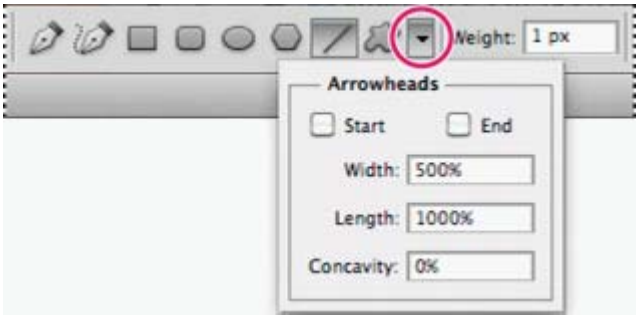
You can draw custom shapes by using shapes from the Custom Shape pop-up panel, or save a shape or path to use as a custom shape.

Create a rasterized shape

When you create a rasterized shape, you're drawing and rasterizing a shape and filling it with the foreground color. You cannot edit a rasterized shape as a vector object. Raster shapes are created using the current foreground color.

Shape tool options

Each shape tool provides a unique subset of the options below. To access these options, click the arrow to the right of the row of shape buttons in the options bar.



Accessing shape tool options in the options bar (Line options shown)

Arrowheads Start And End

Adds arrowheads to a line. Select the Line tool and then select Start to add an arrow to the beginning of the line; select End to add an arrow to the end of the line. Select both options to add arrows to both ends. The shape options appear in the pop-up dialog box. Enter values for Width and Length to specify the proportions of the arrowhead as a percentage of the line width (10% to 1000% for Width, and 10% to 5000% for Length). Enter a value for the concavity of the arrowhead (from -50% to +50%). The concavity value defines the amount of curvature on the widest part of the arrowhead, where the arrowhead meets the line.

You can also edit an arrowhead directly using the vector selection and drawing tools.

Circle

Constrains an ellipse to a circle.

Defined Proportions

Renders a custom shape based on the proportions with which it was created.

Defined Size

Renders a custom shape based on the size at which it was created.

Fixed Size

Renders a rectangle, rounded rectangle, ellipse, or custom shape as a fixed shape based on the values you enter in the Width and Height text boxes.

From Center

Renders a rectangle, rounded rectangle, ellipse, or custom shape from the center.

Indent Sides By

Renders a polygon as a star. Enter a percentage in the text box to specify the portion of the star's radius taken up by the points. A 50% setting creates points that are half the total radius of the star; a larger value creates sharper, thinner points; a smaller value creates fuller points.

Proportional

Renders a rectangle, rounded rectangle, or ellipse as a proportional shape based on the values you enter in the Width and Height text boxes.

Radius

For rounded rectangles, specifies the corner radius. For polygons, specifies the distance from the center of a polygon to the outer points.

Sides

Specifies the number of sides in a polygon.

Smooth Corners or Smooth Indents

Renders a polygon with smooth corners or indents.

Snap To Pixels

Snaps edges of a rectangle or rounded rectangle to the pixel boundaries.

Square

Constrains a rectangle or rounded rectangle to a square.

Unconstrained

Lets you set the width and height of a rectangle, rounded rectangle, ellipse, or custom shape by dragging.

Weight

Determines width, in pixels, for the Line tool.

Edit shapes

A shape is a fill layer linked to a vector mask. You can easily change the fill to a different color, a gradient, or a pattern by editing the shape's fill layer. You can also edit the shape's vector mask to modify the shape outline, and apply a style to the layer.

- To change the color of a shape, double-click the shape layer's thumbnail in the Layers panel, and choose a different color using the Color Picker.
- To fill a shape with a pattern or gradient, select the shape layer in the Layers panel and choose Layer > Layer Style > Gradient Overlay.
- To change stroke width, select the shape layer in the Layers panel, and choose Layer >Layer Style > Stroke.
- To modify the outline of a shape, click the shape layer's vector mask thumbnail in the Layers panel or Paths panel. Then change the shape using the Direct Selection and pen tools.
- To move a shape without changing its size or proportions, use the Move tool.

About painting tools, presets, and options

Adobe Photoshop provides several tools for painting and editing image color. The Brush tool and the Pencil tool work like a traditional drawing tool applying color with brush strokes. Tools like the Eraser tool, Blur tool, and Smudge tool modify the existing colors in the image. In the options

bar for each of these painting tools, you can set how color is applied to an image and choose from preset brush tips.

Brush and tool presets

You can save a set of brush options as a preset so you can quickly access brush characteristics you use frequently. Photoshop includes several sample brush presets. You can start with these presets and modify them to produce new effects. Many original brush presets are available for download on the web.

You can quickly choose presets from the Brush Preset picker in the options bar, which lets you temporarily modify the size and hardness of a brush preset.

Save tool presets when you want to store customized brush tip characteristics along with settings from the options bar such as opacity, flow, and color.

Brush tip options

Along with settings in the options bar, brush tip options control how color is applied. You can apply color gradually, with soft edges, with large brush strokes, with various brush dynamics, with different blending properties, and with brushes of different shapes. You can apply a texture with your brush strokes to simulate painting on canvas or art papers. You can also simulate spraying paint with an airbrush. You use the Brush panel to set brush tip options.

If you work with a drawing tablet, you can control how color is applied using pen pressure, angle, rotation, or a stylus wheel. You set options for drawing tablets in the Brush panel and options bar.

Paint with the Brush tool or Pencil tool

The Brush tool and the Pencil tool paint the current foreground color on an image. The Brush tool creates soft strokes of color. The Pencil tool creates hard-edged lines.

The Rotation tool rotates the canvas, which can facilitate easier painting.

Paint tool options

Set the following in the options bar. Options available vary with each tool.

Mode

Sets the method for blending the color you paint with the underlying existing pixels. Available modes change with the currently selected tool. Paint modes are similar to layer blending modes.

Opacity

Sets the transparency of color you apply. As you paint over an area, the opacity does not exceed the set level no matter how many times you move the pointer over the area, until you release the mouse button. If you stroke over the area again, you apply additional color, equivalent to the set opacity. Opacity of 100 percent is opaque.

Flow

Sets the rate at which color is applied as you move the pointer over an area. As you paint over an area, keeping the mouse button down, the amount of color builds up based on the flow rate, up to the opacity setting. For example, if you set the opacity to 33% and the flow to 33%, each time you move over an area, its color moves 33% toward the brush color. The total will not exceed 33% opacity unless you release the mouse button and stroke over the area again.

Press a single number key to set a tool's opacity in multiples of 10% (pressing 1 sets it to 10%; pressing 0 sets it to 100%). Press two number keys to set a specific opacity. To set Flow, press Shift and number keys.

Airbrush

Simulates painting with an airbrush. As you move the pointer over an area, paint builds up as you hold down the mouse button. Brush hardness, opacity, and flow options control how fast and how much the paint is applied. Click the button to turn on or off this option.

Auto erase

(Pencil tool only) Paints the background color over areas containing the foreground color. Select the foreground color you want to erase and the background color you want to change to.

Tablet pressure buttons

Use stylus pressure to override opacity and size settings in the Brush panel.

The Pen tools

Photoshop provides multiple Pen tools. The standard Pen tool draws with the greatest precision; the Freeform Pen tool draws paths as if you were drawing with pencil on paper, and the magnetic pen option lets you draw a path that snaps to the edges of defined areas in your image. You can use the pen tools in conjunction with the shape tools to create complex shapes. When you use the standard Pen tool, the following options are available in the options bar:

- Auto Add/Delete, which lets you add an anchor point when you click a line segment or delete an anchor point when you click it.
- Rubber Band, which lets you preview path segments as you move the pointer between clicks. (To access this option, click the pop-up menu to the right of the Custom Shape icon.)

Paths panel overview

The Paths panel (Window > Paths) lists the name and a thumbnail image of each saved path, the current work path, and the current vector mask. Turning thumbnails off can improve performance. To view a path, you must first select it in the Paths panel.

Paths panel

A. Saved path **B.** Temporary work path **C.** Vector mask path (appears only when shape layer is selected)

Select a path

- Click the path name in the Paths panel. Only one path can be selected at a time.

Deselect a path

- Click in a blank area of the Paths panel or press Esc.

Change the size of path thumbnails

Choose Panel Options from the Paths panel menu, and select a size, or select None to turn off the display of thumbnails.

Change a path's stacking order

- Select the path in the Paths panel, and drag the path up or down. When the heavy black line appears in the desired location, release the mouse button.

You cannot change the order of vector masks or working paths in the Paths panel.

Create a new path in the Paths panel

- To create a path without naming it, click the Create New Path button at the bottom of the Paths panel.
- To create and name a path, make sure no work path is selected. Choose New Path from the Paths panel menu, or Alt-click (Windows) the New Path button at the bottom of the panel. Enter a name for the path in the New Path dialog box, and click OK.

Create a new work path

1. Select a shape tool or a pen tool, and click the Paths button in the options bar.
2. Set tool-specific options, and draw the path.
3. Draw additional path components if desired. You can easily switch between drawing tools by clicking a tool button in the options bar. Choose a path area option to determine how overlapping path components intersect:

Add To Path Area

Adds the new area to overlapping path areas.

Subtract From Path Area

Removes the new area from the overlapping path area.

Intersect Path Areas

Restricts the path to the intersection of the new area and the existing area.

Exclude Overlapping Path Areas

Excludes the overlap area in the consolidated path.

Manage paths

When you use a pen or shape tool to create a work path, the new path appears as the work path in the Paths panel. The work path is temporary; you must save it to avoid losing its contents. If you deselect the work path without saving it and start drawing again, a new path will replace the existing one.

When you use a pen or shape tool to create a new shape layer, the new path appears as a vector mask in the Paths panel. Vector masks are linked to their parent layer; you must select the parent layer in the Layers panel in order to list the Vector mask in the Paths panel. You can remove a Vector mask from a layer and convert a Vector mask to a rasterized mask.

Paths saved with an image appear when you open it again. In Windows, JPEG, JPEG 2000, DCS, EPS, PDF, and TIFF formats support paths in Photoshop. In Mac OS, all available file formats support paths.

Save a work path

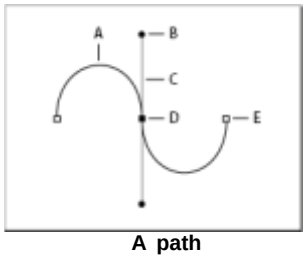
- To save without renaming, drag the work path name to the New Path button at the bottom of the Paths panel.
- To save and rename, choose Save Path from the Paths panel menu, enter a new path name in the Save Path dialog box, and click OK.

Rename a saved path

- Double-click the path name in the Paths panel, type a new name, and press Enter (Windows)

Path segments, components, and points

A path consists of one or more straight or curved segments. Anchor points mark the end points of the path segments. On curved segments, each selected anchor point displays one or two direction lines, ending in direction points. The positions of direction lines and points determine the size and shape of a curved segment. Moving these elements reshapes the curves in a path.

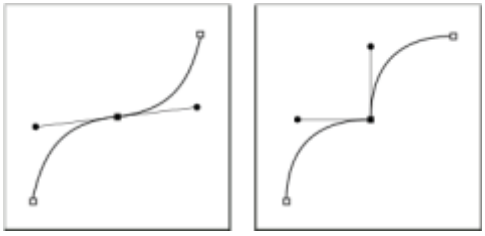


A path

A. Curved line segment **B.** Direction point **C.** Direction line **D.** Selected anchor point **E.** Unselected anchor point

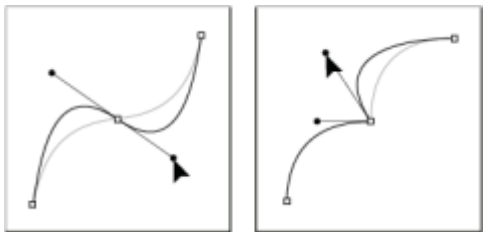
A path can be closed, with no beginning or end (for example, a circle), or open, with distinct end points (for example, a wavy line).

Smooth curves are connected by anchor points called smooth points. Sharply curved paths are connected by corner points.



Smooth point and corner point

When you move a direction line on a smooth point, the curved segments on both sides of the point are adjusted simultaneously. By comparison, when you move a direction line on a corner point, only the curve on the same side of the point as the direction line is adjusted.



Adjusting a smooth point and a corner point

A path does not have to be one connected series of segments. It can contain more than one distinct and separate path components. Each shape in a shape layer is a path component, as described by the layer's clipping path.

Separate path components selected

Select a path

Selecting a path component or path segment displays all of the anchor points on the selected portion, including any direction lines and direction points if the selected segment is curved. Direction handles appear as filled circles, selected anchor points as filled squares, and unselected anchor points as hollow squares.

1. Do one of the following:

To select a path component (including a shape in a shape layer), select the Path Selection tool , and click anywhere inside the path component. If a path consists of several path components, only the path component under the pointer is selected.

To select a path segment, select the Direct Selection tool , and click one of the segment's anchor points, or drag a marquee over part of the segment.

Drag a marquee to select segments

2. To select additional path components or segments, select the Path Selection tool or the Direct Selection tool, and then hold down Shift while selecting additional paths or segments.

Adjust path segments

You can edit a path segment at any time, but editing existing segments is slightly different from drawing them. Keep the following tips in mind when editing segments:

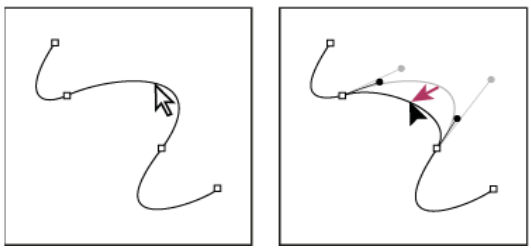
- If an anchor point connects two segments, moving that anchor point always changes both segments.
- When drawing with the Pen tool, you can temporarily activate the Direct Selection tool so that you can adjust segments you've already drawn; press Ctrl (Windows) or Command (Mac OS) while drawing.
- When you initially draw a smooth point with the Pen tool, dragging the direction point changes the length of the direction line on both sides of the point. However, when you edit an existing smooth point with the Direct Selection tool, you change the length of the direction line only on the side you're dragging.

Adjust the length or angle of straight segments

1. With the Direct Selection tool , select an anchor point on the segment you want to adjust.
2. Drag the anchor point to the desired position. Shift-drag to constrain the adjustment to multiples of 45°.

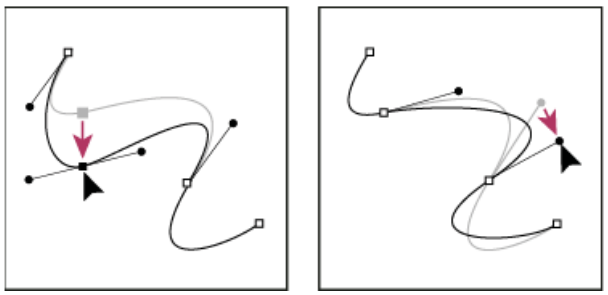
Adjust the position or shape of curved segments

1. With the Direct Selection tool ,, select a curved segment, or an anchor point on either end of the curved segment. Direction lines appear, if any are present. (Some curved segments use just one direction line.)
2. Do any of the following:
   - To adjust the position of the segment, drag the segment. Shift-drag to constrain the adjustment to multiples of 45°.



Click to select the curve segment. Then drag to adjust

- To adjust the shape of the segment on either side of a selected anchor point, drag the anchor point or the direction point. Shift-drag to constrain movement to multiples of 45°.



Drag the anchor point, or drag the direction point

In Photoshop CC and CS6, adjusting a path segment also adjusts the related segments, letting you intuitively transform path shapes. To only edit segments between the selected anchor points, similar to earlier Photoshop versions, select Constrain Path Dragging in the options bar.

You can also apply a transformation, such as scaling or rotating, to a segment or anchor point.

Delete a segment

1. (Optional) If you're creating an opening in a closed path, select the Add Anchor Point tool, and add two points where you want the cut to occur.
2. Select the Direct Selection tool, and select the segment you want to delete.
3. Press Backspace (Windows) or Delete (Mac OS) to delete the selected segment. Pressing Backspace or Delete again erases the rest of the path.

Delete the direction line of an anchor point

- Using the Convert Anchor Point Tool, click the anchor point of the direction line.

Add or delete anchor points

Adding anchor points can give you more control over a path or it can extend an open path. However, it's a good idea not to add more points than necessary. A path with fewer points is easier to edit, display, and print. You can reduce the complexity of a path by deleting unnecessary points. The toolbox contains three tools for adding or deleting points: the Pen tool , the Add Anchor Point tool , and the Delete Anchor Point tool .

By default, the Pen tool changes to the Add Anchor Point tool as you position it over a selected path, or to the Delete Anchor Point tool as you position it over an anchor point. You must select Auto Add/Delete in the options bar to enable the Pen tool to automatically change to the Add Anchor Point or Delete Anchor Point tool.

You can select and edit multiple paths simultaneously. You can also reshape a path while adding anchor points by clicking and dragging as you add.

Don't use the Delete or Backspace keys or the Edit > Cut or Edit > Clear commands to delete anchor points. These keys and commands delete the point and line segments that connect to that point.

Fill paths with color

A path created with the Pen tool does not become an image element until you stroke or fill it. The Fill Path command fills a path with pixels using a specified color, a state of the image, a pattern, or a fill layer.

Path selected (left) and filled (right)

When you fill a path, the color values appear on the active layer. Make sure that a standard or background layer is active before completing the steps below. (You cannot fill a path when a mask, text, fill, adjustment, or Smart Object layer is active)

Stroke paths with color

The Stroke Path command paints the border of a path. The Stroke Path command allows you to create a paint stroke (using the current settings for your painting tools) that follows any path. This command is completely different from the Stroke layer effect, which doesn't mimic the effect of any of the painting tools.

When you stroke a path, the color values appear on the active layer. Make sure that a standard or background layer is active before completing the steps below. (You cannot stroke a path when a mask, text, fill, adjustment, or Smart Object layer is active)

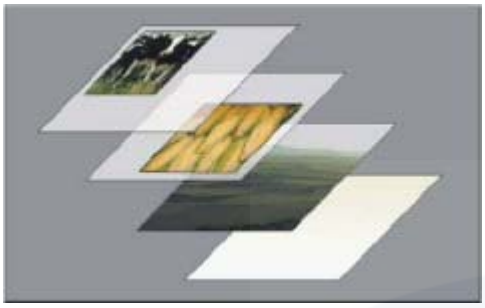
Path selected (left) and stroked (right)

Basics of layers

Objectives : At the end of this lesson you shall be able to
- **explain Photoshop Layers**
- **explain about Managing Layers**
- **understanding about Selecting, grouping, and linking layers**
- **explain about using layers for vector images.**

About Photoshop layers

Photoshop layers are like sheets of stacked acetate. You can see through transparent areas of a layer to the layers below. You move a layer to position the content on the layer, like sliding a sheet of acetate in a stack. You can also change the opacity of a layer to make content partially transparent.



Transparent areas on a layer let you see layers below

You use layers to perform tasks such as compositing multiple images, adding text to an image, or adding vector graphic shapes. You can apply a layer style to add a special effect such as a drop shadow or a glow.

Organizing Photoshop layers

A new image has a single layer. The number of additional layers, layer effects, and layer sets you can add to an image is limited only by your computer's memory.

You work with layers in the Layers panel. Layer groups help you organize and manage layers. You can use groups to arrange your layers in a logical order and to reduce clutter in the Layers panel. You can nest groups within other groups. You can also use groups to apply attributes and masks to multiple layers simultaneously.

Photoshop layers for non-destructive editing

Sometimes layers don't contain any apparent content. For example, an adjustment layer holds color or tonal adjustments that affect the layers below it. Rather than edit image pixels directly, you can edit an adjustment layer and leave the underlying pixels unchanged.

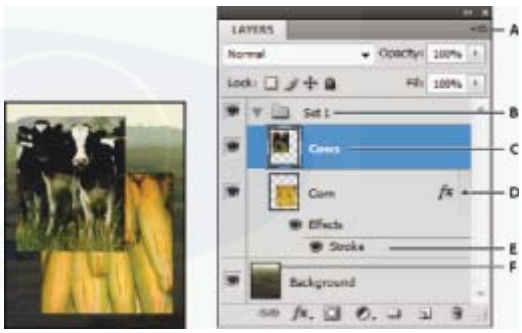
A special type of layer, called a Smart Object, contains one or more layers of content. You can transform (scale, skew, or reshape) a Smart Object without directly editing image pixels. Or, you can edit the Smart Object as a separate image even after placing it in a Photoshop image. Smart Objects can also contain smart filter effects, which allow you to apply filters non-destructively to images so that you can later tweak or remove the filter effect.

Video layers

You can use video layers to add video to an image. After importing a video clip into an image as a video layer, you can mask the layer, transform it, apply layer effects, paint on individual frames, or rasterize an individual frame and convert it to a standard layer. Use the Timeline panel to play the video within the image or to access individual frames.

Photoshop Layers panel overview

The Layers panel in Photoshop lists all layers, layer groups, and layer effects in an image. You can use the Layers panel to show and hide layers, create new layers, and work with groups of layers. You can access additional commands and options in the Layers panel menu.



Photoshop Layers panel

A. Layers panel menu **B.** Layer Group **C.** Layer **D.** Expand/Collapse Layer effects **E.** Layer effect **F.** Layer thumbnail

Display the Photoshop Layers panel

- Choose Window > Layers.

Convert background and Photoshop layers

When you create a new image with a white background or a colored background, the bottom most image in the Layers panel is called Background. An image can have only one background layer. You cannot change the stacking order of a background layer, its blending mode, or its opacity. However, you can convert a background into a regular layer, and then change any of these attributes.

When you create a new image with transparent content, the image does not have a background layer. The bottommost layer is not constrained like the background layer; you can move it anywhere in the Layers panel and change its opacity and blending mode.

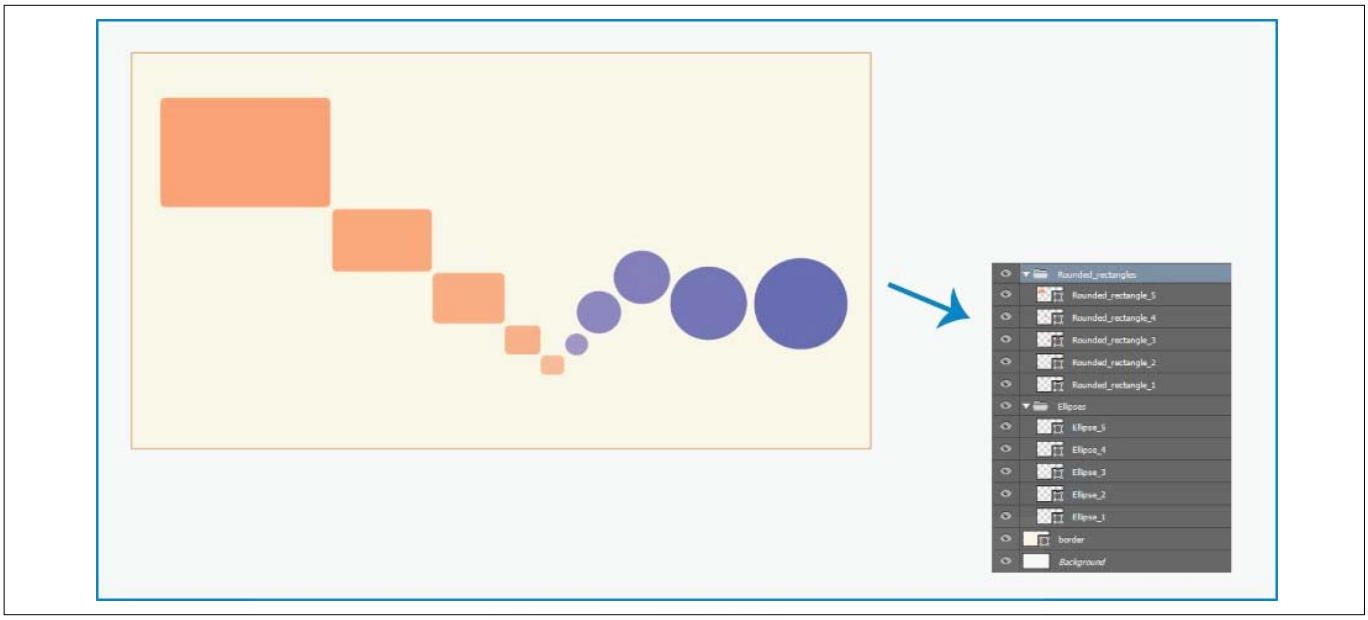
Generate image assets from layers

You can generate JPEG, PNG, or GIF image assets from the contents of a layer or layer group in a PSD file. Assets are automatically generated when you append a supported image format extension to a layer name or a layer group name. Optionally, you can also specify quality and size parameters for the generated image assets.

Generating image assets from a PSD file is particularly useful for multidevice web design.

Generate image assets from layers or layer groups

To understand the image asset generator better, consider a simple PSD file with the following layer hierarchy:



The layer hierarchy for this file has two layer groups- Rounded_rectangles and Ellipses. Each of these layer groups contains five layers.

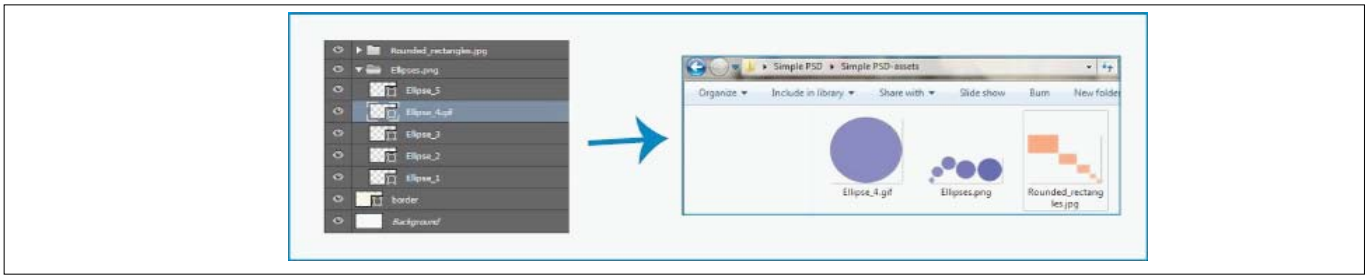
Follow these steps to generate image assets from this PSD file:

1 With the PSD file open, select File > Generate > Image Assets.

2 Append appropriate file format extensions (.jpg, .png, or .gif) to the names of the layers or layer groups from which you want to generate image assets. For example, rename the layer groups, Rounded_rectangles and Ellipses, as Rounded_rectangles.jpg and Ellipses.png; and the layer, Ellipse_4 as Ellipse_4.gif.

The special characters : and * are not supported in layer names.

Photoshop generates the image assets and saves them in a subfolder alongside the source PSD file. If the source PSD file is not saved yet, Photoshop saves the generated assets in a new folder on your Desktop.



Work with Smart Objects

Understanding Smart Objects

Smart Objects are layers that contain image data from raster or vector images, such as Photoshop or Illustrator files. Smart Objects preserve an image's source content with all its original characteristics, enabling you to perform non destructive editing to the layer.

In Photoshop CC and CS6, you can embed the contents of an image into a Photoshop document. In Photoshop CC, you can also create Linked Smart Objects whose contents are referenced from external image files. The contents of a Linked Smart Object are updated when its source image file changes.

Linked Smart Objects are distinct from duplicated instances of a Smart Object within a Photoshop document. With Linked Smart Objects, you can use a shared source file across multiple Photoshop documents.

Smart Object benefits

With Smart Objects, you can:

- Perform nondestructive transforms. You can scale, rotate, skew, distort, perspective transform, or warp a layer without losing original image data or quality because the transforms don't affect the original data.
- Work with vector data, such as vector artwork from Illustrator, that otherwise would be rasterized in Photoshop.
- Perform nondestructive filtering. You can edit filters applied to Smart Objects at any time.
- Edit one Smart Object and automatically update all its linked instances.
- Apply a layer mask that's either linked or unlinked to the Smart Object layer.
- Try various designs with low-resolution placeholder images that you later replace with final versions.

You can't perform operations that alter pixel data-such as painting, dodging, burning, or cloning-directly to a Smart Object layer, unless it is first converted into a regular layer, which will be rasterized. To perform operations that alter pixel data, you can edit the contents of a Smart Object, clone a new layer above the Smart Object layer, edit duplicates of the Smart Object, or create a new layer.

When you transform a Smart Object that has a Smart Filter applied to it, Photoshop turns off filter effects while the transform is being performed. Filter effects are applied again after the transform is complete.

Managing layers

Rename a layer or layer group

As you add layers or layer groups to an image, it's helpful to give them names that reflect their content. Descriptive names make layers easy to identify in the Layers panel.

- Do one of the following:
  - Double-click the layer name or group name in the Layers panel and enter a new name. Press Enter (Windows) or Return (Mac OS).
  - Select the layer/group and then follow these steps:
  - Select Layer > Rename Layer or Layer > Rename Group.
  - Enter a new name for the layer/group in the Layers panel.

Press Enter (Windows)

Assign a color to a layer or group

Color coding layers and groups helps you locate related layers in the Layers panel.

- (CC, CS6) Right-click the layer or group and choose a color.
- (CS5) Select a layer or group, choose Layer Properties or Group Properties from the Layers menu. Then choose a color from the Color pop-up menu, and click OK.

Rasterize layers

You cannot use the painting tools or filters on layers that contain vector data (such as type layers, shape layers, vector masks, or Smart Objects) and generated data (such as fill layers). However, you can rasterize these layers to convert their contents into a flat, raster image.

- Select the layers you want to rasterize, choose Layer > Rasterize, and then choose an option from the submenu:

Type Rasterizes the type on a type layer. It does not rasterize any other vector data on the layer.

Shape Rasterizes a shape layer.

Fill Content Rasterizes the fill of a shape layer, leaving the vector mask.

Vector Mask Rasterizes the vector mask on a layer, turning it into a layer mask.

Smart Object Converts a Smart Object into a raster layer.

Video Rasterizes the current video frame to an image layer.

3D (Extended only) Rasterizes the current view of 3D data into a flat raster layer.

Layer Rasterizes all vector data on the selected layers.

All Layers Rasterizes all layers that contain vector and generated data.

To rasterize linked layers, select a linked layer, choose Layer > Select Linked Layers, and then rasterize the selected layers.

Merging layers

When you have finalized the content of layers, you can merge them to reduce the size of your image files. When you merge layers, the data on the top layers replaces any data it overlaps on the lower layers. The intersection of all transparent areas in the merged layers remains transparent.

You cannot use an adjustment or fill layer as the target layer for a merge.

In addition to merging layers, you can stamp them. Stamping allows you to merge the contents of more than one layer into a target layer while leaving the other layers intact.

When you save a merged document, you cannot revert back to the unmerged state; the layers are permanently merged.

Flatten all layers

Flattening reduces file size by merging all visible layers into the background and discarding hidden layers. Any transparent areas that remain are filled with white. When you save a flattened image, you cannot revert back to the unflattened state; the layers are permanently merged.

Converting an image between some color modes flattens the file. Save a copy of your file with all layers intact if you want to edit the original image after the conversion.

Selecting, grouping, and linking layers

Select layers

You can select one or more layers to work on them. For some activities, such as painting or making color and tonal adjustments, you can work on only one layer at a time. A single selected layer is called the active layer. The name of the active layer appears in the title bar of the document window.

For other activities, such as moving, aligning, transforming, or applying styles from the Styles panel, you can select and work on multiple layers at a time. You can select layers in the Layers panel or with the Move tool .

You can also link layers. Unlike multiple layers selected at the same time, linked layers stay linked when you change the selection in the Layers panel.

Select layers in the Layers panel

Do one of the following:

- Click a layer in the Layers panel.
- To select multiple contiguous layers, click the first layer and then Shift-click the last layer.
- To select multiple noncontiguous layers, Ctrl-click (Windows them in the Layers panel.

When selecting, Ctrl-click (Windows) or Command-click (Mac OS) the area outside the layer thumbnail. Ctrlclicking or Command-clicking the layer thumbnail selects the non-transparent areas of the layer.

- To select all layers, choose Select > All Layers.
- To select all layers of a similar type (for example all type layers), select one of the layers, and choose Select > Similar Layers.
- To deselect a layer, Ctrl-click (Windows) the layer.
- To have no layer selected, click in the Layers panel below the background or bottom layer, or choose Select > Deselect Layers.

Select layers in the document window 1

Select the Move tool .

2 Do one of the following:

- In the options bar, select Auto Select, then choose Layer from the drop-down menu, and click in the document on the layer you want to select. The top layer containing pixels under the cursor is selected.
- In the options bar, select Auto Select, then choose Group from the drop-down menu, and click in the document on the content you want to select. The top group containing pixels under the cursor is selected. If you click an ungrouped layer, it becomes selected.
- o Right-click (Windows) in the image, and choose a layer from the context menu. The context menu lists all the layers that contain pixels under the current pointer location.

Select a layer in a group

1 Click the group in the Layers panel.

2 Click the triangle to the left of the folder icon .

3 Click the individual layer in the group.

Group and ungroup layers

1 Select multiple layers in the Layers panel.

2 Do one of the following:

- Choose Layer > Group Layers.
- Alt-drag (Windows) layers to the folder icon at the bottom of the Layers panel to group the layers.

3 To Ungroup the layers, select the group and choose Layer > Ungroup Layers.

Add layers to a group

Do one of the following:

- Select the group in the Layers panel and click the Create a New Layer button .
- Drag a layer to the group folder.
- Drag a group folder into another group folder. The group and all of its layers move.
- Drag an existing group to the New Group button .

Link and unlink layers

You can link two or more layers or groups. Unlike multiple layers selected at the same time, linked layers retain their relationship until you unlink them. You can move or apply transformations to linked layers.

1 Select the layers or groups in the Layers panel.

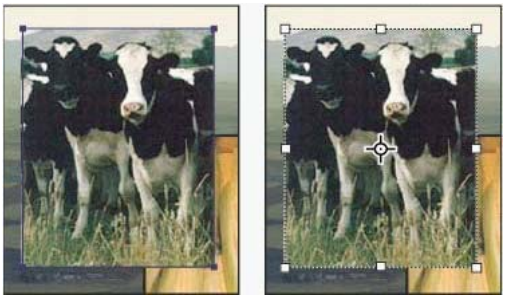
2 Click the link icon at the bottom of the Layers panel.

3 To unlink layers do one of the following:

- Select a linked layer, and click the link icon.
- To temporarily disable the linked layer, Shift-click the Link icon for the linked layer. A red X appears. Shift-click the link icon to enable the link again.
- Select the linked layers and click the Link icon. To select all linked layers, select one of the layers and then choose Layer > Select Linked Layers.

Show layer edges and handles

Showing the boundary or edges of the content in a layer can help you move and align the content. You can also display the transform handles for selected layers and groups so that you can resize or rotate them.



Display the edges of content in a selected layer

Choose View > Show > Layer Edges.

Display transform handles in a selected layer 1

1 Select the Move tool .

2 From the options bar, select Show Transform Controls.

You can resize and rotate layer content using the transform handles

Masking layers

You can add a mask to a layer and use the mask to hide portions of the layer and reveal the layers below. Masking layers is a valuable compositing technique for combining multiple photos into a single image or for making local color and tonal corrections.

About layer and vector masks

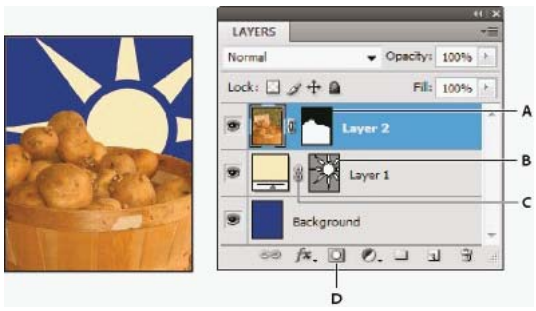
You can use masks to hide portions of a layer and reveal portions of the layers below. You can create two types of masks:

- Layer masks are resolution-dependent bitmap images that are edited with the painting or selection tools.
- Vector masks are resolution independent and are created with a pen or shape tool.

Layer and vector masks are nondestructive, which means you can go back and re-edit the masks later without losing the pixels they hide.

In the Layers panel, both the layer and vector masks appear as an additional thumbnail to the right of the layer thumbnail. For the layer mask, this thumbnail represents the grayscale channel that is created when you add the layer mask. The vector mask thumbnail represents a path that clips out the contents of the layer.

To create a layer or vector mask on the Background layer, first convert it to a regular layer (Layer > New > Layer from Background).

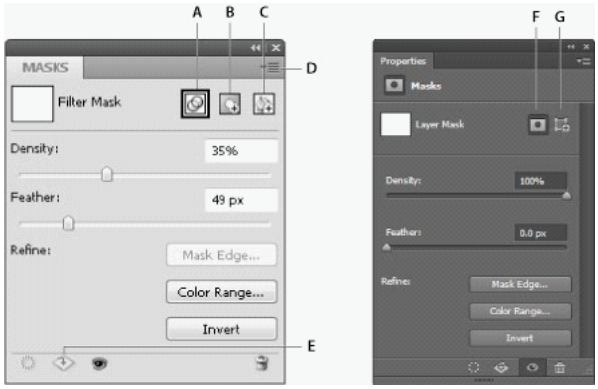


A Layer mask thumbnail **B** Vector mask thumbnail **C** Vector Mask Link icon **D** Add Mask

You can edit a layer mask to add or subtract from the masked region. A layer mask is a grayscale image, so areas you paint in black are hidden, areas you paint in white are visible, and areas you paint in shades of gray appear in various levels of transparency.

A vector mask creates a sharp-edged shape on a layer and is useful anytime you want to add a design element with clean, defined edges. After you create a layer with a vector mask, you can apply one or more layer styles to it, edit them if needed, and instantly have a usable button, panel, or other web-design element.

The Properties panel (CC, CS6) or the Masks panel (CS5) provide additional controls to adjust a mask. You can change the opacity of mask to let more or less of the masked content show through, invert the mask, or refine the mask borders, as with a selection area.



A Select the filter mask. **B** Add a pixel mask. **C** Add a vector mask. **D** Panel menu. **E** Apply Mask **F** Layer mask **G** Vector mask

Disable or enable a layer mask

Do one of the following:

- Select the layer containing the layer mask you want to disable or enable, and click the Disable/Enable Mask button in the Properties panel (CC, CS6) or the Masks panel (CS5).

- Shift-click the layer mask thumbnail in the Layers panel.
- Select the layer containing the layer mask you want to disable or enable, and choose Layer > Layer Mask > Disable or Layer > Layer Mask > Enable.

A red X appears over the mask thumbnail in the Layers panel when the mask is disabled, and the layer's content appears without masking effects.

Add layer masks

When you add a layer mask, you can hide or show all of the layer, or base the mask on a selection or transparency. Later, you'll paint on the mask to precisely hide portions of the layer, revealing the layers beneath.

Add a mask that shows or hides the entire layer

1 Make sure that no part of your image is selected. Choose Select > Deselect.

2 In the Layers panel, select the layer or group.

3 Do one of the following:

- To create a mask that reveals the entire layer, click the Add Layer Mask button in the Layers panel, or choose Layer > Layer Mask > Reveal All.
- To create a mask that hides the entire layer, Alt-click (Windows) or Option-click (Mac OS) the Add Layer Mask button, or choose Layer > Layer Mask> Hide All.

Create a mask from layer transparency

If you want to directly edit layer transparency, create a mask from this data. This technique is helpful for video and 3D workflows.

1 In the Layers panel, select the layer.

2 Choose Layer > Layer Mask > From Transparency.

Photoshop converts transparency into an opaque color, hidden by the newly created mask. The opaque color varies greatly, depending upon the filters and other processing previously applied to the layer.

Unlinking layers and masks

By default, a layer or group is linked to its layer mask or vector mask, as indicated by the link icon between the thumbnails in the Layers panel. The layer and its mask move together in the image when you move either one with the Move tool . Unlinking them lets you move them independently and shift the mask's boundaries separately from the layer.

- To unlink a layer from its mask, click the link icon in the Layers panel.
- To reestablish the link between a layer and its mask, click between the layer and mask path thumbnails in the Layers panel.

Disable or enable a layer mask

Do one of the following:

- Select the layer containing the layer mask you want to disable or enable, and click the Disable/Enable Mask button in the Properties panel (CC, CS6) or the Masks panel (CS5).
- Shift-click the layer mask thumbnail in the Layers panel.
- Select the layer containing the layer mask you want to disable or enable, and choose Layer > Layer Mask > Disable or Layer > Layer Mask > Enable.

A red X appears over the mask thumbnail in the Layers panel when the mask is disabled, and the layer's content appears without masking effects.

Revealing layers with clipping masks

A clipping mask lets you use the content of a layer to mask the layers above it. The masking is determined by the content of the bottom or base layer. The non-transparent content of the base layer clips (reveals), the content of the layers above it in the clipping mask. All other content in the clipped layers is masked out.

You can use multiple layers in a clipping mask, but they must be successive layers. The name of the base layer in the mask is underlined, and the thumbnails for the overlying layers are indented. The overlying layers display a clipping mask icon.

The Blend Clipped Layers As Group option in the Layer Style dialog box determines whether the blending mode of the base affects the whole group or just the base.

Specify overall and fill opacity for selected layers

A layer's overall opacity determines to what degree it obscures or reveals the layer beneath it. A layer with 1% opacity appears nearly transparent, whereas one with 100% opacity appears completely opaque.

In addition to overall opacity, which affects layer styles and blending modes applied to a layer, you can specify fill opacity. Fill opacity affects only pixels, shapes, or text on a layer without affecting the opacity of layer effects such as drop shadows.

You cannot change the opacity of a background layer or a locked layer. To convert a background layer into a regular layer that supports transparency,

1 In the Layers panel, select one or more layers or groups.

2 Change the Opacity and Fill values. (If you selected a group, only Opacity is available)

Specify a blending mode for a layer or group

A layer's blending mode determines how its pixels blend with underlying pixels in the image. You can create a variety of special effects using blending modes.

By default, the blending mode of a layer group is Pass Through, which means that the group has no blending properties of its own. When you choose a different blending mode for a group, you effectively change the order in which the image components are put together. All of the layers in the group are put together first. The composite group is then treated as a single image and blended with the rest of the image using the selected blending mode. Thus, if you choose a blending mode other than Pass Through for the group, none of the adjustment layers or layer blending modes inside the group will apply to layers outside the group.

Group blend effects

By default, layers in a clipping mask are blended with the underlying layers using the blending mode of the bottom-most layer in the group. However, you can choose to have the blending mode of the bottommost layer apply only to that layer, allowing you to preserve the original blending appearance of the clipped layers.

You can also apply the blending mode of a layer to layer effects that modify opaque pixels, such as Inner Glow or Color Overlay, without changing layer effects that modify only transparent pixels, such as Outer Glow or Drop Shadow.

Exclude channels from blending

You can restrict blending effects to a specified channel when you blend a layer or group. By default, all channels are included. When using an RGB image, for example, you can choose to exclude the red channel from blending; in the composite image, only the information in the green and blue channels is affected.

Specify a tonal range for blending layers

The sliders in the Blending Options dialog box control which pixels from the active layer and the underlying visible layers appear in the final image. For example, you can drop dark pixels out of the active layer or force bright pixels from the underlying layers to show through. You can also define a range of partially blended pixels to produce a smooth transition between blended and unblended areas.

Layer styles

Transformation

Transforming scales, rotates, skews, stretches, or warps an image. Apply the transformations to a selection, an entire layer, multiple layers, or a layer mask. Apply transformations to a path, a vector shape, a vector mask, a selection border, or an alpha channel. Transforming affects image quality manipulates the pixels. To apply non-destructive transformations to raster images, use Smart Objects. Transforming a vector shape or path is always non-destructive because changing the mathematical calculations producing the object.

To make a transformation, first select an item to transform and then choose a transformation command. If necessary, adjust the reference point before manipulating the transformation. You can perform several manipulations in succession before applying the cumulative transformation.

Photoshop uses the interpolation method selected in the General area of the Preferences dialog box to calculate the color values of pixels that are added or deleted during transformations. This interpolation setting directly affects the speed and quality of the transformation the default, is slowest but yields the best results.

Define the layer scale and rotate

Scale

Scale simply changes the size, scale to create a bounding box around the selected layer and then drag any one of the handles in any direction to make the selection bigger or smaller. Scale proportionally holds down the shift key while using one of the corner handles. This constrains the height and width percentage and type a width and height percentage in the appropriate boxes will create the transformation as shown in Fig.1.

Rotate

Rotate option to straighten a photo, tilt a photo in a collage, angle text, or any number of things to create the image. Probably don't want to use this option to turn a photo that is lying on its site due to being taken by turning your camera or scanning in a photo sideways. The Rotate (1800, 900 CCW, 900 CW) Degrees option further down the Transform sub menu are much faster.

To rotate a selected layer, a bounding box is placed around the image and Click and drags your mouse to the left or to the right to freely rotate the image. To constrain the rotation to 15-degree increments, hold down the shift key while you rotate. Option click the type a specific degree to rotate the selection in the option bar as shown in Fig. 2.

Fig 1

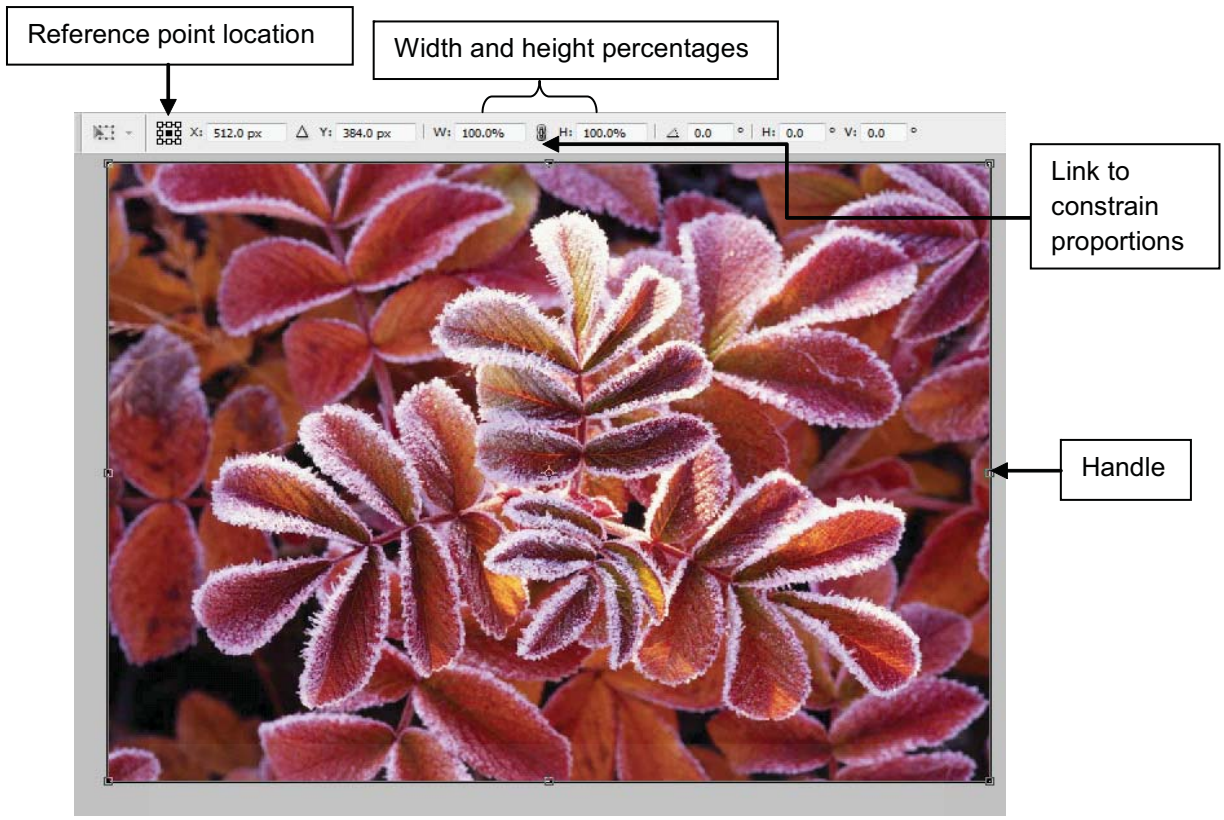
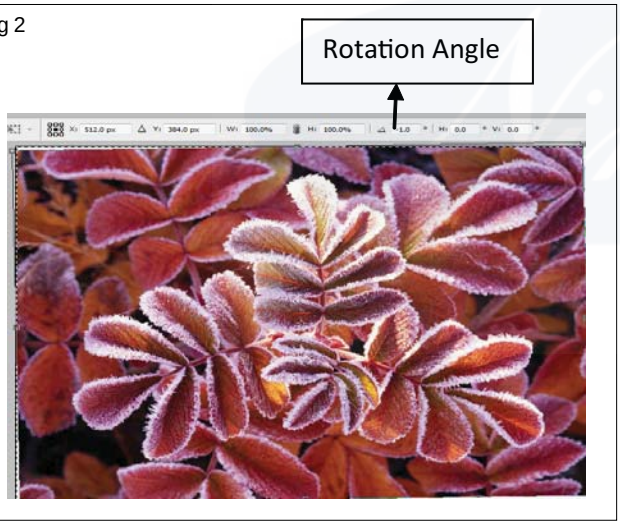


Fig 2



Define layer skew and distort

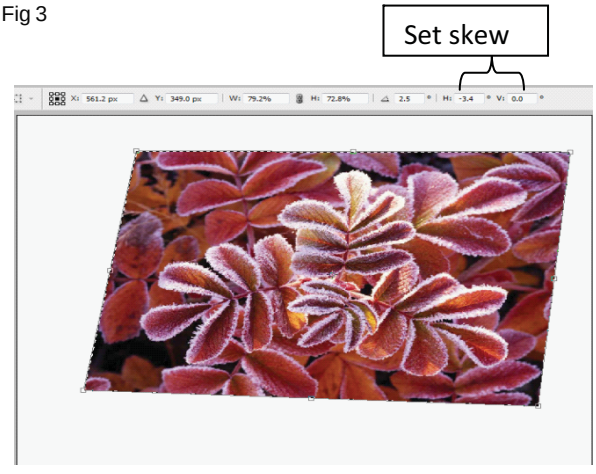
Skew

The Skew transformation allows moving the corner handles independently of one another to pull or push the pixels in that corner closer to or away from the reference point. This transformation actually morphs the pixels in the area that is being pushed or pulled by merging them or doubling them so it looks as if the image is still contained in its entirety in the skewed shape.

Skewing text is more constrained. Rather than each corner being moved independently, the sides move together to create a sheering effect.

To skew a selection, a bounding box is created, Pull on the corners to transform them. Type a degree of skew in the option bar. This constrains image to being skewed as a whole rather than one corner at a time in order to skew just one corner at a time, not only the skew degree, but the relative position of the reference point changes as shown in Fig.3.

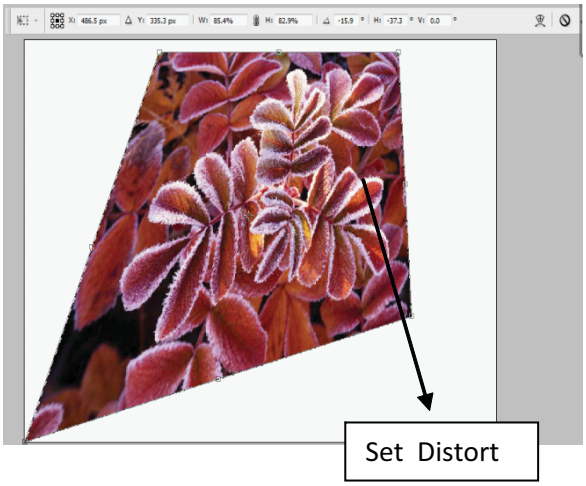
Fig 3



Distort

Distorting an image works much like talking a printed photograph and bending this way and that to make it look different. Distorting in Photoshop works better, of course, because you can make more dramatic distortions without creating any wrinkles. The Distort option can make your selection look angled, bubbled, or squished as shown in Fig.4.

Fig 4

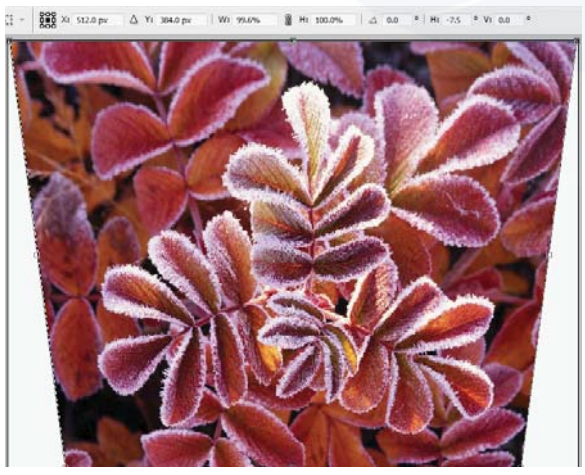


Define layer perspective

Perspective

The perspective transformation widens either the top or the top or the base (or both) of image to correct perspectives that can be warped by fish - eye lenses or simply by the focal length of the image taken. The need for a perspective created by the lens, the buildings actually looks as if they are leaning toward one another. With a simple perspective transformation, the tilt of the building is corrected and the subject of the image becomes the focal point. Pulling on the side handles when using the perspective transforma-**tion skews it as shown in Fig.5.**

Fig 5

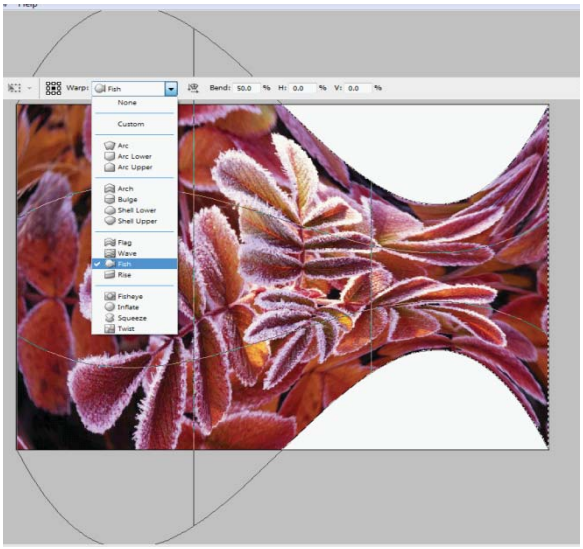


Define warp

Warp

Warp is different from every other transformation. Instead of a bounding box with handles, the wrap transformation creates a 3 x 3 grid across your image. This grid can be adjusted at each of its conjunction points to distort the image. The area around the point used changes the most, with the surrounding areas being affected radiating out from the central point. Each corner of the grid also has two control point handles that control the curve of the grid and, therefore, the wrap as shown in Fig.6.

Fig 6

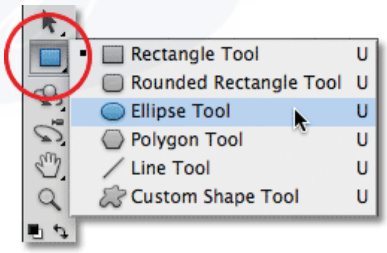


Vectors in photoshop

The Shape Tools

Photoshop's various Shape tools are all nested together in the same spot in the Tools panel. By default, the Rectangle Tool is the tool that's visible, but if you click on the tool's icon and hold your mouse button down, a fly-out menu will appear listing the other Shape tools that are available. I'll choose the Ellipse Tool from the list, but everything we're about to learn applies to all of the Shape tools, not just the Ellipse Tool: (Fig. 1)

Fig 1



Selecting the Ellipse Tool from the Shape tools fly-out menu.

The Drawing Modes

Once we've chosen a Shape tool, we need to tell Photoshop which type of shape - vector, path or pixels - we want to draw, and we do that using the **drawing mode options** in the Options Bar along the top of the screen.

Near the far left of the Options Bar is a set of three icons. Each icon represents one of the three types of shapes we can draw. The first icon (the one on the left) is the **Shape Layers** option, and it's the option we choose when we want to draw vector shapes. The second (middle) icon is the **Paths** option, which is what we choose when we want to draw paths. The third icon (the one on the right) is known as the **Fill Pixels** option. We choose it when we want to draw pixel-based shapes. (Fig. 2)

Fig 2

From left to right - the Shape Layers, Paths, and Fill Pixels options.

Drawing Shape Layers (Vector Shapes)

Of the three types of drawing modes, the one we almost always want to be working with is Shape layers (vector shapes). When most people think of drawing shapes, they're not thinking of paths or pixels. They're thinking of vector shapes, the same type of shapes we'd draw in Adobe Illustrator or most other drawing programs.

Photoshop itself is not really known as a drawing program. It's primarily a photo editor, and photos (digital photos, at least) are made up of pixels. When we draw a pixel-based shape by choosing the **Fill Pixels** option in the Options Bar, we're creating shapes out of the same type of pixels that make up a digital photo, and pixels have major limitations on what we can do with them. The biggest drawback with pixel-based images or shapes is that they don't scale very well, at least not when we need to make them larger than their original size. Enlarge a pixel-based image or shape too much and it will lose its sharpness, becoming soft and dull. Enlarge it even more and the pixels that make up the image or shape can become visible, resulting in a blocky appearance.

Pixel-based images and shapes also depend very heavily on the **resolution** of your document if they're going to look good when you print them. They may look great on your computer screen, but printing high quality images requires much higher resolution than what your monitor displays, and if your document doesn't have enough pixels to print it at the size you need with a high enough resolution, it will again look soft and dull.

Vectors, on the other hand, have nothing at all to do with pixels. They're actually made up of mathematical points, with the points connected to each other by either straight lines or curves. All of these points, lines and curves make up what we see as the shape! Don't worry about the "mathematical" part of what I just said. Photoshop handles all the math stuff behind the scenes so we can just focus on drawing our shapes.

Since vector shapes are essentially drawn using math, each time we make a change to the shape, either by resizing or reshaping it in some way, Photoshop simply redoes the math and redraws the shape! This means we can resize a vector shape as many times as we like, making it any size we need, without any loss of image quality. Vector shapes retain their crisp, sharp edges no matter how large we make them. And unlike pixels, vector shapes are resolution-independent. They don't care what the resolution of your document is because they always print at the highest possible resolution of your printer.

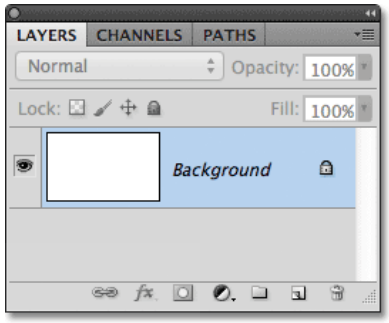
Let's look at some of the things we can do with vector shapes in Photoshop, and then we'll compare it with paths and pixel shapes. To draw vector shapes, select the **Shape Layers** option in the Options Bar. (Fig. 3)

Fig 3

Clicking on the Shape Layers icon in the Options Bar.

Before I draw anything, let's take a quick look in my Layers panel, where we see that currently my document is made up of nothing more than a single layer - the Background layer - which is filled with solid white. (Fig. 4)

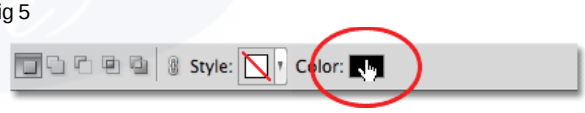
Fig 4



The Layers panel showing the single Background layer.

I'll choose a color for my vector shape by clicking on the **color swatch** in the Options Bar. (Fig. 5)

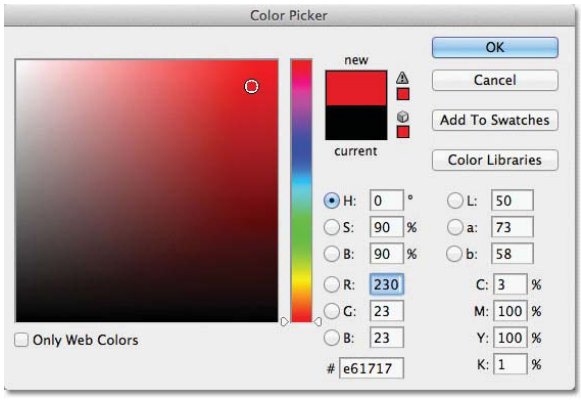
Fig 5



Clicking on the color swatch to choose a color for the vector shape.

This opens Photoshop's **Color Picker**. I'll choose red from the Color Picker, then I'll click OK to close out of it. (Fig.6)

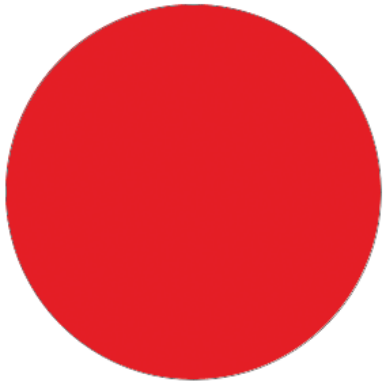
Fig 6



Choosing a color for the vector shape from the Color Picker.

With the Ellipse Tool in hand, the Shape Layers option selected in the Options Bar and red chosen from the Color Picker, I'll click inside my document and drag out an elliptical shape, holding the **Shift** key down as I drag to force the shape into a perfect circle. (Fig. 7)

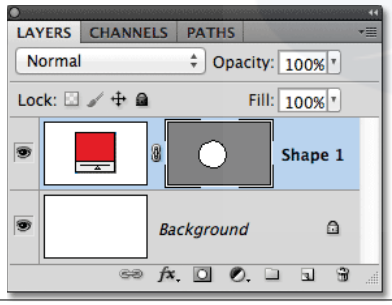
Fig 7



A circular shape drawn with the Ellipse Tool.

Photoshop places each new vector shape we draw on its own Shape layer, and if we look in my Layers panel, we see the shape on a new layer named Shape 1 above the Background layer. Shape layers are made up of two parts - a **color swatch** on the left which displays the current color of the shape and a **vector mask thumbnail** to the right of the color swatch which shows us what the shape currently looks like (the white area in the thumbnail represents the shape). (Fig. 8)

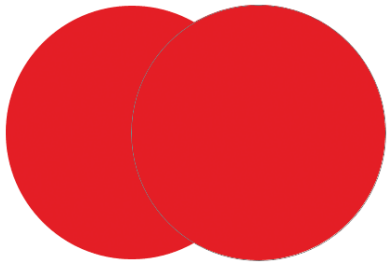
Fig 8



Every new vector shape is given its own Shape layer in the Layers panel.

With one shape drawn, I'll draw a second similar shape slightly to the right of the first one. (Fig.9)

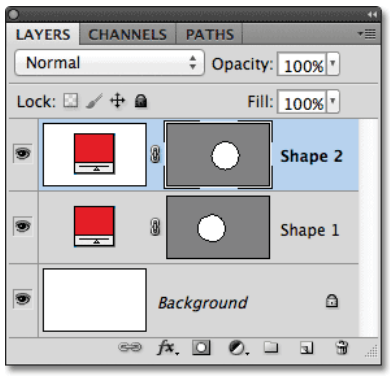
Fig 9



A second vector shape now overlaps the original.

Photoshop places this second vector shape on its own separate Shape layer (named Shape 2) above the first one, complete with its own color swatch and vector mask thumbnail. (Fig.10)

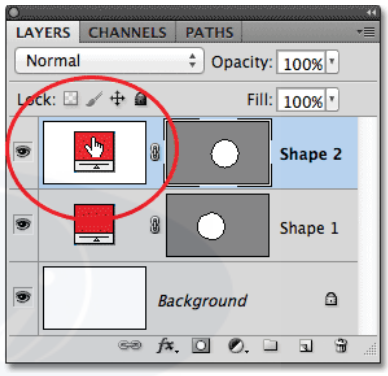
Fig 10



Two vector shapes, two Shape layers.

At the moment, both of my shapes are red, but we can easily change the color of a vector shape at any time simply by double-clicking on the shape's **color swatch** on the Shape layer: I'll double-click on the second shape's color swatch. (Fig. 11)

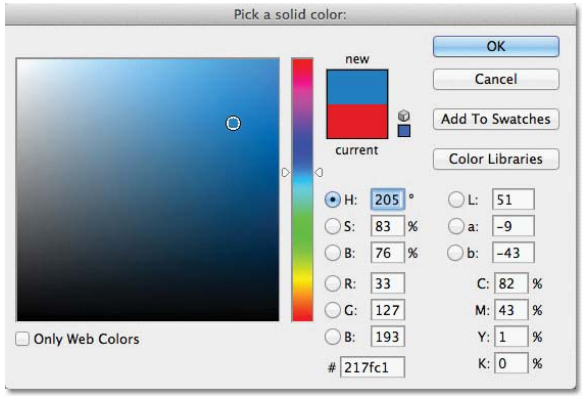
Fig 11



Double-click on a vector shape's color swatch to change its color.

This re-opens the Color Picker so we can select a different color. I'll choose blue this time. (Fig. 12)

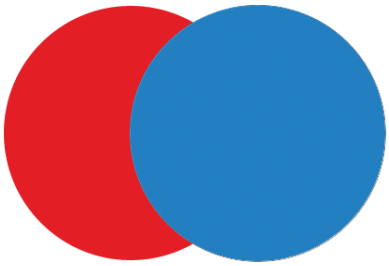
Fig 12



Choosing blue as the new color of the second shape.

I'll click OK to close out of the Color Picker, and my second shape is instantly changed from red to blue. (Fig. 13)

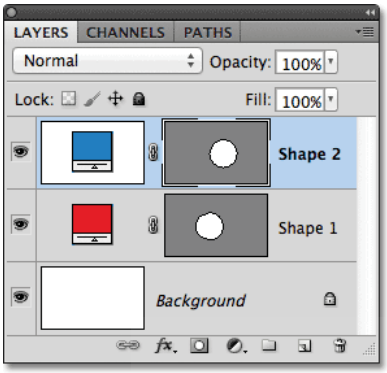
Fig 13



The second vector shape now appears blue.

The shape's color swatch on its Shape layer also updates to the new color. (Fig. 14)

Fig 14



The vector shape's color swatch now displays the new color.

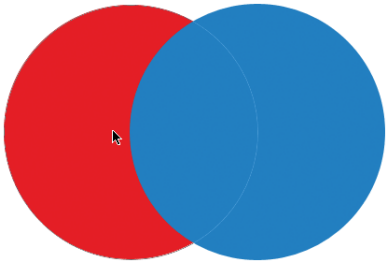
As vector shapes, I can select them in the document very easily using the Path Selection Tool (also known as the black arrow). I'll choose the Path Selection Tool from the Tools panel. It's located in the same section of the Tools panel as the Shape Tools. (Fig. 15)

Fig 15

Selecting the Path Selection Tool.

With the Path Selection Tool in hand, if I click on the red shape in the document, Photoshop automatically selects it (a thin outline appears around the shape that's currently selected). (Fig. 16)

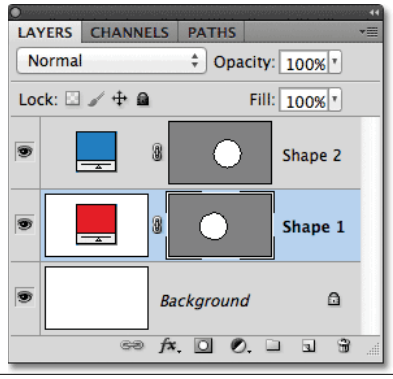
Fig 16



The Path Selection Tool selects whichever vector shape you click on. Here, the red shape is selected by clicking on it.

Photoshop also selects the shape's layer for me in the Layers panel (selected layers are highlighted in blue). (Fig.17)

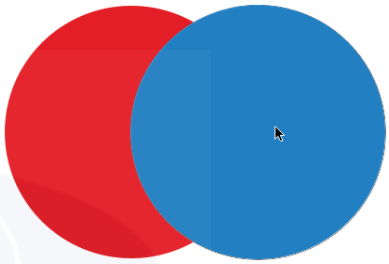
Fig 17



When a vector shape is selected in the document, its Shape layer is highlighted in the Layers panel.

I'll click on the blue shape in the document with the Path Selection Tool, and now the blue shape is selected. (Fig.18)

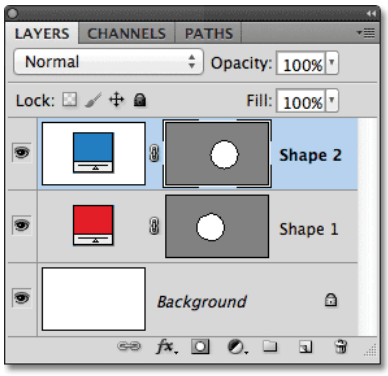
Fig 18



Selecting the blue shape by clicking on it with the Path Selection Tool.

And we see that Photoshop has also selected its Shape layer. (Fig.19)

Fig 19



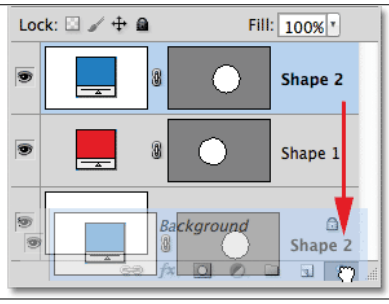
The blue shape's layer is now selected.

With a vector shape selected, I could drag it around inside the document with the Path Selection Tool to reposition it but we can do much more interesting things with vector shapes than simply moving them around. For example, we can combine two or more shapes together to create different shapes! or

Up to this point, Photoshop has been placing each new vector shape I draw on its own Shape layer, but where things start to get interesting is when we combined two or

more shapes on the same Shape layer. Then, with the shape copied, I'll delete the shape's layer by dragging it down onto the **Trash Bin** at the bottom of the Layers panel. (Fig.20)

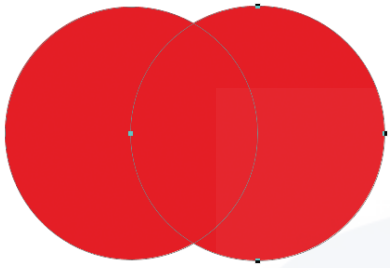
Fig 20



Dragging the Shape 2 layer onto the Trash Bin to delete it.

This leaves just the original shape in the document. I'll press **Ctrl+V** (Win) / **Command+V** (Mac) on my keyboard to paste the copied shape into the original shape, and now both shapes are combined into one. (Fig.21)

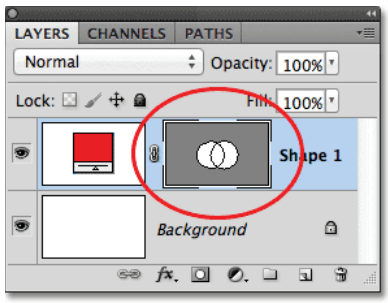
Fig 21



The two previously separate shapes are now combined into a single shape.

If we look at the vector mask thumbnail in the Layers panel, we see that both shapes are now part of the same Shape layer. (Fig.22)

Fig 22



The two shapes now share the same Shape layer.

Since they're both on the same Shape layer, I can change how the shapes interact with each other by choosing different behaviors from a series of options in the Options Bar. From left to right, we have **Add to Shape Area, Subtract from Shape Area, Intersect Shape Areas, and Exclude Overlapping Shape Areas.** (Fig. 23)

Fig 23

This series of icons controls how two shapes on the same Shape layer interact with each other.

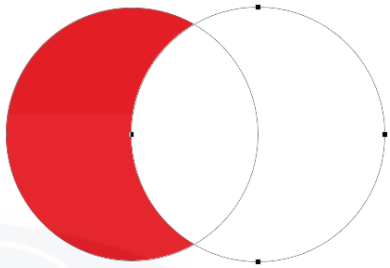
Again, we'll look at combining vector shapes in more detail in another tutorial, but at the moment, both shapes are simply overlapping each other and creating the appearance of a single larger shape. That's because the Add to Shape Area option is currently selected. I'll click on the S**ubtract from Shape Area** option. (Fig. 24)

Fig 24

Selecting "Subtract from Shape Area".

With Subtract from Shape Area selected, the second shape is no longer visible in the document. Instead, Photoshop uses it to remove part of the original shape where the two shapes overlap. (Fig.25)

Fig 25



The two shapes with the Subtract from Shape Area option selected.

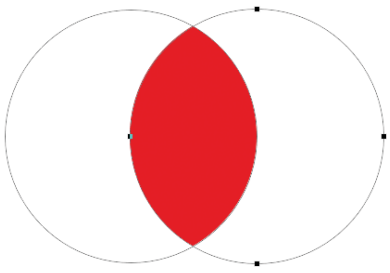
If I choose the **Intersect Shape Areas** option in the Options Bar. (Fig.26)

Fig 26

Selecting "Intersect Shape Areas".

We get a different behavior. This time, only the area where the two shapes overlap each other remains visible. (Fig.27)

Fig 27



The shapes with the Intersect Shape Areas option selected.

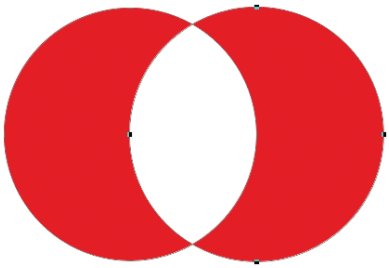
And if I choose the **Exclude Overlapping Shape Areas** option. (Fig.28)

Fig 28

Selecting "Exclude Overlapping Shape Areas".

Again we get a different result. Both shapes are now visible except for the area where they overlap. (Fig.29)

Fig 29



The shapes in Exclude Overlapping Shape Areas mode.

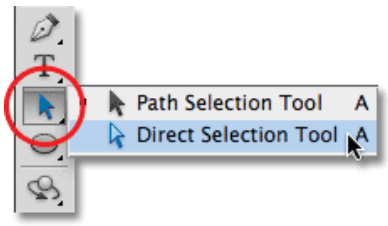
With the second shape (the shape on the right) still selected, if I decide I don't want it anymore, I can delete it by pressing **Backspace** (Win) / **Delete** (Mac) on my keyboard, which removes it from the Shape layer and leaves me back where I started with just my original circular shape. (Fig.30)

Fig 30

The second shape has been deleted, leaving only the original shape.

One other important feature of vector shapes we should look at quickly before moving on to paths and pixel-based shapes is that we can easily reshape them! Earlier I mentioned that vector shapes are made up of points connected by lines or curves. We've already seen how to select an entire shape at once using the Path Selection Tool, but we can also select the individual points, lines and curves! For that, we need the **Direct Selection Tool** (also known as the white arrow). By default, it's nested in behind the Path Selection Tool in the Tools panel, so I'll click and hold on the Path Selection Tool until the fly-out menu appears, then I'll select the Direct Selection Tool from the list. (Fig.31)

Fig 31

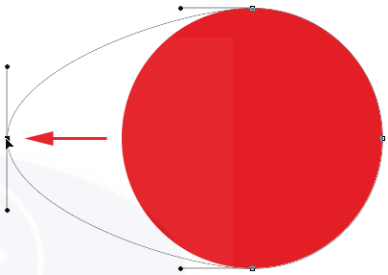


Selecting the Direct Selection Tool.

Reshaping vector shapes is a bit of an advanced topic which I'll cover in much more detail in another tutorial, but with the Direct Selection Tool selected, I'll click on the outline around the shape, which displays the shape's **anchor points** (the little squares). We can also see lines with little circles on the ends extending out from some of the anchor points. These are known as direction handles. We can click and drag either the anchor points or the **direction handles** to change the look of the shape.

For example, I'll click on one of the anchor points with the Direct Selection Tool and drag it towards the left. (Fig.32)

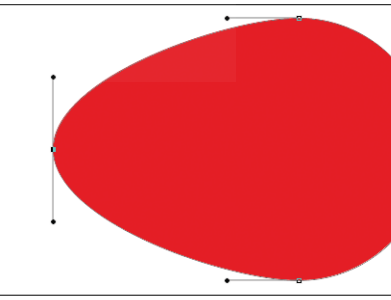
Fig 32



Click and drag any of the anchor points to change the shape.

I'll release my mouse button to complete the edit. (Fig.33)

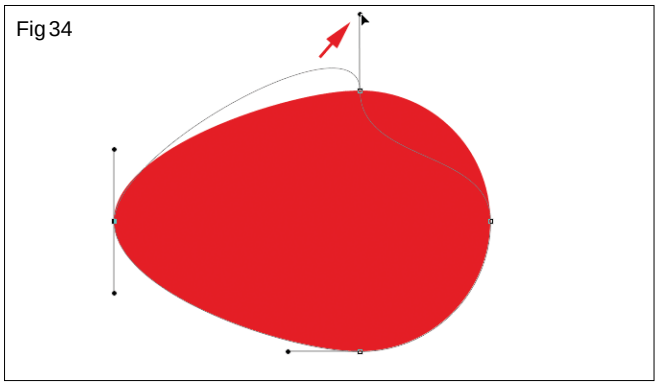
Fig 33



Photoshop fills the added area with color when I release my mouse button.

We can also drag the direction handles to edit the appearance of the line or curve between two anchor points. Here I'm dragging one of the direction handles that extends out from the anchor point at the top of the shape. (Fig. 34)

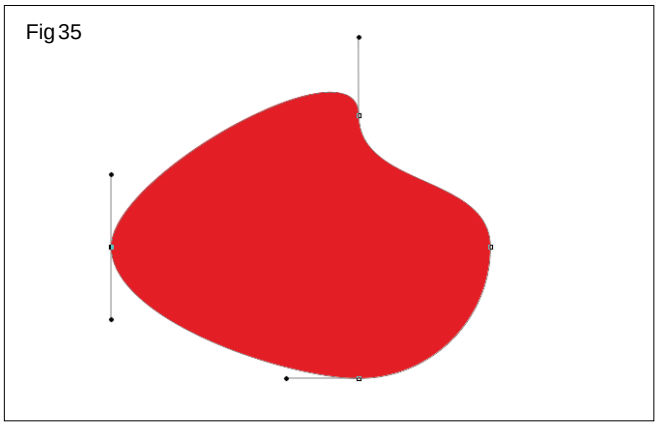
Fig 34



Dragging a direction handle reshapes the line or curve connecting two anchor points.

And again, I'll release my mouse button to complete the edit. Notice that even though I've made edits to the shape, because it's a vector shape and vectors are based on math, not pixels, it still retains its crisp, sharp edges. (Fig.35)

Fig 35



The shape now looks much different than it did originally.

Filters and effects

Objectives : At the end of this lesson you shall be able to
- **explain artistic and Blur filters**
- **explain Brush Stroke and Distort filters**
- **explain Noise, Pixelate, Render and sharpen filters**
- **explain Sketch, Stylize, Texture, video, and Other filters.**

Using filters

You can use filters to clean up or retouch your photos, apply special art effects that give your image the appearance of a sketch or impressionistic painting, or create unique transformations using distortions and lighting effects. The filters provided by Adobe appear in the Filter menu. Some filters provided by third-party developers are available as plug-ins. Once installed, these plug-in filters appear at the bottom of the Filter menu.

Smart Filters, applied to Smart Objects, let you use filters non-destructively. Smart Filters are stored as layer effects in the Layers panel and can be readjusted at any time, working from the original image data contained in the Smart Object. For more information on Smart Filter Effects and nondestructive editing, see Nondestructive editing.

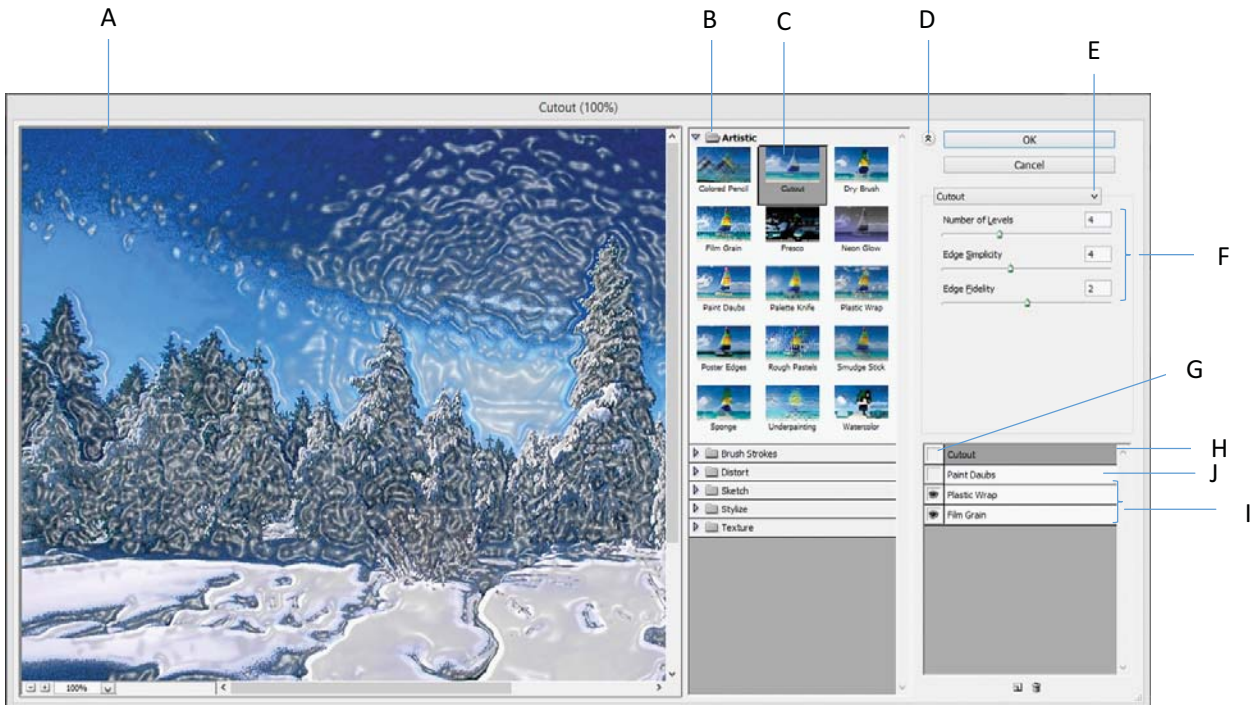
To use a filter, choose the appropriate submenu command from the Filter menu. These guidelines can help you in choosing filters:

- Filters are applied to the active, visible layer or a selection.
- For 8-bits-per-channel images, most filters can be applied cumulatively through the Filter Gallery. All filters can be applied individually.
- Filters cannot be applied to Bitmap-mode or indexed-color images.
- Some filters work only on RGB images.
- All filters can be applied to 8-bit images.
- The following filters can be applied to 16-bit images: Liquify, Vanishing Point, Average Blur, Blur, Blur More, Box Blur, Gaussian Blur, Lens Blur, Motion Blur, Radial Blur, Surface Blur, Shape Blur, Lens Correction, Add Noise,

  Despeckle, Dust & Scratches, Median, Reduce Noise, Fibers, Clouds, Difference Clouds, Lens Flare, Sharpen, Sharpen Edges, Sharpen More, Smart Sharpen, Unsharp Mask, Emboss, Find Edges, Solarize, De-Interlace, NTSC Colors, Custom, High Pass, Maximum, Minimum, and Offset.
- The following filters can be applied to 32-bit images: Average Blur, Box Blur, Gaussian Blur, Motion Blur, Radial Blur, Shape Blur, Surface Blur, Add Noise, Clouds, Lens Flare, Smart Sharpen, Unsharp Mask, De-Interlace, NTSC Colors, Emboss, High Pass, Maximum, Minimum, and Offset.
- Some filters are processed entirely in RAM. If you don't have enough available RAM to process a filter effect, you may get an error message.

Filter Gallery overview

The Filter Gallery provides a preview of many of the special effects filters. You can apply multiple filters, turn on or off the effect of a filter, reset options for a filter, and change the order in which filters are applied. When you are satisfied with the preview, you can then apply it to your image. Not all filters in the Filter menu are available in the Filter Gallery.



A Preview **B** Filter category **C** Thumbnail of selected filter **D** Show/Hide filter thumbnails **E** Filters pop-up menu **F** Options for selected filter **G** List of filter effects to apply or arrange **H** Filter effect selected but not applied **I** Filter effects applied cumulatively but not selected **J** Hidden filter effect

List of filters supporting 16-bit/channel and 32-bit/channel documents

The following filters support 16-bit/channel and 32-bit/channel documents:

- All Blur filters (except for Lens Blur and Smart Blur)
- All Distort filters
- The Noise > Add Noise filter
- All Pixelate filters
- All Render filters (except for Lighting Effects) o All Sharpen filters (except for Sharpen Edges)
- The following filters under Filter > Stylize:
- Diffuse
- Emboss
- Trace Contour
- All Video filters
- All filters under Filter > Other

Artistic filters

Filters from the Artistic submenu help you achieve painterly and artistic effects for a fine arts or commercial project.

For example, use the Cutout filter for collages or typography. These filters replicate natural or traditional media effects. All the Artistic filters can be applied through the Filter Gallery.

Colored Pencil Draws an image using colored pencils on a solid background. Edges are retained and given a rough crosshatch appearance; the solid background color shows through the smoother areas.

Cutout Makes an image appear as though it were constructed from roughly cut pieces of colored paper. High-contrast images appear as if in silhouette, and colored images are built up from several layers of colored paper.

Film Grain Applies an even pattern to the shadow tones and midtones. A smoother, more saturated pattern is added to the lighter areas. This filter is useful for eliminating banding in blends and visually unifying elements from various sources.

Fresco Paints an image in a coarse style using short, rounded, and hastily applied daubs.

Neon Glow Adds various types of glows to the objects in an image. This filter is useful for colorizing an image while softening its look. To select a glow color, click the glow box, and select a color from the Color Picker.

Paint Daubs Lets you choose from various brush sizes (from 1 to 50) and types for a painterly effect. Brush types include Simple, Light Rough, Dark Rough, Wide Sharp, Wide Blurry, and Sparkle.

Palette Knife Reduces detail in an image to give the effect of a thinly painted canvas that reveals the texture underneath.

Plastic Wrap Coats the image in shiny plastic, accentuating the surface detail.

Poster Edges Reduces the number of colors in an image (posterizes it) according to the posterization option you set, and finds the edges of the image and draws black lines on them. Large broad areas have simple shading, and fine dark detail is distributed throughout the image.

Rough Pastels Applies strokes of pastel chalk on a textured background. In areas of bright color, the chalk appears thick with little texture; in darker areas, the chalk appears scraped off to reveal the texture.

Smudge Stick Softens an image using short diagonal strokes to smudge or smear the darker areas. Lighter areas become brighter and lose detail.

Sponge Creates images with highly textured areas of contrasting color, simulating the effect of sponge painting.

Underpainting Paints the image on a textured background, and then paints the final image over it.

Watercolor Paints the image in a watercolor style using a medium brush loaded with water and color, simplifying details. Where significant tonal changes occur at the edges, the filter saturates the color.

Blur filters

The Blur filters soften a selection or an entire image, and are useful for retouching. They smooth transitions by averaging the pixels next to the hard edges of defined lines and shaded areas in an image.

To apply a Blur filter to the edges of a layer, deselect the Lock Transparent Pixel option in the Layers panel

Average Finds the average color of an image or selection, and then fills the image or selection with the color to create a smooth look. For example, if you select an area of grass, the filter changes the area into a homogeneous patch of green.

Blur and Blur More Eliminate noise where significant color transitions occur in an image. Blur filters smooth transitions by averaging the pixels next to the hard edges of defined lines and shaded areas. The effect of the Blur More filter is three or four times stronger than that of the Blur filter.

Box Blur Blurs an image based on the average color value of neighboring pixels. This filter is useful for creating special effects. You can adjust the size of the area used to calculate the average value for a given pixel; a larger radius results in greater blurring.

Gaussian Blur Quickly blurs a selection by an adjustable amount. Gaussian refers to the bell-shaped curve that is generated when Photoshop applies a weighted average to the pixels. The Gaussian Blur filter adds low-frequency detail and can produce a hazy effect.

When Gaussian Blur, Box Blur, Motion Blur, or Shape Blur are applied to a selected image area, they will sometimes produce visually unexpected results near the edges of the selection. This is because these blur filters will use image data from outside the selected area to create the new, blurred pixels inside the selected area. For example, if the selection represents a background area that you want to blur while keeping the foreground sharp, the edges of the blurred background area will be contaminated with colors from the foreground, producing a fuzzy, muddy-looking outline around the foreground. To avoid this effect in such cases, you can use Smart Blur or Lens Blur

Lens Blur Adds blur to an image to give the effect of a narrower depth of field so that some objects in the image stay in focus and others areas are blurred.

Motion Blur Blurs in the specified direction (from -360º to +360º) and at a specified intensity (from 1 to 999). The filter's effect is analogous to taking a picture of a moving object with a fixed exposure time.

Radial Blur Simulates the blur of a zooming or rotating camera to produce a soft blur. Choose Spin to blur along concentric circular lines, and then specify a degree of rotation. Choose Zoom to blur along radial lines, as if zooming into or out of the image, and specify a value from 1 to 100. Blur quality ranges from Draft (for fast but grainy results) or Good and Best for smoother results, which are indistinguishable from each other except on a large selection. Specify the origin of the blur by dragging the pattern in the Blur Center box.

Shape Blur Uses the specified kernel to create the blur. Choose a kernel from the list of custom shape presets, and use the radius slider to adjust its size. You can load different shape libraries by clicking the triangle and choosing from the list. Radius determines the size of the kernel; the larger the kernel, the greater the blur.

Smart Blur Blurs an image with precision. You can specify a radius, a threshold, and a blur quality. The Radius value determines the size of the area searched for dissimilar pixels. The Threshold value determines how dissimilar the pixels must be before they are affected. You also can set a mode for the entire selection (Normal) or for the edges of color transitions (Edge Only and Overlay Edge). Where significant contrast occurs, Edge Only applies black-and-white edges, and Overlay Edge applies white.

Surface Blur Blurs an image while preserving edges. This filter is useful for creating special effects and for removing noise or graininess. The Radius option specifies the size of the area sampled for the blur. The Threshold option controls how much the tonal values of neighboring pixels must diverge from the center pixel value before being part of the blur. Pixels with tonal value differences less than the Threshold value are excluded from the blur.

Brush Stroke filters

Like the Artistic filters, the Brush Stroke filters give a painterly or fine-arts look using different brush and ink stroke effects. Some of the filters add grain, paint, noise, edge detail, or texture. All the Brush Stroke filters can be applied through the Filter Gallery.

Accented Edges Accentuates the edges of an image. When the edge brightness control is set to a high value, the accents resemble white chalk; when set to a low value, the accents resemble black ink.

Angled Strokes Repaints an image using diagonal strokes, with lighter and darker areas painted in strokes going in opposite directions.

Crosshatch Preserves the details and features of the original image while adding texture and roughening the edges of the colored areas with simulated pencil hatching. The Strength option (with values from 1 to 3) determines the number of hatching passes.

Dark Strokes Paints dark areas with short, tight, dark strokes, and lighter areas with long, white strokes.

Ink Outlines Redraws an image with fine narrow lines over the original details, in pen-and-ink style.

Spatter Replicates the effect of a spatter airbrush. Increasing the options simplifies the overall effect.

Sprayed Strokes Repaints an image, using its dominant colors, with angled, sprayed strokes of color.

Sumi-e Paints an image in Japanese style, as if with a fully saturated brush applied to rice paper. Sumi-e creates soft, blurred edges with rich, inky blacks.

Distort filters

The Distort filters geometrically distort an image, creating 3D or other reshaping effects. Note that these filters can be very memory-intensive. The Diffuse Glow, Glass, and Ocean Ripple filters can be applied through the Filter Gallery.

Diffuse Glow Renders an image as though it were viewed through a soft diffusion filter. The filter adds see-through white noise, with the glow fading from the center of a selection.

Displace Uses an image, called a displacement map, to determine how to distort a selection. For example, using a parabola-shaped displacement map, you can create an image that appears to be printed on a cloth held up by its corners.

Glass Makes an image appear as if it were being viewed through different types of glass. You can choose a glass effect or create your own glass surface as a Photoshop file and apply it. You can adjust scaling, distortion, and smoothness settings. When using surface controls with a file, follow the instructions for the Displace filter.

Ocean Ripple Adds randomly spaced ripples to the surface of the image so that it appears to be underwater.

Pinch Squeezes a selection. A positive value up to 100% shifts a selection toward its center; a negative value up to - 100% shifts a selection outward.

Polar Coordinates Converts a selection from its rectangular to polar coordinates, and vice versa, according to a selected option. You can use this filter to create a cylinder anamorphosis-an art form popular in the 18th century-in which the distorted image appears normal when viewed in a mirrored cylinder.

Ripple Creates an undulating pattern on a selection, like ripples on the surface of a pond. For greater control, use the Wave filter. Options include the number and size of ripples.

Shear Distorts an image along a curve. Specify the curve by dragging the line in the box. You can adjust any point along the curve. Click Default to change the curve back to a straight line. In addition, you choose how to treat undistorted areas.

Spherize Gives objects a 3D effect by wrapping a selection around a spherical shape, distorting the image and stretching it to fit the selected curve.

Twirl Rotates a selection more sharply in the center than at the edges. Specifying an angle produces a twirl pattern.

Wave Works much as the Ripple filter does, but with greater control. Options include the number of wave generators, wavelength (distance from one wave crest to the next), height of the wave, and wave type: Sine (rolling), Triangle, or Square. The Randomize option applies random values. You can also define undistorted areas.

ZigZag Distorts a selection radially, depending on the radius of the pixels in your selection. The Ridges option sets the number of direction reversals of the zigzag from the center of the selection to its edge. You also specify how to displace the pixels: Pond Ripples displaces pixels to the upper-left or lower right, Out From Center displaces pixels toward or away from the center of the selection, and Around Center rotates pixels around the center.

Noise filters

The Noise filters add or remove noise, or pixels with randomly distributed color levels. This helps to blend a selection into the surrounding pixels. Noise filters can create unusual textures or remove problem areas, such as dust and scratches.

Add Noise Applies random pixels to an image, simulating the effect of shooting pictures on high-speed film. You can also use the Add Noise filter to reduce banding in feathered selections or graduated fills or to give a more realistic look to heavily retouched areas. Options for noise distribution include Uniform and Gaussian. Uniform distributes color values of noise using random numbers between 0 and plus or minus the specified value, creating a subtle effect. Gaussian distributes color values of noise along a bell-shaped curve, creating a speckled effect. The Monochromatic option applies the filter to only the tonal elements in the image without changing the colors.

Despeckle Detects the edges in an image (areas where significant color changes occur) and blurs all of the selection except those edges. This blurring removes noise while preserving detail.

Dust & Scratches Reduces noise by changing dissimilar pixels. To achieve a balance between sharpening the image and hiding defects, try various combinations of Radius and Threshold settings. Or apply the filter to selected areas in the image.

Median Reduces noise in an image by blending the brightness of pixels within a selection. The filter searches the radius of a pixel selection for pixels of similar brightness, discarding pixels that differ too much from adjacent pixels, and replaces the center pixel with the median brightness value of the searched pixels. This filter is useful for eliminating or reducing the effect of motion on an image.

Reduce Noise Reduces noise while preserving edges based on user settings affecting the overall image or individual channels.

Pixelate filters

The filters in the Pixelate submenu sharply define a selection by clumping pixels of similar color values in cells.

Color Halftone Simulates the effect of using an enlarged halftone screen on each channel of the image. For each channel, the filter divides the image into rectangles and replaces each rectangle with a circle. The circle size is proportional to the brightness of the rectangle.

Crystallize Clumps pixels into a solid color in a polygon shape.

Facet Clumps pixels of solid or similar colors into blocks of like-colored pixels. You can use this filter to make a scanned image look hand-painted or to make a realistic image resemble an abstract painting.

Fragment Creates four copies of the pixels in the selection, averages them, and offsets them from each other.

Mezzotint Converts an image to a random pattern of black-and-white areas or of fully saturated colors in a color image. To use the filter, choose a dot pattern from the Type menu in the Mezzotint dialog box.

Mosaic Clumps pixels into square blocks. The pixels in a given block are the same color, and the colors of the blocks represent the colors in the selection.

Pointillize Breaks up the color in an image into randomly placed dots, as in a pointillist painting, and uses the background color as a canvas area between the dots.

Render filters

The Render filters create 3D shapes, cloud patterns, refraction patterns, and simulated light reflections in an image. You can also manipulate objects in 3D space, create 3D objects (cubes, spheres, and cylinders), and create texture fills from grayscale files to produce 3D-like effects for lighting.

Clouds Generates a soft cloud pattern using random values that vary between the foreground and the background colors. To generate a more stark cloud pattern, hold down Alt (Windows) or Option (Mac OS) as you choose Filter > Render > Clouds. When you apply the Clouds filter, the image data on the active layer is replaced.

Difference Clouds Uses randomly generated values that vary between the foreground and background color to produce a cloud pattern. The filter blends the cloud data with the existing pixels in the same way the Difference mode blends colors. The first time you choose this filter, portions of the image are inverted in a cloud pattern. Applying the filter several times creates rib and vein patterns that resemble a marble texture. When you apply the Difference Clouds filter, the image data on the active layer is replaced.

Fibers Creates the look of woven fibers using the foreground and background colors. You use the Variance slider to control how the colors vary (a low value produces long streaks of color, and a high value results in very short fibers with more varied distribution of color). The Strength slider controls how each fiber looks. A low setting produces a loose weave, and a high setting produces short, stringy fibers. Click the Randomize button to change how the pattern looks; you can click the button a number of times until you find a pattern you like. When you apply the Fibers filter, the image data on the active layer is replaced.

Lens Flare Simulates the refraction caused by shining a bright light into a camera lens. Specify a location for the center of the flare by clicking anywhere inside the image thumbnail or by dragging its cross hair.

Lighting Effects Lets you produce myriad lighting effects on RGB images by varying 17 light styles, three light types, and four sets of light properties. You can also use textures from grayscale files (called bump maps) to produce 3D-like effects and save your own styles for use in other images. See

Sharpen filters

The Sharpen filters focus blurred images by increasing the contrast of adjacent pixels.

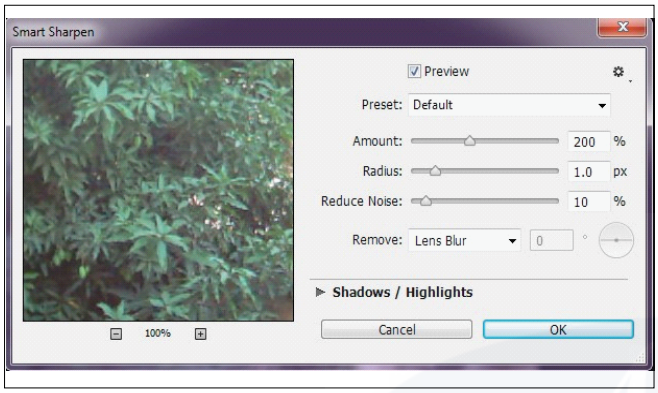
Sharpen and Sharpen More Focus a selection and improve its clarity. The Sharpen More filter applies a stronger sharpening effect than does the Sharpen filter.

Sharpen Edges and Unsharp Mask Find the areas in the image where significant color changes occur and sharpen them. The Sharpen Edges filter sharpens only edges while preserving the overall smoothness of the image. Use this filter to sharpen edges without specifying an amount. For professional color correction, use the Unsharp Mask filter to adjust the contrast of edge detail and produce a lighter and darker line on each side of the edge. This process emphasizes the edge and creates the illusion of a sharper image.

Smart Sharpen Sharpens an image by letting you set the sharpening algorithm or control the amount of sharpening that occurs in shadows and highlights. This is the recommended way to sharpen if you don't have a particular sharpening filter in mind.

In Photoshop CC, the enhanced Smart Sharpen filter empowers you to produce high-quality results through adaptive sharpening technology that minimizes noise and halo effects. The streamlined UI design for this filter offers optimized controls for targeted sharpening. Use the sliders for quick adjustments and advanced controls to fine-tune your results.

Smart sharpening in Photoshop CC supports CMYK. Additionally, you can sharpen arbitrary channels. For example, you can choose to sharpen just the blue channel, green channel, or the alpha channel.



Here is a recommended approach to sharpening images with Photoshop CC:

1 To begin, set Amount to a high value.

2 Increase the Radius to a value that introduces a halo effect.

3 Decrease the Radius until the halo effect disappers. You've arrived at the optimal value for Radius.

4 Now, decrease the value of Amount as necessary.

5 Adjust the Reduce Noise slider, such that the noise in the image looks similar to how it was before you began sharpening the image. Too much noise reduction can result in a plasticy look. Higher Amount values require greater noise reduction.

Sketch filters

Filters in the Sketch submenu add texture to images, often for a 3D effect. The filters also are useful for creating a finearts or hand-drawn look. Many of the Sketch filters use the foreground and background color as they redraw the image. All the Sketch filters can be applied through the Filter Gallery.

Bas Relief Transforms an image so that it appears carved in low relief and lit to accent the surface variations. Dark areas of the image take on the foreground color, and light colors use the background color.

Chalk & Charcoal Redraws highlights and midtones with a solid midtone gray background drawn in coarse chalk. Shadow areas are replaced with black diagonal charcoal lines. The charcoal is drawn in the foreground color; the chalk, in the background color.

Charcoal Creates a posterized, smudged effect. Major edges are boldly drawn, and midtones are sketched using a diagonal stroke. Charcoal is the foreground color, and the background is the color of the paper.

Chrome Renders the image as if it had a polished chrome surface. Highlights are high points, and shadows are low points in the reflecting surface. After applying the filter, use the Levels dialog box to add more contrast to the image.

Conté Crayon Replicates the texture of dense dark and pure white Conté crayons on an image. The Conté Crayon filter uses the foreground color for dark areas and the background color for light areas. For a true effect, change the foreground color to one of the common Conté Crayon colors (black, sepia, or sanguine) before applying the filter. For a muted effect, change the background color to white, add some of the foreground color to the white background, and then apply the filter.

Graphic Pen Uses fine, linear ink strokes to capture the details in the original image. The effect is especially striking with scanned images. The filter replaces color in the original image, using the foreground color for ink and the background color for paper.

Halftone Pattern Simulates the effect of a halftone screen while maintaining the continuous range of tones.

Note Paper Creates an image that appears to be constructed of handmade paper. This filter simplifies images and combines the effects of the Stylize > Emboss and Texture > Grain filters. Dark areas of the image appear as holes in the top layer of paper, revealing the background color.

Photocopy Simulates the effect of photocopying an image. Large dark areas tend to be copied only around their edges, and midtones fall away to either solid black or solid white.

Plaster Molds an image from 3D plaster, and then colorizes the result using the foreground and background color. Dark areas are raised, and light areas are recessed.

Reticulation Simulates the controlled shrinking and distortion of film emulsion to create an image that appears clumped in the shadows and lightly grained in the highlights.

Stamp Simplifies the image so that it appears to be created with a rubber or wood stamp. This filter is best used with black-and-white images.

Torn Edges Reconstructs the image so that it appears composed of ragged, torn pieces of paper, and then colorizes the image using the foreground and background colors. This filter is particularly useful for text or high-contrast objects.

Water Paper Uses blotchy daubs that appear painted onto fibrous, damp paper, causing the colors to flow and blend.

Stylize filters

The Stylize filters produce a painted or impressionistic effect on a selection by displacing pixels and by finding and heightening contrast in an image. After using filters like Find Edges and Trace Contour that highlight edges, you can apply the Invert command to outline the edges of a color image with colored lines or to outline the edges of a grayscale image with white lines.

Diffuse Shuffles pixels in a selection to soften focus according to the selected option: Normal moves pixels randomly (ignoring color values), Darken Only replaces light pixels with darker ones, and Lighten Only replaces dark pixels with lighter ones. Anisotropic shuffles pixels in the direction of the least change in color.

Emboss Makes a selection appear raised or stamped by converting its fill color to gray and tracing the edges with the original fill color. Options include an embossing angle (from -360° to recess the surface, to +360° to raise the surface), height, and a percentage (1% to 500%) for the amount of color within the selection. To retain color and detail when embossing, use the Fade command after applying the Emboss filter.

Extrude Gives a 3D texture to a selection or layer.

Find Edges Identifies the areas of the image with significant transitions and emphasizes the edges. Like the Trace Counter filter, Find Edges outlines the edges of an image with dark lines against a white background and is useful for creating a border around an image.

Glowing Edges Identifies the edges of color and adds a neon-like glow to them. This filter can be applied cumulatively.

Solarize Blends a negative and a positive image-similar to exposing a photographic print briefly to light during development.

Tiles Breaks up an image into a series of tiles, creating an offset between the selection and its original position. You can choose one of the following to fill the area between the tiles: the background color, the foreground color, a reverse version of the image, or an unaltered version of the image, which puts the tiled version on top of the original and reveals part of the original image underneath the tiled edges.

Trace Contour Finds the transitions of major brightness areas and thinly outlines them for each color channel, for an effect similar to the lines in a contour map.

Wind Places tiny horizontal lines in the image to create a windblown effect. Methods include Wind; Blast, for a more dramatic wind effect; and Stagger, which offsets the lines in the image.

Texture filters

Use the Texture filters to simulate the appearance of depth or substance, or to add an organic look.

Craquelure Paints an image onto a high-relief plaster surface, producing a fine network of cracks that follow the contours of the image. Use this filter to create an embossing effect with images that contain a broad range of color or grayscale values.

Grain Adds texture to an image by simulating different kinds of grain-Regular, Soft, Sprinkles, Clumped, Contrasty, Enlarged, Stippled, Horizontal, Vertical, and Speckle, available from the Grain Type menu.

Mosaic Tiles Renders the image so that it appears to be made up of small chips or tiles and adds grout between the tiles.

(In contrast, the Pixelate > Mosaic filter breaks up an image into blocks of different-colored pixels.)

Patchwork Breaks up an image into squares filled with the predominant color in that area of the image. The filter randomly reduces or increases the tile depth to replicate the highlights and shadows.

Stained Glass Repaints an image as single-colored adjacent cells outlined in the foreground color.

Texturizer Applies a texture you select or create to an image.

Video filters

The Video submenu contains the De-Interlace and NTSC Colors filters.

De-Interlace Smooths moving images captured on video by removing either the odd or even interlaced lines in a video image. You can choose to replace the discarded lines by duplication or interpolation.

NTSC Colors Restricts the gamut of colors to those acceptable for television reproduction, to prevent oversaturated colors from bleeding across television scan lines.

Other filters

Filters in the Other submenu let you create your own filters, use filters to modify masks, offset a selection within an image, and make quick color adjustments.

Custom Lets you design your own filter effect. With the Custom filter, you can change the brightness values of each pixel in the image according to a predefined mathematical operation known as convolution. Each pixel is reassigned a value based on the values of surrounding pixels. This operation is similar to the Add and Subtract calculations for channels.

You can save the custom filters you create and use them with other Photoshop images.

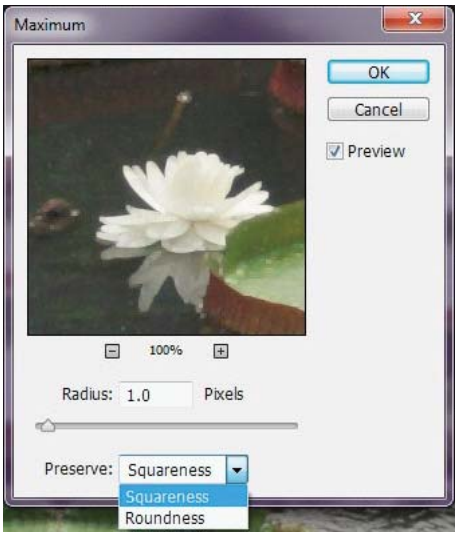
High Pass Retains edge details in the specified radius where sharp color transitions occur and suppresses the rest of the image. (A radius of 0.1 pixel keeps only edge pixels.) The filter removes low-frequency detail from an image and has an effect opposite to that of the Gaussian Blur filter.

It is helpful to apply the High Pass filter to a continuous-tone image before using the Threshold command or converting the image to Bitmap mode. The filter is useful for extracting line art and large black-and-white areas from scanned images.

Maximum and Minimum The Maximum and Minimum filters are useful for modifying masks. The Maximum filter has the effect of applying a spread (dilation)-spreading out white areas and choking in black areas. The Minimum filter has the effect of applying a choke (erosion)-shrinking white areas and spreading out the black areas. Like the Median filter, the Maximum and Minimum filters operate on selected pixels. Within a specified radius, the Maximum and Minimum filters replace the current pixel's brightness value with the highest or lowest brightness value of the surrounding pixels.

These filters, especially with larger radii, tend to promote either corners or curves in the image contours. In Photoshop CC, you can choose from the Preserve menu to favour squareness or roundness as you specify the radius value.

Offset Moves a selection a specified horizontal or vertical amount, leaving an empty space at the selection's original location. You can fill the empty area with the current background color, with another part of the image, or with your choice of fill if the selection is near the edge of an image.



Vanishing Point

The Vanishing Point feature preserves correct perspective in edits of images that contain perspective planes (for instance, the sides of a building or any rectangular object).

use an action panel and saving files in graphics formats

Objectives : At the end of this lesson you shall be able to
- **explain action and action panel**
- **explain save in TIFF, JPEG and PNG formats**
- **explain save in GIF, EPS, DCS and BMP formats.**

About actions

An action is a series of tasks that you play back on a single file or a batch of files-menu commands, panel options, tool actions, and so on. For example, you can create an action that changes the size of an image, applies an effect to the image, and then saves the file in the desired format.

Actions can include steps that let you perform tasks that cannot be recorded (for example, using a painting tool). Actions can also include modal controls that let you enter values in a dialog box while playing an action.

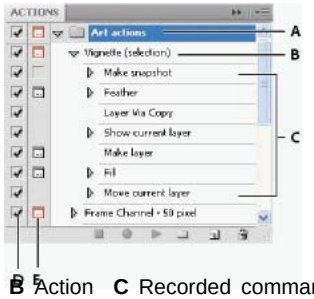
In Photoshop, actions are the basis for droplets, which are small applications that automatically process all files that are dragged onto their icon.

Photoshop and Illustrator come with predefined actions installed that help you perform common tasks. You can use these actions as is, customize them to meet your needs, or create new actions. Actions are stored in sets to help you organize them.

You can record, edit, customize, and batch-process actions, and you can manage groups of actions by working with action sets.

Actions panel overview

You use the Actions panel (Window > Actions) to record, play, edit, and delete individual actions. This panel also lets you save and load action files.



A Action set **B** Action **C** Recorded commands **D** Included command **E** Modal control (toggles on or off)

Expand and collapse sets, actions, and commands

- Click the triangle to the left of the set, action, or command in the Actions panel. Alt-click (Windows) the triangle to expand or collapse all actions in a set or all commands in an action.

View actions by name only

Choose Button Mode from the Actions panel menu. Choose Button Mode again to return to list mode. Note: You can't view individual commands or sets in Button mode.

Select actions in the Actions panel

Click an action name. Shift-click action names to select multiple, contiguous actions, and Ctrl-click (Windows) action names to select multiple, discontiguous actions.

Save in TIFF format

TIFF is a flexible raster (bitmap) image format supported by virtually all paint, image-editing, and page-layout applications.

Bit depth (32-bit only) Specifies the bit depth (16-, 24-, or 32-bit) of the saved image.

Image Compression Specifies a method for compressing the composite image data. If you're saving a 32-bit TIFF file, you can specify that the file be saved with predictor compression, but you don't have the option to use JPEG compression. Predictor compression offers improved compression by rearranging floating point values, and works with both LZW and ZIP compression.

JPEG compression is available only for opaque RGB and grayscale images that are 8-bits-per-channel and no more than 30,000 pixels wide or high.

Pixel Order Writes the TIFF file with the channels data interleaved or organized by plane. Previously, Photoshop always wrote TIFF files with the channel order interleaved. Theoretically, the Planar order file can be read and written faster, and offers a little better compression. Both channel orders are backward compatible with earlier versions of Photoshop.

Byte Order Selects the platform on which the file can be read. This option is useful when you don't know what program the file may be opened in. Photoshop and most recent applications can read files using either IBM PC or Macintosh byte order.

Save Image Pyramid Preserves multiresolution information. Photoshop does not provide options for opening multiresolution files; the image opens at the highest resolution within the file. However, Adobe InDesign and some image servers provide support for opening multiresolution formats.

Save Transparency Preserves transparency as an additional alpha channel when the file is opened in another application. Transparency is always preserved when the file is reopened in Photoshop.

Layer Compression Specifies a method for compressing data for pixels in layers (as opposed to composite data). Many applications cannot read layer data and skip over it when opening a TIFF file. Photoshop, however, can read layer data in TIFF files. Although files that include layer data are larger than those that don't, saving layer data eliminates the need to save and manage a separate PSD file to hold the layer data. Choose Discard Layers And Save A Copy if you want to flatten the image.

To have Photoshop prompt you before saving an image with multiple layers, select Ask Before Saving Layered TIFF Files in the File Handling area of the Preferences dialog box.

Save in JPEG format

You can use the Save As command to save CMYK, RGB, and grayscale images in JPEG (*.jpg) format. JPEG compresses file size by selectively discarding data. You can also save an image as one or more JPEG using the Save For Web & Devices command.

JPEG supports only 8-bit images. If you save a 16-bit image to this format, Photoshop automatically lowers the bit depth.

To quickly save a medium-quality JPEG, play the Save As JPEG Medium action on the file. You can access this action by choosing Production from the Actions panel menu.

Matte Offers matte color choices to simulate the appearance of background transparency in images that contain transparency.

Image Options Specifies the image quality. Choose an option from the Quality menu, drag the Quality pop-up slider, or enter a value between 0 and 12 in the Quality text box.

Format Options Specifies the format of your JPEG file. Baseline ("Standard") uses a format recognized by most web browsers. Baseline Optimized creates a file with optimized color and a slightly smaller file size. Progressive displays a series of increasingly detailed versions of the image (you specify how many) as it downloads. (Not all web browsers support optimized and Progressive JPEG images.)

Some applications may not be able to read a CMYK file saved in JPEG format. Likewise, if you find that a Java application can't read a JPEG file, try saving the file without a thumbnail preview.

Save in PNG format

You can use the Save As command to save RGB, Indexed Color, Grayscale, and Bitmap mode images in PNG format.

You can also save an image as one or more PNG files using the Save For Web & Devices command.

Save in GIF format

You can use the Save As command to save RGB, Indexed Color, Grayscale, or Bitmap mode images directly in CompuServe GIF (known as GIF) format. The image is automatically converted to Indexed Color mode.

GIF is only available when the image is 8 Bits/Channel (it only supports 8 Bit/Channel).

Normal Displays the image in a browser only when download is complete.

Interlaced Displays low-resolution versions of the image in a browser as the file downloads. Interlacing makes download time seem shorter, but it also increases file size.

You can also save an image as one or more GIF files using the Save For Web & Devices command.

Save in Photoshop EPS format

Virtually all page-layout, word-processing, and graphics applications accept imported or placed EPS (Encapsulated PostScript) files. To print EPS files, you should use a PostScript printer. Non-PostScript printers will print only the screen-resolution preview.

1 Choose File > Save As, and choose Photoshop EPS from the Format menu.

2 In the EPS Options dialog box, select the options you want, and click OK:

Preview Creates a low-resolution image to view in the destination application. Choose TIFF to share an EPS file between Windows and Mac OS systems. An 8-bit preview is in color and a 1-bit preview is in black and white with a jagged appearance. An 8-bit preview creates a larger file size than a 1-bit preview. See also Bit depth.

Encoding Determines the way image data is delivered to a PostScript output device. Encoding options are described below.

Include Halftone Screen and Include Transfer Function Control print specifications for high-end commercial print jobs. Consult your printer before selecting these options.

Transparent Whites Displays white areas as transparent. This option is available only for images in Bitmap mode.

PostScript Color Management Converts file data to the printer's color space. Do not select this option if you plan to place the image in another color-managed document.

Only PostScript Level 3 printers support PostScript Color Management for CMYK images. To print a CMYK image using PostScript Color Management on a Level 2 printer, convert the image to Lab mode before saving in EPS format.

Include Vector Data Preserves any vector graphics (such as shapes and type) in the file. However, vector data in EPS and DCS files is available only to other applications; vector data is rasterized if you reopen the file in Photoshop. This option is only available if your file contains vector data.

Image Interpolation Applies bicubic interpolation to smooth the low-resolution preview if printed.

Photoshop EPS encoding options

ASCII or ASCII85 Encodes if you're printing from a Windows system, or if you're experience printing errors or other difficulties.

Binary Produces a smaller file and leaves the original data intact. However, some page-layout applications and some commercial print spooling and network printing software may not support binary Photoshop EPS files.

JPEG Compresses the file by discarding some image data. You can choose the amount of JPEG compression from very little (JPEG Maximum Quality) to a lot (JPEG Low Quality). Files with JPEG encoding can be printed only on Level 2 (or later) PostScript printers and may not separate into individual plates.

Save in Photoshop DCS format

DCS (Desktop Color Separations) format is a version of EPS that lets you save color separations of CMYK or multichannel files.

1 Choose File > Save As, and choose Photoshop DCS 1.0 or Photoshop DCS 2.0 from the Format menu.

2 In the DCS Format dialog box, select the options you want, and click OK.

The dialog box includes all the options available for Photoshop EPS files. Additionally, the DCS menu gives you the option of creating a 72-ppi composite file that can be placed in a page-layout application or used to proof the image:

DCS 1.0 format Creates one file for each color channel in a CMYK image. You can also create a fifth file: a grayscale or color composite. To view the composite file, you must keep all five files in the same folder.

DCS 2.0 format Retains spot color channels in the image. You can save the color channels as multiple files (as for DCS 1.0) or as a single file. The single-file option saves disk space. You can also include a grayscale or color composite.

Save in Photoshop Raw format

The Photoshop Raw format is a file format for transferring images between applications and computer platforms. The Photoshop Raw format is not the same as camera raw.

1 Choose File > Save As, and choose Photoshop Raw from the Format menu.

2 In the Photoshop Raw Options dialog box, do the following:

- (Mac OS) Specify values for File Type and File Creator, or accept the default values.
- Specify a Header parameter.
- Select whether to save the channels in an interleaved or non-interleaved order.

Save in BMP format

The BMP format is an image format for the Windows operating system. The images can range from black-and-white (1 bit per pixel) up to 24-bit color (16.7 million colors).

Save in Cineon format (16-bit images only)

RGB images that are 16 bits per channel can be saved in Cineon format for use in the Kodak Cineon Film System.

- Choose File > Save As and choose Cineon from the Format menu.

Save in Targa format

The Targa (TGA) format supports bitmap and RGB images with 8 Bits/Channel. It is designed for Truevision® hardware, but it is also used in other applications.

1 Choose File > Save As, and choose Targa from the Format menu.

2 Specify a filename and location, and click Save.

3 In the Targa Options dialog box, select a resolution, select the Compress (RLE) option if you want to compress the file, and then click OK.

Printing from photoshop

Objectives : At the end of this lesson you shall be able to
- **explain about printing basics**
- **explain Printing with color Management**
- **explain Contact sheets and PDF presentation**
- **explain Printing spot colors**
- **explain Printing images to a commercial printing press**
- **explain print 3D objects.**

Printing basics

Whether you are printing an image to your desktop printer or sending it to a prepress facility, knowing a few basics about printing makes the print job go more smoothly and helps ensure that the finished image appears as intended.

Types of printing For many Photoshop users, printing a file means sending the image to an inkjet printer. Photoshop can send your image to a variety of devices to be printed directly onto paper or converted to a positive or negative image on film. In the latter case, you can use the film to create a master plate for printing by a mechanical press.

Types of images The simplest images, such as line art, use only one color in one level of gray. A more complex image, such as a photograph, has varying color tones. This type of image is known as a continuous-tone image.

Color separation Artwork intended for commercial reproduction and containing more than one color must be printed on separate master plates, one for each color. This process, called color separation, generally calls for the use of cyan, magenta, yellow, and black (CMYK) inks. In Photoshop, you can adjust how the various plates are generated.

Quality of detail The detail in a printed image depends on image resolution (pixels per inch) and printer resolution (dots per inch). Most PostScript laser printers have a resolution of 600 dpi, while PostScript imagesetters have a resolution of 1200 dpi or higher. Inkjet printers produce a microscopic spray of ink, not actual dots, resulting in an approximate resolution of 300 to 720 dpi.

About desktop printing

Unless you work in a commercial printing company or service bureau, you probably print images to a desktop printer, such as an inkjet, dye sublimation, or laser printer, not to an imagesetter. Photoshop lets you control how your image is printed.

Monitors display images using light, whereas desktop printers reproduce images using inks, dyes, or pigments. For this reason, a desktop printer can't reproduce all the colors displayed on a monitor. However, by incorporating certain procedures (such as a color management system) into your workflow, you can achieve predictable results when printing your images to a desktop printer. Keep these considerations in mind when working with an image you intend to print:

- If your image is in RGB mode, do not convert the document to CMYK mode when printing to a desktop printer. Work entirely in RGB mode. As a rule, desktop printers are configured to accept RGB data and use internal software to convert to CMYK. If you send CMYK data, most desktop printers apply a conversion anyway, with unpredictable results.
- If you want to preview an image as printed to any device for which you have a profile, use the Proof Colors command.
- To reproduce screen colors accurately on the printed page, you must incorporate color management into your workflow. Work with a monitor that is calibrated and characterized. Ideally, you should also create a custom profile specifically for your printer and the paper you print on, though the profile supplied with your printer can produce acceptable results.

Position and scale images

You can adjust the position and scale of an image using options in the Print dialog box. The shaded border at the edge of the paper represents the margins of the selected paper; the printable area is white.

The base output size of an image is determined by the document size settings in the Image Size dialog box. Scaling an image in the Print dialog box changes the size and resolution of the printed image only. For example, if you scale a 72-ppi image to 50% in the Print dialog box, the image will print at 144 ppi; however, the document size settings in the Image Size dialog box will not change. In the Print dialog box, the Print Resolution field at the bottom of the Position And Size section shows the print resolution at the current scaling setting.

Many third-party printer drivers provide a scaling option in the Print Settings dialog box. This scaling affects everything on the page, including the size of all page marks, such as crop marks and captions, whereas the scaling percentage provided by the Print command affects only the size of the printed image (and not the size of page marks).

To avoid inaccurate scaling, specify scaling using the Print dialog box rather than the Print Settings dialog box; do not enter a scaling percentage in both dialog boxes.

Print vector data

If an image includes vector graphics, such as shapes and type, Photoshop can send the vector data to a PostScript printer. When you choose to include vector data, Photoshop sends the printer a separate image for each type layer and each vector shape layer. These additional images are printed on top of the base image, and clipped using their vector outline. Consequently, the edges of vector graphics print at the printer's full resolution, even though the content of each layer is limited to the resolution of your image file.

Some blending modes and layer effects required rasterized vector data.

Photoshop determine printed colors

If you have a custom color profile for a specific printer, ink, and paper combination, letting Photoshop manage colors often produces better results than letting the printer manage colors.

1 Choose File > Print.

2 Expand the Color Management section at right.

3 For Color Handling, choose Photoshop Manages Colors.

4 For Printer Profile, select the profile that best matches your output device and paper type. If there are any profiles associated with the current printer, they are placed at the top of the menu, with the default profile selected.

The more accurately the profile describes the behavior of the output device and printing conditions (such as paper type), the more accurately the color management system can translate the numeric values of the actual colors in a document.

5 (Optional) Set any of the following options:

Rendering Intent Specifies how Photoshop converts colors to the destination color space.

Black Point Compensation Preserves the shadow detail in the image by simulating the full dynamic range of the output device.

6 (Optional) Below the print preview, select any of the following:

Match Print Colors Select to view image colors in the preview area as they will actually print.

Gamut Warning Enabled when Match Print Colors is selected. Select to highlight out-of-gamut colors in the image, as determined by the selected printer profile. A gamut is the range of colors that a color system can display or print. A color that can be displayed in RGB may be out of gamut for your current printer profile.

Show Paper White Sets the color white in the preview to the color of the paper in the selected printer profile. This produces a more accurate print preview if you're printing on off-white paper such as newsprint or art papers that are more beige than white. Since absolute white and black create contrast, less white in the paper will lower the overall contrast of your image. Off-white paper can also change the overall color cast of the image, so yellows printed on beige paper may appear more brown.

7 Access the color management options for the printer driver from the Print Settings dialog box, which automatically appears after you click Print.

- In Windows, click the Print Settings button to access the printer driver options.
- In Mac OS, use the pop-up menu from the Print Settings dialog box to access the printer driver options.

8 Turn off color management for the printer, so the printer profile settings won't override your profile settings.

Every printer driver has different color management options. If it's not clear how to turn off color management, consult your printer documentation.

9 Click Print.

Let printer determine printed colors

If you don't have a custom profile for your printer and paper type, you can let the printer driver handle the color conversion.

1 Choose File > Print.

2 Expand the Color Management section at right.

The Document Profile entry shows the profile embedded in the image.

3 For Color Handling, choose Printer Manages Colors.

4 (Optional) For Rendering Intent, specify how to convert colors to the destination color space. A summary of each option appears in the Description area at bottom.

Many non-PostScript printer drivers ignore this option and use the Perceptual rendering intent. (For more information, see About rendering intents)

5 Access the color management options for the printer driver from the Print Settings dialog box, which automatically appears after you click Print:

- In Windows, click Print Settings to access the printer driver options.
- In Mac OS, use the pop-up menu from the Print Settings dialog box to access the printer driver options.

Every printer driver has different color management options. If it's not clear how to turn on color management, consult your printer documentation.

6 Click Print.

Print a hard proof

A hard proof (sometimes called a proof print or match print) is a printed simulation of your final output on a printing press. A hard proof is produced on an output device that's less expensive than a printing press. Some inkjet printers have the resolution necessary to produce inexpensive prints that can be used as hard proofs.

1 Choose View > Proof Setup, and select the output conditions you want to simulate. You can do this using a preset or by creating a custom proof setup.

The view changes automatically according to the proof you choose. Choose Custom to create custom proof settings, which you must save so you can select them in the Proof Setup menu of the Print dialog box.

2 After you select a proof, choose File > Print.

3 Expand the Color Management section at right.

4 For Color Handling, choose Photoshop Manages Colors.

5 For Printer Profile, select the profile for your output device.

6 From the menu above the Proof Setup menu or Rendering Intent menu, select Hard Proofing.

The Proofing Profile entry below should match the proof setup you selected earlier.

7 (Optional) Set any of the following options.

Proof Setup Choose any customized proofs that exist locally on your hard drive.

Simulate Paper Color Simulates what colors look like on the paper of the simulated device. Using this option produces the most accurate proof, but it is not available for all profiles.

Simulate Black Ink Simulates the brightness of dark colors for the simulated device. Using this option results in more accurate proofs of dark colors, but it is not available for all profiles.

8 Access the color management options for the printer driver from the Print Settings dialog box, which automatically appears after you click Print.

- In Windows, click the Preferences button to access the printer driver options.
- In Mac OS, use the pop-up menu from the Print Settings dialog box to access the printer driver options.

9 Turn off color management for the printer so that the printer profile settings don't override your profile settings.

Every printer driver has different color management options. If it's not clear how to turn off color management, consult your printer documentation.

10 Click Print.

Contact Sheets and PDF Presentations

Contact Sheet II and PDF Presentation plug-ins in Photoshop CS6 and Photoshop CC are 64-bit compatible for optimal performance on modern systems.

Creating a contact sheet

1 Do either of the following:

- (Photoshop) Choose File > Automate > Contact SheetII.
- (Bridge) Select a folder of images or specific image files. From the Bridge menu, choose Tools > Photoshop> Contact Sheet II. Unless you select specific images, the contact sheet will include all the images currently displayed in Adobe Bridge. You can select a different images after the Contact Sheet II dialog box opens.

2 In the Contact Sheet II dialog box, specify the images to include by choosing an option from the Use menu. Note: If you select Bridge, all images currently in Bridge are used unless you selected images before choosing the Contact Sheet II command. Images in subfolders are not included.

3 In the Document area, specify the dimensions and color data for the contact sheet. Select Flatten All Layers to create a contact sheet with all images and text on a single layer. Deselect Flatten All Layers to create a contact sheet in which each image is on a separate layer and each caption is on a separate text layer.

4 In the Thumbnails area, specify layout options for the thumbnail previews.

- For Place, choose whether to arrange thumbnails across first (from left to right, then top to bottom) or down first (from top to bottom, then left to right).
- Enter the number of columns and rows that you want per contact sheet.
- Select Use Auto-Spacing to let Photoshop automatically space the thumbnails in the contact sheet. If you deselect Use Auto-Spacing, you can specify the vertical and horizontal space around the thumbnails.
- Select Rotate For Best Fit to rotate the images, regardless of their orientation, so they fit efficiently on a contact sheet.

5 Select Use Filename As Caption to label the thumbnails using their source image filenames. Use the menu to specify a caption font and font size.

6 Click OK.

Creating a PDF presentation

The PDF Presentation command lets you use a variety of images to create a multipage document or slide show presentation.

1 Choose File > Automate > PDF Presentation.

2 In the PDF Presentation dialog box, click Browse and navigate to add files to the PDF presentation. Select Add Open Files to add files already open in Photoshop.

Drag files up or down to reorder them in the presentation. If you want a file to appear more than once, select the file and click Duplicate.

3 Set Output and Presentation options. Then click Save.

PDF presentations are saved as generic PDF files, not Photoshop PDF files, and are rasterized when you reopen them in Photoshop.

Place multiple photos into a picture package

To use the optional Picture Package plug-in described below, first download it for Windows or Mac OS. You can also create picture and custom packages in Photoshop Lightroom, if you have it.

With the optional Picture Package plug-in, you can place multiple copies of an image on a single page, much as portrait studios do with school photos. You can also place different images on the same page. You can choose from a variety of size and placement options to customize your package layout.

1 Picture Package is an optional plug-in. Download and install it for Windows or Mac OS.

Run Photoshop in 32-bit mode (64-bit Mac OS only) .

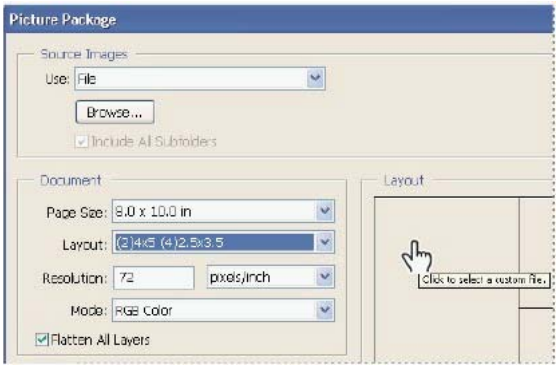
2 Do one of the following:

- (Photoshop) Choose File > Automate > Picture Package. If you have multiple images open, Picture Package uses the frontmost image.
- (Bridge) Choose Tools > Photoshop > Picture Package. The Picture Package command uses the first image listed in Bridge unless you select a specific image before giving the Picture Package command.

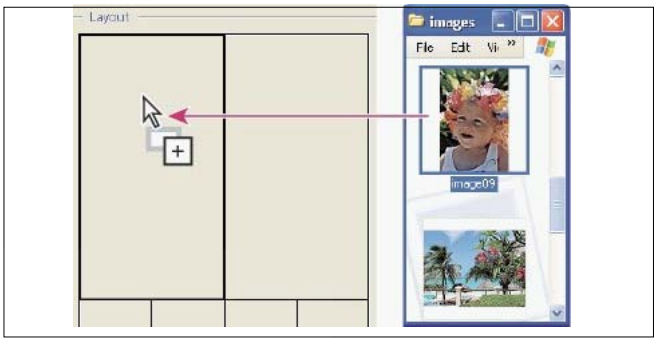
If you're using only the frontmost image or a selected image from Bridge, skip to step 3.

3 Add one or more images to the layout by doing one of the following:

- In the Source Images area of the Picture Package dialog box, choose either File or Folder from the Use menu and click Browse (Windows) or Choose (Mac OS). If you choose Folder, you can select Include All Subfolders to include images inside any subfolders.
- Click a placeholder in the preview layout and browse to select an image.



- Drag an image from the desktop or a folder into a placeholder.



You can change any image in the layout by clicking a placeholder and browsing to select an image.

4 In the Document area of the Picture Package dialog box, select page size, layout, resolution, and color mode. A thumbnail of the chosen layout appears on the right side of the dialog box.

5 Select Flatten All Layers to create a picture package with all images and label text on a single layer. Deselect Flatten All Layers to create a picture package with separate image layers and text layers (for labels). If you place each image and label on a separate layer, you can update your picture package after it's been saved. However, the layers increase the file size of your picture package.

6 In the Label area, choose the source for label text from the Content menu or choose None. If you choose Custom Text, enter the text for the label in the Custom Text field.

7 Specify font, font size, color, opacity, position, and rotation for the labels.

8 Click OK.

Spot colors

Spot colors are special premixed inks used instead of, or in addition to, the process color (CMYK) inks. Each spot color requires its own plate on the press. (Because a varnish requires a separate plate, it is considered a spot color, too.)

If you are planning to print an image with spot colors, you need to create spot channels to store the colors. To export spot channels, save the file in DCS 2.0 format or PDF.

Note the following when working with spot colors:

- For spot color graphics that have crisp edges and knock out the underlying image, consider creating the additional artwork in a page layout or illustration application.
- To apply spot color as a tint throughout an image, convert the image to Duotone mode and apply the spot color to one of the duotone plates. You can use up to four spot colors, one per plate.
- The names of the spot colors are printed on the separations.
- Spot colors are overprinted on top of the fully composited image. Each spot color is printed in the order it appears in the Channels panel, with the topmost channel printing as the topmost spot color.
- You cannot move spot colors above a default channel in the Channels panel except in Multichannel mode.
- Spot colors cannot be applied to individual layers.
- Printing an image with a spot color channel to a composite color printer will print the spot color at an opacity indicated by the Solidity setting.
- You can merge spot channels with color channels, splitting the spot color into its color channel components.

Create a new spot channel

You can create a new spot channel or convert an existing alpha channel to a spot channel.

1 Choose Window > Channels to display the Channels panel.

2 To fill a selected area with a spot color, make or load a selection.

3 Do one of the following to create a channel:

- Ctrl-click (Windows) or Command-click (Mac OS) the New Channel button in the Channels panel.
- Choose New Spot Channel from the Channels panel menu.

If you made a selection, that area is filled with the currently specified spot color.

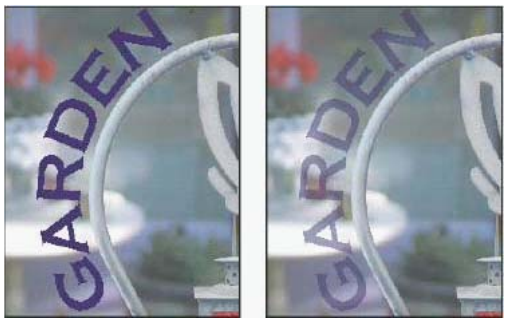
In the New Spot Channel dialog box, click the Color box. Then in the Color Picker, click Color Libraries to choose from a custom color system such as PANTONE or TOYO and choose a color.

4 Enter a name for the spot channel. If you choose a custom color, the channel automatically takes the name of that color.

Be sure to name spot colors so they'll be recognized by other applications reading your file. Otherwise the file might not print.

5 For Solidity, enter a value between 0% and 100%.

This option lets you simulate on-screen the density of the printed spot color. A value of 100% simulates an ink that completely covers the inks beneath (such as a metallic ink); 0% simulates a transparent ink that completely reveals the inks beneath (such as a clear varnish). You can also use this option to see where an otherwise transparent spot color (such as a varnish) will appear.



The Solidity and color choice options affect only on-screen previews and composite prints. They have no effect on printed separations.

Preparing images for press

From Photoshop, you can prepare image files for offset lithography, digital printing, gravure, and other commercial printing processes.

Generally, your workflow depends on the capabilities of the prepress facility. Before you begin a workflow for commercial printing, contact the prepress staff to learn their requirements. For example, they may not want you to convert to CMYK at any point because they may need to use prepress-specific settings. Here are some possible scenarios for preparing your image files to achieve predictable printing results:

- Work entirely in RGB mode and make sure that the image file is tagged with the RGB working space profile. If your printer or prepress staff use a color management system, they should be able to use your file's profile to make an accurate conversion to CMYK before producing the film and printing plates.
- Work in RGB mode until you finish editing your image. Then convert the image to CMYK mode and make any additional color and tonal adjustments. Especially check the highlights and shadows of the image. Use Levels, Curves, or Hue/Saturation adjustment layers to make corrections. These adjustments should be very minor. Flatten the file if necessary, then send the CMYK file to the professional printer.
- Place your RGB or CMYK image in Adobe InDesign or Adobe Illustrator. In general, most images printed on a commercial press are not printed directly from Photoshop but from a page-layout program like Adobe InDesign or an illustration program like Adobe Illustrator. For more information on importing Photoshop files into Adobe InDesign or Adobe Illustrator, see Adobe InDesign Help or the Adobe Illustrator Help.

Here are a few issues to keep in mind when you work on an image intended for commercial printing:

- If you know the characteristics of the press, you can specify the highlight and shadow output to preserve certain details.
- If you use a desktop printer to preview the appearance of the final printed piece, keep in mind that a desktop printer cannot faithfully replicate the output of a commercial printing press. A professional color proof gives a more accurate preview of the final printed piece.
- If you have a profile from a commercial press, you can choose it with the Proof Setup command and then view a soft proof using the Proof Colors command. Use this method to preview the final printed piece on your monitor.

Some printers may prefer to receive your documents in PDF format, especially if the documents need to conform to PDF/X standards.

Set output options

If you are preparing your images for commercial printing directly from Photoshop, you can select and preview a variety of page marks and other output options using the Print command. Generally, these output options should be specified only by prepress professionals or people knowledgeable about the commercial printing process.

A Gradient tint bar **B** Label **C** Registration marks **D** Progressive color bar **E** Corner crop mark **F** Center crop mark **G** Description **H** Star target

1 Choose File > Print.
2 Choose Output from the pop-up menu.
3 Set one or more of the following options:

Calibration Bars Prints an 11-step grayscale, a transition in density from 0 to 100% in 10% increments. With a CMYK color separation, a gradient tint bar is printed to the left of each CMYK plate, and a progressive color bar to the right. Note: Calibration bars, registration marks, crop marks, and labels are printed only if the paper is larger than the printed image.

Registration Marks Prints registration marks on the image (including bull's-eyes and star targets). These marks are used primarily for aligning color separations on PostScript printers.

Corner Crop Marks Prints crop marks where the page is to be trimmed. You can print crop marks at the corners. On PostScript printers, selecting this option will also print star targets.

Center Crop Marks Prints crop marks where the page is to be trimmed. You can print crop marks at the center of each edge.

Description Prints any description text entered in the File Infodialog box, up to about 300 characters. Description text is always printed in 9-point Helvetica plain type.

Labels Prints the file name above the image. If printing separations, the separation name is printed as part of the label.

Emulsion Down Makes type readable when the emulsion is down-that is, when the photosensitive layer on a piece of film or photographic paper is facing away from you. Normally, images printed on paper are printed with emulsion up, with type readable when the photosensitive layer faces you. Images printed on film are often printed with emulsion down.

Negative Prints an inverted version of the entire output, including all masks and any background color. Unlike the Invert command in the Image menu, the Negative option converts the output, not the on-screen image, to a negative. If you print separations directly to film, you probably want a negative, although in many countries film positives are common. Check with your print shop to determine which is required. To determine the emulsion side, examine the film under a bright light after it has been developed. The dull side is the emulsion; the shiny side is the base. Check whether your print shop requires film with positive emulsion up, negative emulsion up, positive emulsion down, or negative emulsion down.

Background Selects a background color to be printed on the page outside the image area. For example, a black or colored background may be desirable for slides printed to a film recorder. To use this option, click Background, and then select a color from the Color Picker. This is a printing option only; it does not affect the image itself.

Border Prints a black border around an image. Type a number and choose a unit value to specify the width of the border.

Bleed Prints crop marks inside rather than outside the image. Use this option to trim the image within the graphic. Type a number and choose a unit value to specify the width of the bleed.

Interpolation Reduces the jagged appearance of a low-resolution image by automatically resampling up while printing (on PostScript printers). Resampling may reduce the sharpness of the image quality.

Print separations from Photoshop

When preparing your image for prepress and working with CMYK images or images with spot colors, you can print each color channel as a separate page.

Separations from CMYK, Duotone, or multi-channel documents printed on non-PostScript printers may not be identical to those printed on PostScript printers.

If you are printing an image from another application and want to print spot channels to spot color plates, you must first save the file in DCS 2.0 format. DCS 2.0 preserves spot channels. This format is supported by applications such as Adobe InDesign and QuarkXPress.

1 Make sure that your document is in CMYK Color, Multichannel, or Duotone mode, and then choose File> Print.

2 Choose Separations from the Color Handling drop-down menu.

Depending on the designated printer and printer drivers on your computer, these options may also appear in the Print Settings dialog box. In Windows, click the Properties button to access the printer driver options; in Mac OS, use the pop-up menu in the Print Settings dialog box that appears.

3 Click Print. Separations are printed for each of the colors in the image.

Print separations from Photoshop

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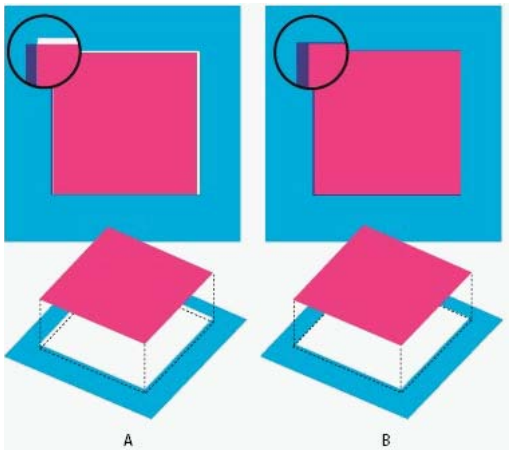
If you are printing an image from another application and want to print spot channels to spot color plates, you must first save the file in DCS 2.0 format. DCS 2.0 preserves spot channels. This format is supported by applications such as Adobe InDesign and QuarkXPress.

Create a color trap

A trap is an overlap that prevents tiny gaps in the printed image caused by a slight misregistration on press. Contact your service provider before you do any trapping. In most cases, your print shop determines whether trapping is needed. If so, the print shop staff will tell you what values to enter in the Trap dialog box.



A Misregistration with no trap **B** Misregistration with trap

Trapping is intended to correct the misalignment of solid colors. In general, you don't need traps for continuous-tone images such as photographs. Excessive trapping may produce an outline effect. These problems may not be visible onscreen and might show up only in print. Photoshop uses standard rules for trapping:

- All colors spread under black.
- Lighter colors spread under darker colors.
- Yellow spreads under cyan, magenta, and black.
- Pure cyan and pure magenta spread under each other equally.

Determine scan resolution for printing

You can use a number of techniques to determine the resolution at which to scan a photograph. If you are scanning photos to be printed, and you know the exact size and the printing screen frequency, you can use the following techniques to determine the scanning resolution. Often it is easiest to scan at your scanner's maximum optical resolution and then resize the image in Photoshop later.

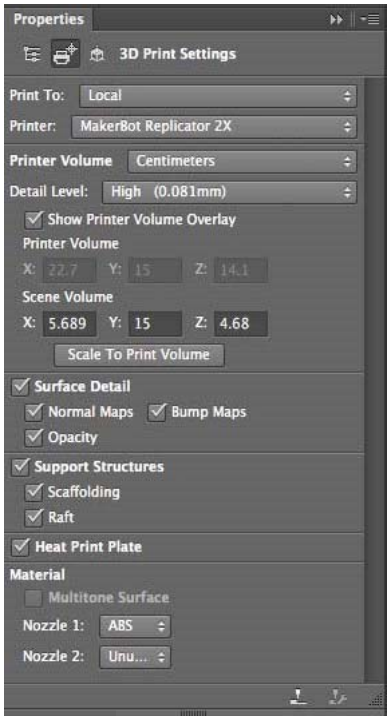
Print 3D objects

With Photoshop, you can print any compatible 3D model without worrying about 3D printer limitations. In preparation for printing, Photoshop automatically makes 3D models watertight. Photoshop also generates the necessary support structures-scaffolding and rafts-to ensure that your 3D prints are successful.

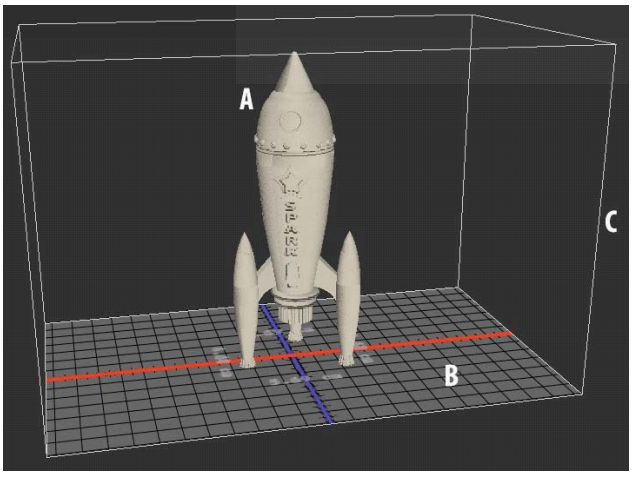
Preparing to print 3D objects

1 Select Window > Workspace > 3D to switch to the 3D workspace.
2 Open the 3D model in Photoshop. If necessary, customize the size of the 3D model while opening it.

3 Select 3D > 3D Print Settings.



- In the 3D Print Settings panel, choose whether you want to print to a printer connected to your computer through a USB port (local printer) or use an online 3D printing service, such as Shapeways.com or Sculpteo.
- Select a local printer or a Shapeways.com printer profile.
- Select a unit for the printer volume-inch, centimeter, millimeter, or pixel. The unit is reflected in the Printer Volume dimensions as well as the print plate measurements.



A 3D model B Print plate C Printer volume overlay

1 Select a Detail Level-Low, Medium, or High-for the 3D print. The time required to print the 3D object depends on the detail level that you choose.

2 If you don't want to see the 3D printer volume overlaid on the 3D model, deselect Show Printer Volume Overlay.

- Adjust the Scene Volume dimensions to specify the desired size of the printed 3D object. When you change a value (X, Y, or Z), the other two values are scaled proportionately. As you modify the Scene Volume dimensions, notice that the print plate under the 3D model scales in proportion.

1 Choose Scale To Print Volume if you want Photoshop to auto-scale your 3D model, such that it fills up the available print volume of the selected printer.

2 If the 3D model has normal maps, bump maps, or opacity maps; you can choose to ignore one of more types of these maps while printing the model. You'll notice that the 3D model updates in real time when you change these Surface Detail settings.

3 You may choose to not print the support structures (scaffolds or rafts) required for the 3D object. Use this option with caution, since the printing of the 3D model may fail if you don't print a necessary support structure.

4 If your printer supports multiple materials, choose the material that you want to use for printing the 3D object.

3D print utilities

Photoshop provides interactive wizard-based utilities that you can use for configuring, calibrating, and maintaining your 3D printer. You can use these utilities only when the 3D printer is powered on and connected to your computer.

1 Select 3D > 3D Printer Utilities.

2 Select the utility that you want to launch.

Calibrate Print Plate Helps level the print plate. This utility performs the following broad steps:

- Prompts you to remove any leftover printing material from the 3D printer
- Initializes the print head
- Lets you adjust/finetune the gap between the print plate and the print head for nine nozzle positions You can use this utility in the wizard mode or in the manual mode.

Load Filament Helps load a filament into a fused deposition modeling (FDM) 3D printer. Photoshop initiates the headheating process and the filament-loading mechanism for easy filament loading.

Remove Filament Helps remove a filament from an FDM 3D printer. Photoshop initiates the head-heating process and the filament-loading mechanism for easy filament removal.

Change Filament Helps replace the filament of an FDM 3D printer with a new filament. Photoshop initiates the headheating process and the filament-loading mechanism for easy filament changing.

- Follow the onscreen instructions.

Pack objects on the ground plane

At times, you may want to print multiple instances of the same object on the same build plate. Follow these steps:

1 Select the required objects in the 3D Panel.

2 Select 3D > Pack Objects On Ground Plane.

3 Proceed with printing the objects.

Introduction to graphic design and Corel draw

Objectives: At the end of this lesson you shall be able to
- **explain graphic design and elements of design**
- **explain features of the CorelDraw**
- **state the require configuration of CorelDraw to install in your PC**
- **explain the CorelDraw workspace tools**
- **state the options to create New documents.**

Basic design

Design is an organized plan for a definite purpose of function. Designing is not mere drawing or use of pen pencil in a drawing to show how something is to be made pleasing to the eye. It is a mental activity to create an idea for communication. Communication by vision is the scope of designing, particularly in printing. Graphic design is the communication of idea visualized in the art of printing.

The creative process underlying the fabrication of a satisfactory pattern in visualizing an idea is called a design. The object of design is to transfer the idea from one's mind to that of the reader. To this end, he selects elements and arranges them in a structure. Thus, design is the process of creating, evaluating, selecting and arranging the elements which make up a printed page. It is an artful scheming of ideas.

Design is a complex combination of many forces; the designer's taste, talent, experience and his knowledge. It is creative and intuitive; and so it defies scientific analysis and formulae. It is helpful to study the broad principles of design to form a frame of reference. It involves various principles and stages of work. When we know the principles we can use them spontaneously and effectively. Thus the design to be produced is presented in the form of a layout containing all the elements and the necessary information, based on the various principles of proportion, harmony, contrast, balance, rhythm, movements, etc.

Basic principles of design

Every job is different. Each job is made to fit its particular requirements. Art and its principles should be adapted to the specific hob at hand. There are no absolute laws and principles that govern the art of printing. Printing is an art preservative of all arts. A till, for better judgment and effective reproduction the following principles provide an approximate answer to the basic rules of typography for the production of artistic ideas and their reproduction.

Application of general principles are essential in printing as in any form of art, like architecture, manufacturing etc. The basic principles that govern a typographic design while planning for a job, are proportion, harmony, contrast, balance, rhythm and movement.

Proportion

Proportion may be defined as the relation of width to length or area to area as applied to typographic design. Good proportion is important at the start, in planning the shape of the page or any job. Good proportion can again be defined as a pleasing inequality in the parts of a whole setting.

Contrast

In many forms of communication some parts must be stressed more than the others. Contrast is a factor of emphasis. It is the most potent tool for bringing the essential into sharp focus. Contrast can be achieved by applying polarities. Polarities of shape, size, tone, texture and direction give contrast in size, tone, texture and direction.

Contrast is opposition, conflict or variety. It is the dynamic essence that dramatizes and stimulates interest in a printed matter. Contrast not only relieves the monotony, but also allows for inflection and stress to impart the proper meaning in a matter. If there is no contrast, there would be no display, because the entire piece would be dry or monotonous without contrast. Therefore we can say contrast is display. Contrast also extends to other dimensions such as tone, direction, size and shape.

Contrast in tone: The dullness of a figure is brightened by tonal accent, giving greater contrast. For example contrast in texture, contrast in direction. The major aim in contrasting direction is to guide the readers eye through the message. Horizontal, vertical, left oblique and right oblique are the contrast in direction applied in placing lines or masses of elements in a job.

Contrast in values: Obtained when light colours are placed by the side of a dark colour. Because value shows how strongly a colour is coloured.

Contrast in chroma: It is a dull colour placed by the side of a bright colour. Chroma is that property explaining the brilliance or brightness of a colour.

Contrast in spreading effect: It is achieved when a colour is placed against a black background or when a colour is seen against a white background. Because colour is affected also by its immediate surrounding.

Balance

Balance exists when the elements are placed with a sense of equilibrium. That is the weight of the elements counteract, so that they are seen settled or pleasing wherever they are placed. Large elements, the other factors being equal appear heavier. Irregular shapes give

greater weight than regular. Dark elements outweigh light ones, though a small dark element can appear heavier than a large tint; heavier than a large but lighter mass.

Two distinct styles of balance

Symmetrical and Asymmetrical balance

Symmetrical balance

Early printers, until the past century displayed type matter by centering each line and each word to the measure. All units placed in equal balance of weight, shape, size and colour on either side of the vertical axis of a page.

Thus a perfectly symmetrical and classical effect is obtained. This is the style of the past. It is conventional, static, formal, classical and traditional. In one way man's, orientation towards sense of balance is very much limited in this type of balance.

Asymmetrical balance:

Unequal forces or elements are place at unequal distance from the centre to get a asymmetrical balance. Vertical axis, gives asymmetrical balance. It is obtained by accentuating the display elements properly on either side of the vertical axis in unequal distances and unequal forces.

Unequal forces, elements, shapes and colours are positioned and balanced aesthetically. It is informal dynamic and modern. This is the new typography. It is beautifully simple, elegant and logical. It produces and impression of rhythm and movement.

A major difference between the two kinds of balance lies in the use of white space. Space in a symmetrical balance is a passive element. Here space on the page serves only as a background against which type elements are placed.

More importance is given to the elements or matter. Each line is centered with equal amount of white space on either side.

Space has a dominant role in asymmetrical balance. Here there is a more interesting and unequal division of spaces with contrasting shapes of elements. It is a speciality of asymmetrical balancing to use excess white space surrounding the matter. It will represent an object or element clearly and boldly, with no object to detract from it, or to divide the observers attention. It concentrates the attention of the reader to the focal point.

Space cannot be used at random. Proper, artistic and balanced usage of space can create a marvelous effect on the reader.

Repetition

Repetition is a common technique used in typographic design to improve the visual impact. Repetition of elements or units show only difference in space, the matter being the same. Hence it can be monotonous.

Repetition is commonly used in printing as a background or tint. The name of a firm, product, or even tickets, currencies and bank notes generally use this principle to improve the quality and maintain a unique identity. In advertisement, repetition is a common principle for attracting the viewer and to emphasize the main idea. In a book the name is repeated on every page as running head for maintaining the identity. On packages and cartons also the name of the firm or product is repeatedly used to attract the readers and prospective buyers.

Repeated request or vision definitely creates an impact on the viewer. Thus the idea will remain longer in the mind and later prompt him to action, i.e. to buy a product or to follow an idea or message.

Movement

Every act of reading involves the sense of movement. The eye moves from left to right and from top to bottom. The designer devotes a considerable time to individual part of his effort, but the reader tends to scan the total layout for an overall impression. Still it is important to consider the eye movement and tendencies of the reader as he scans a page, a spread of pages or advertisement. Intermingling of units of varying shape, size, tone, colour etc., causes movement of eye from one position to the other; and the important units striking the reader than the less important ones. It is up to the designer to place and position the units creating effective movements.

To be able to judge the effectiveness of typographic designs in the light of conventional styles rules it is advisable to have atleast an elementary knowledge of the principles of display.

This will enable one to judge where in his works conform or fail to conform the accepted standards of design and art. It is only by such study, comparison, and experimentation that improvement is possible. During the actual work of designing all these principles should arise to guide the mind and hand of the designer or typographer.

Elements of design

Photographs

Photography was invented in the early 19th century, and the photographic industry as such, began in 1870s. The advent of practical photography provided two vital factors in the field of graphic arts.

The ability to produce a factual image of subject matter and

The ability to produce a printing plate-thereby eliminating the necessity for the artist to work directly on the printing plate. When type and crude woodcuts were the only printing materials available words were of primary importance. Then for a long time the primary visual treatment was hand drawn illustrations. Gradually photography and its reproductive techniques advanced and it began to assume a more important role.

Advantages:

Photographs present the message in a codified form

It gives a factual documentation of the subject

It helps all methods of graphic reproduction

Special effects can be brought about to convey a message more effectively

It makes design production quicker, simpler and economic Photographs can vividly and directly translate the idea from picture to the mind of the viewer.

Enlargement, reduction, special effects, tinting etc. are made possible in design production.

In modern printing photographs have helped the emergence of the picture magazines and even picturesque daily newspapers. Thus the impact of photo-journalism and their influence changed the face of existing publication. The revolution existing to almost every form of visual presentation such as advertising, book newspaper, direct mail, hoardings and so on. Digital imaging has also brought in tremendous improvements in the use of photographs in graphic reproduction.

Enlargement and reduction

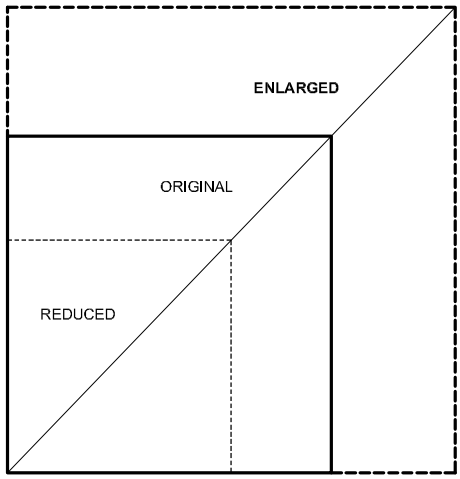
Computer adaptation in the printing industry has made enlargement and reduction of any material instantaneous at the click of a mouse. Yet it is good to understand the basic principles involved in the proportionate enlargement or reduction.

The proportionate enlargement or reduction of a photograph or illustration lies along its diagonal.

A photograph may be enlarged to any desired size by drawing a diagonal line on the translucent cover sheet placed over it. Extend the diagonal line from the left hand top to the right-hand bottom of the sheet across the image. The diagonal will mark the point where the side edges of the enlargement or reduction intersect.

Select the desired height or width and draw a straight line from one edge to the other; where this line meets the diagonal line will mark the cross line of the other dimension.

Fig 1



Texture, photography, drawing

There are three technical aids that are used in design production to acquire special effects and to communicate the idea more realistically and effectively. They improve clarity and sometimes introduce illusory dimension to the drawing or illustration. But they should not be used merely of confusion.

Texture

Texture or pattern can be created in different methods. Patterned pen or brush stokes, special shaded films or papers, pattern screens, etc. are some of the equipments that have been designed to aid in the rendering of such tonality and texture. These are not used at random, but to create a desired, effect in the mind of reader for easy communication. A texture or tone, for example, can be used to form transition between black and white areas in line drawing.

Photography

Photography and its techniques are widely used today in design production along with text matter. The following are some of the common techniques that are employed today:

Black and white conversion, conversion of a continuous tones; also called posterization.

Line conversion

Usage of single line screen, vertical, horizontal or concentric mezzo tint screen, creating a random grain pattern.

Coarse dot screen

Due tone, two half tone plates are made for each colour at two different angles and printed.

Fake due tone printing a colored tint behind a black halftone, the screen tint being uniform

While using these aids care should be taken that the figures do not loose their identity. Modern computers provide tools and operations for special effects in photographs.

Drawing

Drawing supplements the designers work in the illustrations. Without drawing there cannot be design and printing. Artists employ various equipments to get drawing with special finish; pen, nip, air-brush etc. A drawing can be continuous tone, fully line drawing and sometimes combination of both line and continuous tone.

A continuous tone is the gradual flow of one tone into another known as blending. This can be in black and white or in colour. Pencil, pastel and wash drawing, oil painting or acrylic paintings. All fall in this category. Full line work is easy for reproduction, like cartoons, lettering, borders, decorations etc. A combination drawing has both line and tone elements. So it has to be printed partially as line and partially as halftone.

"One picture is worth a thousand words," it is said. Illustration explicitates and amplifies communication. Illustrate people or people of low educational standards and even those who cannot follow a particular language is able

to understand easily the idea or message intended from an illustration. An illustration makes the design effective, self explanatory and free from doubt. Illustration has an instant impact and lasting effect than a mere type matter. Hence children's books are illustrated in multi-colours. It can explain things which cannot be described by words. Strip cartoon is a very good example of effective use of illustration, used even to communicate serious messages.

Illustrations in modern advertisements and posters are effective selling agents. Attractive illustrations of models and objects make the advertisement vivid and communication quicker. A pictorial element on a poster allows far greater latitude for conveying the idea than does the lettering alone. Sometimes pictures may represent something old or fantastic or even absurd; such as a little mouse chasing a lion, a lion smoking a cigar etc, with an element of surprise. If anything that is primarily for a "quick look" audience, it must be designed with the aid of illustration to arrest the attention by sheer visual impact.

Illustration in design

Picture is assuming more meaning and has become inseparable from words. Illustrations form part of the text and indeed it is a close companion of printed word, we can say. From the history of typography itself there was an evolution of the typographic methods of illustration from woodcut to lithography, form lithography to planography and to the digital graphic reproduction methods. Today the modern lithographic aided printing stands a boon to the abundant use of illustrations in multi colours to convey the message in the most effective manner.

Type, illustration and decoration and their relationship

Type, illustration and decoration are the three basic components of any printed matter. Types translate the communication from idea to a visible form: illustration makes it vivid, while ornaments stand as secondary elements to beautify the printed matter. Each one has its role to play. But it requires great ingenuity and care to achieve maximum effect out of each, by using them in harmony and mutual agreement.

Type

Typography has grown so much that it can translate any idea into type. The characters displayed today in everything, from hand bills to bill boards, reveal the extraordinary versatility of letter forms. They are available in so many varieties, degrees and combinations of spirit, timeliness and even sex. Some are easy to read and convey the message meaning with its peculiar look and form. Others are strikingly different and ornamental. Some depict bold and manly characters, while the others are tender, delicate and feminine. They are designed to achieve all sorts of effects. The great variety and versatility of typography demands a real knowledge about it and its appropriate use in agreements with the rest of the elements with the rest of the elements in the matter, considering the subject, scope, the readers, their age group, the time of publication etc.

Illustration

Appropriate use of illustration can amplify the communication and convey the message quickly. Illustration makes the type matter fully comprehensible and useful. But the problem lies in the technique of arranging the text and picture as a flowing and continuous story. This requires great care and an aesthetic mind. It is not enough that the picture agrees with the type matter as far as its message is concerned. An illustration should agree with the text in its tone, texture, balance and style.

Decorations

Ornaments and borders are decorative elements. They have useful purpose in typographic design, though they are only secondary or supplementary elements. They can attract attention, catch the eye of the reader and can unify individual unites into a whole. Decoration apart from the above function can also stand for a particular time, period and history.

Decoration for the sake of decoration will mar the beauty instead of making it. A decoration should be used only if it adds to the effectiveness of the printed message. Modern use of decoration is limited to simple rules, lines and light borders. Simplicity is the style of the day.

Only a skilled and imaginative designer can use types, illustration and decorative elements in perfect harmony to deliver the message of the piece and to interpret the them to suit the aim of the printed item. Type should be chosen to suit the purpose of the other two items, illustration and decoration. And they should be in sympathy with the type matter too.

Decorative elements

Text composition is designed for sustained for reading and display composition for reading at a glance. The selection and arrangement of type for display differs in function, and for mechanical reasons the technique of display composition is often different from that of text design. The very term 'display' suggests an element of show, or of decoration. The best display work is that which fulfills the primary object of all typography, communication and in addition is touched (but not too heavily) with creative originality. So decorative elements are common in display works.

Decorative material is of several kinds. Rules of several varieties such as thick, thin, diamond, hyphen, wavy, dotted or even other fancy rules, borders and ornaments can be used to obtain special effects.

Rules are strips which print a straight line, and which may be cast or cut to any length without affecting the design. Plain rules, which print a single, uninterrupted straight line, may be almost of any thickness. A few rules are of hair-line thickness. Next in thickness is a column-face rule, normally used to separate columns of text when two or more stand side by side. A medium rule is a point across the printing surface, and thereafter rules are quite closely graduated in size. The body of a rule is usually not less than 1.5 point, so that rules set side by side have some space between them.

A border is a repeated decorative design. The origin of some of these designs are centuries old. Others which are all too rarely used, have a genuinely modern appearance. Border units tend to be unimpressive when seen singly in a specimen book; but the most astonishing patterns can result from an imaginative use of them.

The most neglected source of decoration for books is the skill and invention of the graphic artist. Display lines can be written by a calligrapher; border, and rules drawn by hand by an artist with a talent for decoration or from a computer task bar.

Decorative elements can serve many useful purpose if they are used effectively.

They attract the attention, giving the other elements together to deliver the message well.

Give unity and individuality to a type composition, for example, a border acts as a frame around the display and brings the scattered elements into the picture.

They have a decorative and illustrative value.

They can create an atmosphere and mood peculiar to them.

They can illustrate a period and historical or periodic motifs.

They balance and counter balance in the placement of various elements in a layout.

Computer Graphics

Computer Graphics are classified into three types Vector Graphics, Raster Graphics and Encapsulated Post Script Files. In Vector Graphics Illustrations are formed using geometric shapes or mathematical expressions. The illustrations in Vector Graphics are also known as Drawings, Objects or Line arts.

CorelDraw

CorelDRAW is a vector graphics editor developed and marketed by Corel Corporation,Canada. It is also the name of Corel's Graphics Suite, which bundles CorelDraw with a bitmap image editor, Corel PhotoPaint, and other graphics-related programs. The latest version is designated X6 (equivalent to version 16), and was released in March 2012.

History

In 1987, Corel hired software engineers Michel Bouillon and Pat Beirne to develop a vector-based illustration program to bundle with their desktop publishing systems. That program, CorelDRAW, was initially released in 1989. CorelDRAW 1.x and 2.x runs under Windows 2.x and 3.0. CorelDRAW 3.0 came into its own with Microsoft's release of Windows 3.1. The inclusion of TrueType in Windows 3.1 transformed CorelDRAW into a serious illustration program capable of using system-installed outline fonts without requiring third-party software such as Adobe Type Manager; paired with a photo editing program (PhotoPaint), a font manager and several other pieces of software, it was also part of the first all-in-one graphics suite.

Features

Supported Platforms

CorelDRAW was originally developed for Microsoft Windows 3 and currently runs on Windows XP, Windows Vista, and Windows 7.[26] The current version, X6, was released on 20 March 2012.

Versions for Mac OS and Mac OS X were at one time available, but due to poor sales these were discontinued. The last port for Linux was version 9 (released in 2000, it didn't run natively; instead, it used a modified version of Wine to run) and the last version for OS X was version 11 (released in 2001). Also, up until version 5, CorelDRAW was developed for Windows 3.1x, CTOSand OS/2.

Problems installing or running older versions of Corel Draw under Windows 7 may be overcome by using Microsoft's "Troubleshoot Compatibility" - right-click on the setup.exe file on the installation disk to select this facility (tested on version 12 with Windows 7, where previous attempts without Microsoft "Troubleshoot Compatibility" failed).

Characteristic features

Several innovations to vector-based illustration originated with CorelDRAW: a node-edit tool that operates differently on different objects, fit text-to-path, stroke-before-fill, quick fill/stroke color selection palettes, perspective projections, mesh fills and complex gradient fills.

CorelDRAW differentiates itself from its competitors in a number of ways:

The first is its positioning as a graphics suite, rather than just a vector graphics program. A full range of editing tools allow the user to adjust contrast, color balance, change the format from RGBto CMYK, add special effects such as vignettes and special borders to bitmaps. Bitmaps can also be edited more extensively using Corel PhotoPaint, opening the bitmap directly from CorelDRAW and returning to the program after saving. It also allows a laser to cut out any drawings.

CorelDRAW is capable of handling multiple pages along with multiple master layers. Multipage documents are easy to create and edit and the Corel print engine allows for booklet and other imposition so even simple printers can be used for producing finished documents. One of the useful features for single and multi-page documents is the ability to create linked text boxes across documents that can be resized and moved while the text itself resets and flows through the boxes. Useful for creating and editing multi-article newsletters etc.

Smaller items, like business cards, invitations etc., can be designed to their final page size and imposed to the printer's sheet size for cost-effective printing. An additional print-merge feature (using a spreadsheet or text merge file) allows full personalization for many things like numbered raffle tickets, individual invitations, membership cards and more.

CorelDRAW's competitors include Adobe Illustrator and Xara Photo & Graphic Designer. Although all of these are vector-based illustration programs, the user experience differs greatly between them. While these programs will

read their native file types and vice versa, the translation is rarely perfect. CorelDRAW can open Adobe PDF files: Adobe PageMaker, Microsoft Publisher and Word, and other programs can print documents to PDF using the Adobe PDFWriter printer driver, which CorelDRAW can then open and edit every aspect of the original layout and design. CorelDRAW can also open PowerPoint Presentations and other Microsoft Office formats with little or no problem.

CorelDraw Graphic Suite

Over time, additional components were developed or acquired and bundled with CorelDRAW. The list of bundled packages usually changes somewhat from one release to the next, though there are several mainstays that have remained in the package for many releases now, including PowerTRACE (a bitmap to vector graphic converter), PHOTO-PAINT (a bitmap graphic editor), and CAPTURE (a screen capture utility).

The current version of CorelDRAW Graphics Suite X6 (version 16), contains the following packages:

- CorelDRAW X6, an intuitive vector-illustration and page-layout application
- Corel PHOTO-PAINT X6, an image-editing application
- Corel PowerTRACE X6, a utility to convert bitmaps into editable vector graphics
- Corel CONNECT, a full-screen browser to search the suite's digital content
- Corel CAPTURE X6, a screen capture utility
- Corel Website Creator X6, new website creation software

CDR file Format

CDR file format is a proprietary file format developed by Corel Corporation and primarily used for vector graphic drawings. There is no publicly available CDR file format specification.

Other CorelDRAW file formats include CorelDRAW Compressed (CDX), CorelDRAW Template (CDT) and Corel Presentation Exchange (CMX).

In December 2006 the sK1 open source project team started to reverse-engineer the CDR format. The results and the first working snapshot of the CDR importer were presented at the Libre Graphics Meeting 2007 conference taking place in May 2007 in Montreal (Canada). Later on the team parsed the structure of other Corel formats with the help of the open source CDR Explorer. As of 2008, the sK1 project claims to have the best import support for CorelDRAW file formats among open source software programs. The sK1 project developed also the UniConvertor, a command line open source tool which supports conversion from CorelDRAW ver.7-X4 formats (CDR/CDT/CCX/CDRX/CMX) to other formats. UniConvertor is also used in Inkscape and Scribus open source projects as an external tool for CorelDRAW files importing.

In 2007, Microsoft blocked CDR file format in Microsoft Office 2003 with the release of Service Pack 3 for Office 2003. Microsoft later apologized for inaccurately blaming the CDR file format and other formats for security problems in Microsoft Office and released some tools for solving this problem.

In 2012 the joint LibreOffice/re-lab team implemented libcdr, a library for reading CDR files from v1 to the currently latest X6 version and CMX files. The library has extensive support for shapes and their properties, including support for color management and spot colors, and has a basic support for text. The library provides a built-in converter to SVG, and a converter to OpenDocument is provided by writerperfect package. The libcdr library is expected to be used in LibreOffice 3.6, and thanks to public API it can be freely used by other applications.

Support in other applications

CDR file format import is partially or fully supported in following applications:

- Adobe Illustrator
- CorelDraw 5, 6, 7, 8, 9, 10
- Corel PaintShop Photo Pro
- Corel WordPerfect Office
- Inkscape with UniConvertor installed; partial support
- LibreOffice with libcdr installed - CorelDraw 1 to X6
- Macromedia Freehand - CorelDraw 7, 8
- Microsoft Visio 2002 - CorelDRAW! Drawing File versions 3.0, 4.0, 5.0, 6.0 and 7.0 (.cdr),
- Corel Clipart (.cmx)
- sK1 - partial support
- Xara Designer Pro and Xara Photo & Graphic Designer - early versions of CorelDRAW CDR and CMX

The pre-requisite to install Corel Draw

CorelDRAW is an intuitive and versatile graphics application for creating high-quality vector illustrations, logo designs, and page layouts.

System Requirements

Microsoft® Windows® 7, Windows Vista®, Windows® XP, with latest service packs installed (32-bit or 64-bit editions)

Intel® Pentium® 4, AMD Athlon™ 64 or AMD Opteron™

512 MB RAM (1 GB recommended)

750 MB hard disk space (1 GB for typical installation without content). Up to 6GB needed to install extra content

Mouse or tablet

1024 x 768 screen resolution (768 x 1024 on a Tablet PC)

DVD drive

Microsoft® Internet Explorer® 7 or higher

Installing CorelDRAW Graphics Suite applications

The installation wizard makes it easy to install CorelDRAW Graphics Suite applications and components. You can choose a typical installation to quickly install the suite, or you can customize the installation by choosing different options.

MODIFY the current installation by adding or deleting components

REPAIR the current installation by reinstalling all application features

UNINSTALLCorelDRAW Graphics Suite

Repairing an installation is helpful when you encounter problems in using the application, or when you suspect that the installation is corrupt. Before repairing an installation, try resetting the current workspace to the default settings by holding down F8 while starting the application.

Changing startup settings

You can specify the startup settings for CorelDRAW, which control how the application appears when it's opened. For example, you can start the application with the Welcome screen open or a new blank document.

Registering Corel products

Registering Corel products is important. Registration provides you with timely access to the latest product updates, valuable information about product releases, and access to free downloads, articles, tips and tricks, and special offers.

You can register in one of the following ways:

online - If you are connected to the Internet, you can start online registration when you start the Corel graphics application. You can also register online at a later date by clicking Help Registration. If no Internet connection is detected, a list of options appears in a dialog box.

Updating Corel products

During product installation, you can choose the option to download product updates and service packs. After installing the product, you can view information about product updates by clicking **Help Updates.**

By default, you are automatically notified when product updates and news become available. In addition, the application automatically downloads new product updates and asks you for permission to install them. However, you can change the update settings at any time.

Explain the CorelDraw workspace window

CorelDRAW terms

Before you get started with CorelDRAW, you should be familiar with the following terms.

Term	Description
Object	An element in a drawing such as an image, shape, line, text, curve, symbol, or layer
Drawing	The work you create in CorelDRAW; for example, custom artwork, logos, posters, and newsletters
Vector graphic	An image generated from mathematical descriptions that determine the position, length, and direction in which lines are drawn
Bitmap	An image composed of grids of pixels or dots
Docker	A window that contains available commands and settings relevant to a specific tool or task
Flyout	A button that opens a group of related tools or menu items
List box	A list of options that drops down when a user clicks the down arrow button
Artistic text	A type of text to which you can apply special effects, such as shadows
Paragraph text	A type of text to which you can apply formatting options, and which can be edited in large blocks

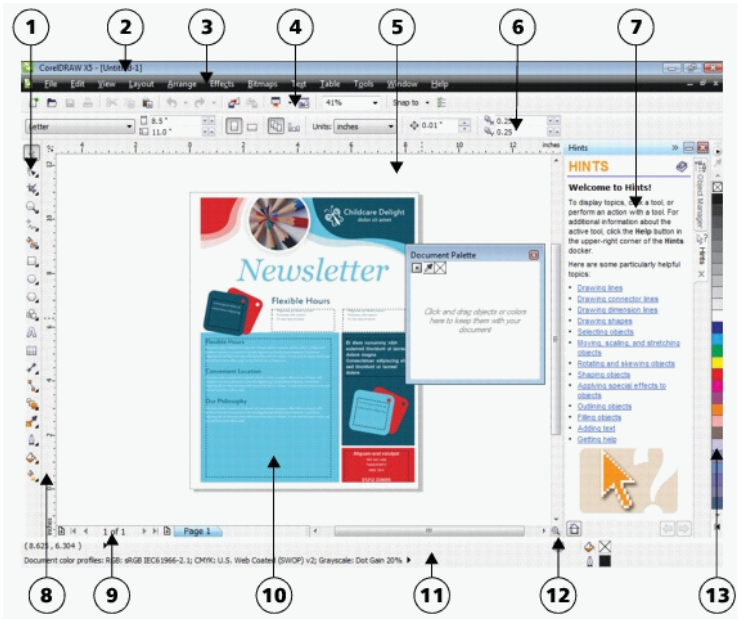
Application window

When you launch CorelDRAW, the application window opens containing a drawing window. Although more than one drawing window can be opened, you can apply commands to the active drawing window only.

The CorelDRAW application window appears below.

Circled numbers correspond to the numbers in the following table, which describes the main components of the application window.

Fig 2



Part	Description
1. Toolbox	A docked bar with tools for creating, filling, and modifying objects in the drawing
2. Title bar	The area displaying the title of the currently open drawing
3. Menu bar	The area containing pull-down menu options
4. Toolbar	A detachable bar that contains shortcuts to menu and other commands
5. Drawing window	The area outside the drawing page bordered by the scroll bars and application controls
6. Property bar	A detachable bar with commands that relate to the active tool or object. For example, when the text tool is active, the text property bar displays commands that create and edit text.
7. Docker	A window containing available commands and settings relevant to a specific tool or task
8. Rulers	Horizontal and vertical borders that are used to determine the size and position of objects in a drawing
9. Document navigator	The area at the bottom left of the application window that contains controls for moving between pages and adding pages
10. Drawing page	The rectangular area inside the drawing window. It is the printable area of your work area.
11. Status bar	An area at the bottom of the application window that contains information about object properties such as type, size, colour, fill, and resolution. The status bar also shows the current cursor position.
12. Navigator	A button at the lower-right corner that opens a smaller display to help you move around a drawing
13. Colour palette	A dockable bar that contains colour swatches

The CorelDraw workspace tools

Workspace tools

Application commands are accessible through the menu bar, toolbars, toolbox, property bar, and dockers. The property bar and dockers provide access to commands that relate to the active tool or current task. The property bar, dockers, toolbars, and toolbox can be opened, closed, and moved around your screen at any time.

You can customize many of these workspace tools to suit your needs.

The standard toolbar, which appears by default, contains buttons and controls that are shortcuts to many of the menu commands.

Click this button	To
	Start a new drawing
	Open a drawing
	Save a drawing
	Print a drawing
	Cut selected objects to the Clipboard
	Copy selected objects to the Clipboard
	Paste the Clipboard contents into a drawing
	Undo an action
	Restore an action that was undone
	Import a drawing

Click this button	To
	Export a drawing
	Start Corel applications
	Open the Welcome screen
100%	Set a zoom level
Snap to	Enable or disable automatic alignment for the grid, guidelines, objects, and dynamic guides
	Open the Options dialog box

The following table describes toolbars other than the standard toolbar.

More about toolbars

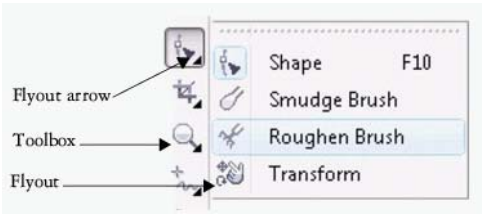
In addition to the standard toolbar, CorelDRAW has toolbars for specific kinds of tasks. For example, the **Text** toolbar contains commands relevant to using the **Text** tool. If you use a toolbar frequently, you can display it in the workspace at all times.

Toolbar	Description
Text	Contains commands for formatting and aligning text
Zoom	Contains commands for zooming in and out of a drawing page by specifying percentage of original view, clicking the Zoom tool, and selecting a page view
Internet	Contains commands for Web-related tools for creating rollovers and publishing to the Internet
Print merge	Contains commands for print merge items that combine text with a drawing such as creating and loading data files, creating data fields for variable text, and inserting print merge fields
Transform	Contains commands for skewing, rotating, and mirroring objects
Macros	Contains commands for editing, testing, and running macros

Exploring the toolbox

The toolbox contains tools for drawing and editing images. Some of the tools are visible by default, while others are grouped in fly-outs. Fly-outs open to display a set of related CorelDRAW tools. A small fly-out arrow in the lower-right corner of a toolbox button indicates a fly-out. You can access the tools in a fly-out by clicking the fly-out arrow. After you open a fly-out, you can easily scan the contents of other fly-outs by hovering over any of the toolbox buttons which have fly-out arrows. Fly-outs function like toolbars when you drag them away from the toolbox. This lets you view all the related tools while you work.

Fig 3



In the default workspace, clicking the fly-out arrow on the Shape tool opens the Shape edit fly-out.

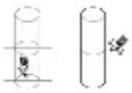
Pick tool

	The Pick tool lets you select, size, skew, and rotate objects.	

Shape edit tools

	The **Shape tool** lets you edit the shape of objects.	
	The **Smudge brush tool** lets you distort a vector object by dragging along its outline.	
	The Roughen **brush tool** lets you distort the outline of a vector object by dragging along the outline.	
	The **Transform tool** lets you transform an object by using the **Free rotation, Freeangle reflection, Free scale, and Free skew tools.**	

Crop tools

	The **Crop tool** lets you remove unwanted areas in objects.	
	The **Knife tool** lets you cut through objects.	
	The **Eraser tool** lets you remove areas of your drawing.	
	The **Virtual segment delete tool** lets you delete portions of objects that are between intersections.	

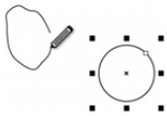
Zoom tools

	The **Zoom tool** lets you change the magnification level in the drawing window.	
	The **Pan tool** lets you control which part of the drawing is visible in the drawing window.	

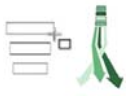
Curve tools

	The **Freehand tool** lets you draw single line segments and curves.	
	The **2-point line tool** lets you draw a straight two-point line segment.	
	The **Bézier tool** lets you draw curves one segment at a time.	
	The **Artistic media tool** provides access to the **Brush, Sprayer, Calligraphic,** and **Pressure tools.**	
	The **Pen tool** lets you draw curves one segment at a time.	
	The **B-spline tool** lets you draw curved lines by setting control points that shape the curve without breaking it into segments.	
	The **Polyline tool** lets you draw lines and curves in preview mode.	
	The **3-point curve tool** lets you draw a curve by defining the start, end, and center points.	

Smart tools

	The **Smart fill tool** lets you create objects from enclosed areas and then apply a fill to those objects.	
	The **Smart drawing tool** converts your freehand strokes to basic shapes and smoothed curves.	

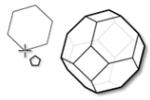
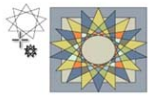
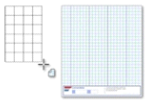
Rectangle tools

	The **Rectangle tool** lets you draw rectangles and squares.	
	The 3-point **rectangle tool** lets you draw rectangles at an angle.	

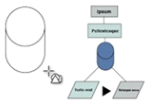
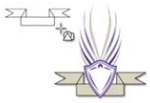
Ellipse tools

	The **Ellipse tool** lets you draw ellipses and circles.	
	The 3-point **ellipse tool** lets you draw ellipses at an angle.	

Object tools

	The **Polygon tool** lets you draw symmetrical polygons and stars.	
	The **Star tool** lets you draw perfect stars.	
	The **Complex star tool** lets you draw complex stars that have intersecting sides.	
	The **Graph paper tool** lets you draw a grid of lines similar to that on graph paper.	
	The **Spiral tool** lets you draw symmetrical and logarithmic spirals.	

Basic Shapes tools

	The **Basic shapes tool** lets you choose from a full set of shapes, including hexagram, a smiley face, and a right-angle triangle.	
	The **Arrow shapes tool** lets you draw arrows of various shape, direction, and number of heads.	
	The **Flowchart shapes tool** lets you draw flowchart symbols.	
	The **Banner shapes tool** lets you draw ribbon objects and explosion shapes.	
	The **Callout shapes tool** lets you draw callouts and labels.	

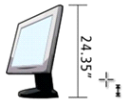
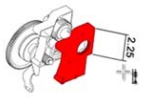
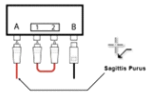
Text tool

	The **Text tool** lets you type words directly on the screen as artistic or paragraph text.	

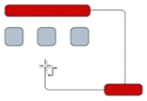
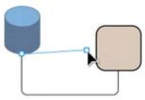
Table tool

	The **Table tool** lets you draw and edit tables.	

Dimension tools

	The **Parallel dimension tool** lets you draw slanted dimension lines.	
	The **Horizontal or vertical dimension tool** lets you draw horizontal or vertical dimension lines.	
	The **Angular dimension tool** lets you draw angular dimension lines.	
	The **Segment dimension tool** lets you display the distance between end nodes in single or multiple segments.	
	The **3-point callout tool** lets you draw a callout with a three-segment leader line.	

Connector tools

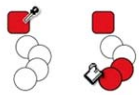
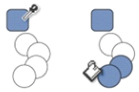
	The **Straight-line connector** tool lets you draw a straight connector line.	
	The **Right-angle connector tool** lets you draw a right angle connector line.	
	The **Right-angle round connector tool** lets you draw a right-angle connector line with curved corners.	
	The **Edit anchor tool** lets you modify connector line anchor points.	

Interactive tools

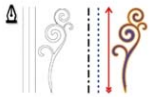
	The **Blend tool** lets you blend two objects.	
	The **Contour tool** lets you apply a contour to an object.	
	The **Distort tool** lets you apply a Push or Pull distortion, a Zipper distortion, or a Twister distortion to an object.	
	The **Drop shadow tool** lets you apply a drop shadow to an object.	
	The **Envelope tool** lets you shape an object by dragging the nodes of the envelope.	

	The **Extrude tool** lets you apply the illusion of depth to objects.	
	The **Transparency tool** lets you apply transparencies to objects.	

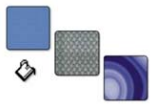
Eyedropper tools

	The **Color eyedropper tool** lets you select and copy a color from an object on the drawing window or the desktop.	
	The **Attributes eyedropper tool** lets you select and copy object properties, such as line thickness, size and effects, from an object on the drawing window.	

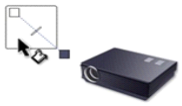
Outline tool

	The **Outline tool** opens a flyout that gives you quick access to items such as the Outline pen dialog box and Outline color dialog box.	

Fill tool

	The **Fill tool** opens a flyout that gives you quick access to items such as the fill dialog boxes.	

Interactive fill tools

	The **Interactive fill tool** lets you apply various fills.	
	The **Mesh fill tool** lets you apply a mesh grid to an object.	

Property bar

The property bar displays the most commonly used functions that are relevant to the active tool or to the task you're performing. Although it looks like a toolbar, the property bar content changes depending on the tool or task.

For example, when you click the **Text tool** in the toolbox, the property bar displays text-related commands. In the example below, the property bar displays text, formatting, alignment, and editing tools.

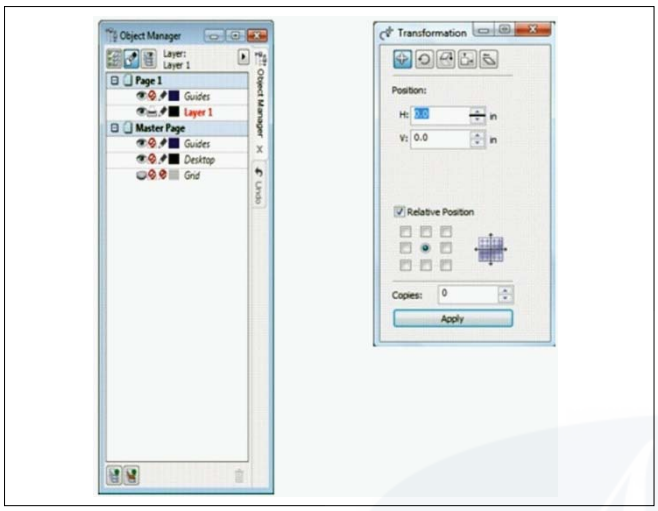
Dockers

Dockers display the same types of controls as a dialog box, such as command buttons, options, and list boxes. Unlike most dialog boxes, you can keep dockers open while working on a document, so you can readily access the commands to experiment with different effects. Dockers have features similar to palettes in other graphics programs. To access a docker, click **Window Dockers,** and click a docker.

An example is the Object properties docker. When this docker is open, you can click an object in the drawing window and view formatting, dimensions, and other properties of the object

Dockers can be either docked or floating. Docking a docker attaches it to the edge of the application window. Undocking a docker detaches it from other parts of the workspace, so it can be easily moved around. You can also collapse dockers to save screen space.

If you open several dockers, they usually appear nested, with only one docker fully displayed. You can quickly display a docker hidden from view by clicking the docker's tab.



Left: Docked and nested dockers. Right: A floating docker. To dock a floating docker, click the docker's title bar, and drag to position the pointer on the edge of the drawing window. To close a docker, click the X button at the top corner; to collapse or expand a docker, click the arrow button at the top corner.

Status bar

The status bar displays information about selected objects (such as color, fill type, and outline, cursor position, and relevant commands). It also displays document color information, such as the document color profile and color proofing status.

State the option to create New document

Starting and opening drawings

CorelDRAW lets you start a new drawing from a blank page, a template, or an existing drawing. A blank page gives you the freedom to specify every aspect of a drawing. A template provides you with a starting point and leaves the amount of customization up to you.

Working with templates

A template is a collection of styles and page layout settings that govern the layout and appearance of a drawing. Templates are sometimes referred to as "templets."

Use a template for drawing designs that you want to reuse.

You can use the default template or choose one from a wide variety of preset templates available in the application.

starting new drawings

When starting a new drawing, CorelDRAW lets you specify page, document, and colour management settings. You can choose from a list of preset settings, which are based on how you intend to use the drawing. For example, you can choose the Web option if you are creating a drawing for the Internet or the Default CMYK option if you are creating a document destined for commercial printing. However, if the preset settings are not suitable for the drawing that you want to create, you can also customize the settings and save them for future use.

Working with lines, outlines, and brushstrokes

CorelDRAW lets you add lines and brushstrokes by using a variety of techniques and tools. After you draw lines or apply brushstrokes to lines, you can format them. You can also format the outlines that surround objects.

CorelDRAW provides preset objects that you can spray along a line. You can also create flow and dimension lines in drawings. You can also draw lines by using shape recognition.

Drawing lines

A line is a path between two points. Lines can consist of multiple segments, and the line segments can be curved or straight. The line segments are connected by nodes, which are depicted as small squares. CorelDRAW provides various drawing tools that let you draw curved and straight lines, and lines containing both curved and straight segments.

Freehand and Polyline tools

The **Freehand** and Polyline tools let you draw freehand lines as if you were sketching on a sketchpad. If you make a mistake while drawing freehand curves, you can erase the unwanted part immediately and continue drawing. When drawing straight lines or segments, you can constrain them to straight vertical or horizontal lines.

The **Freehand tool** lets you control the smoothness of the curved line you are drawing as well as add segments to an existing line. However, the **Polyline tool** is easier to use for quickly drawing a complex line that consists of alternating curved and straight segments.

You can choose settings to control how the **Freehand**  and **Bézier**  **tools** behave. For example, you can change the default smoothness of a curved line that you've created with these tools.

State the option to saving the document

Saving drawings

By default, drawings are saved to the CorelDRAW file format (CDR) and are compatible with the latest version of the application. You can also save a drawing that is compatible with an earlier version of CorelDRAW Graphics Suite.

You can save a drawing to other vector file formats as well. If you want to use a drawing in another application, you must save it to a file format that is supported by that application.

Exporting files

You can use the File → Export command to export files to a variety of bitmap and vector file formats that can be used in other applications. For example, you can export a file to the Adobe Illustrator (AI) or GIF format. You can also export a file so that it is optimized for use with a suite of office productivity applications, such as Microsoft Word or Corel WordPerfect Office.

When you are exporting a file, the original file is left open in the drawing window in its existing format.

You can use the File → Save as command to save files to various vector formats. After you save a file to a different format, the saved file is displayed immediately in the drawing window. It is recommended that you first save the file as a CorelDRAW (CDR) file because some file formats do not support all of the features found in a CorelDRAW file.

When you save a drawing, CorelDRAW lets you add reference information so that you can easily find and organize drawings later on. On Windows 7 and Windows Vista, you can attach tags (also known as properties) such as title, subject, and rating. On Windows XP, you can assign notes and keywords to a drawing.

If your drawing will be viewed on a system that does not have all of the fonts used in the drawing, you can embed all fonts to ensure that text will appear as originally created.

You can also save selected objects in a drawing. For large drawings, saving only the selected objects reduces the file size, which can decrease the time it takes to load the drawing.

When saving a file, you can use advanced options to control how bitmaps, textures, and vector effects, such as blends and extrusions, are saved with the drawing.

You can also save a drawing as a template, which lets you create other drawings with the same properties.

You can also

Save only selected objects	With objects selected, click **File Save as**, and enable the **Selected only** check box. Locate the folder where you want to save the file, type a filename in the **File name** list box, and click **Save.**
Add reference information (Windows 7 and Windows Vista)	Do any the following: • Type a title, subject, tag, comment, author, or revision number in the corresponding box. • Assign a rating to the file. • Add copyright information.
Save notes or keywords with the file (Windows XP)	Type notes or keywords in the corresponding box.
Embed fonts in a drawing	Enable the **Embed fonts using TrueDoc** check box.

Opening and editing the existing drawing in CorelDraw

Objectives : At the end of this lesson you shall be able to
- **opening and editing the existing drawing**
- **explain the editing tools in the CorelDraw workspace window**
- **explain the printing options.**

Opening existing drawings

Basing a new drawing on an existing drawing lets you reuse objects and page settings. CorelDRAW lets you open existing drawings saved to the CorelDRAW (CDR) format as well as drawings and projects saved to various file formats such as Corel DESIGNER (DSF or DES), Adobe Illustrator (AI), Adobe Portable Document Format (PDF), Encapsulated PostScript (EPS), and Computer Graphics Metafile (CGM). However, you may not be able to open certain files, depending on their file type and contents. In such cases, you can try importing the files as objects in an open drawing.

Supported file formats

A file format defines how an application stores information in a file. If you want to use a file created in a different application than the one you are currently using, you must import that file. Conversely, if you create a file in one application and want to use it in another application, you must export the file to a different file format.

When you name a file, an application automatically appends a filename extension, usually three characters in length (for example, **.cdr, .bmp, .tif,** and **.eps**). This filename extension helps you and the computer differentiate between files of different formats.

The following list includes all file formats used in this application. Note that not all file format filters are installed by default. If you cannot export or import a file from the list, you need to update your installation of CorelDRAW Graphics Suite X5.

Adobe Illustrator (AI)

Adobe Type 1 Font (PFB)

Windows Bitmap (BMP)

OS/2 Bitmap (BMP)

Computer Graphics Metafile (CGM)

Visio (VSD

CorelDRAW (CDR)

Corel Presentation Exchange (CMX)

Corel PHOTO-PAINT (CPT)

Corel Symbol Library (CSL)

Cursor Resource (CUR)

Cursor Resource (CUR)

Microsoft Word (DOC, DOCX, or RTF)

Microsoft Publisher (PUB)

Corel DESIGNER (DES, DSF, DS4, or DRW)

AutoCAD Drawing Database (DWG) and AutoCAD Drawing Interchange Format (DXF)

Encapsulated PostScript (EPS)

PostScript (PS or PRN)

GIF

JPEG (JPG)

JPEG 2000 (JP2)

Kodak Photo CD Image (PCD)

PICT (PCT)

Paint Brush (PCX)

Adobe Portable Document Format (PDF)

HPGL Plotter File (PLT)

Portable Network Graphics (PNG)

Adobe Photoshop (PSD)

Corel Painter (RIF)

Scalable Vector Graphics (SVG)

Macromedia Flash (SWF)

TARGA (TGA)

TIFF

Corel Paint Shop Pro (PSP)

TrueType Font (TTF)

WordPerfect Document (WPD)

WordPerfect Graphic (WPG)

RAW camera file formats

Wavelet Compressed Bitmap (WI)

Windows Metafile Format (WMF)

Additional file formats

Recommended formats for importing graphics

Recommended formats for exporting graphics

General notes on importing text files

If you are using Windows 7 or Windows Vista, you can search for drawings by different criteria, such as filename, title, subject, author, keyword, comment, text within the file, and other properties attached to the file. For more information about searching for files with Windows 7 or Windows Vista, see the Windows Help. If your operating system is Windows XP, you can use Windows Desktop Search to find files. For more information CorelDRAW Help line Menu

You can also display previous versions of a drawing.

Explain the editing tools in the CorelDraw workspace window

Pick tool

The Pick tool lets you select, resize, skew, and rotate object

Selecting Object

Before you can change an object, you must select it. You can select visible objects, objects that are hidden from view by other objects, and a single object in a group or a nested group. In addition, you can select objects in the order in which they were created, select all objects at once, and deselect objects.

A bounding box appears around a selected object, and an "X" appears at its center.

To select objects
Select an object

Click the Pick tool, and then click an object.

Select multiple objects

Click the Pick tool, hold down Shift, and click each object that you want to select.

Select an object while reviewing objects in the order of their creation, starting with the first object created

Click the Pick tool, and then press Shift + Tab one or more times, until a selection box appears around the object that you want to select.

Select an object while reviewing objects in the order of their creation, starting with the last object created

Click the Pick tool , and then press Tab one or more times, until a selection box appears around the object that you want to select.

Select all objects

Click Pick tool → Edit → Select all → Objects.

Select an object in a group

Hold down Ctrl, click the Pick tool, and then click an object in a group.

Select an object in a nested group

Hold down Ctrl, click the Pick tool, and then click an object one or more times, until a selection box appears around it.

Select an object hidden from view by other objects

Hold down Alt, click the Pick tool, and then click the topmost object one or more times, until a selection box appears around the hidden object.

Select multiple hidden objects

Hold down Shift + Alt, click the Pick tool, and then click the topmost object one or more times, until a selection box appears around the hidden objects.

Select a hidden object in a group

Hold down Ctrl + Alt, click the Pick tool, and then click the topmost object one or more times, until a selection box appears around the hidden object.

You can also select one or more objects by clicking the Pick tool and then dragging around the object or objects. This method is known as marquee selecting.

To deselect objects

Deselect all objects

Click the Pick tool, and click a blank space in the drawing window.

Deselect a single object among multiple selected objects

Hold down Shift, click the Pick tool, and then click the object.

Transforming objects

You can change the appearance of objects in the drawing window by using the following transformations.

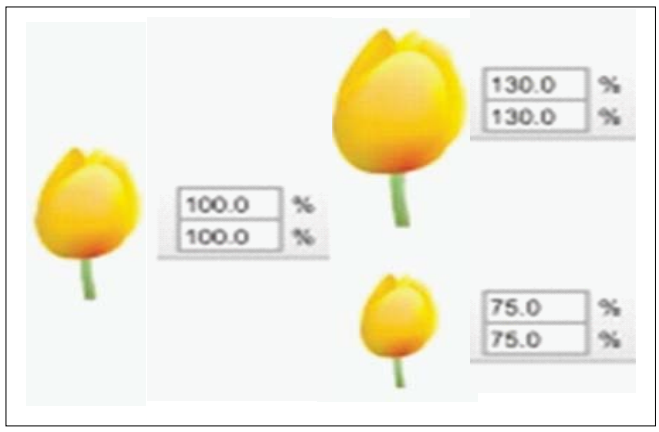
Transformation

Sizing the object

Lets you change the width and height of an object

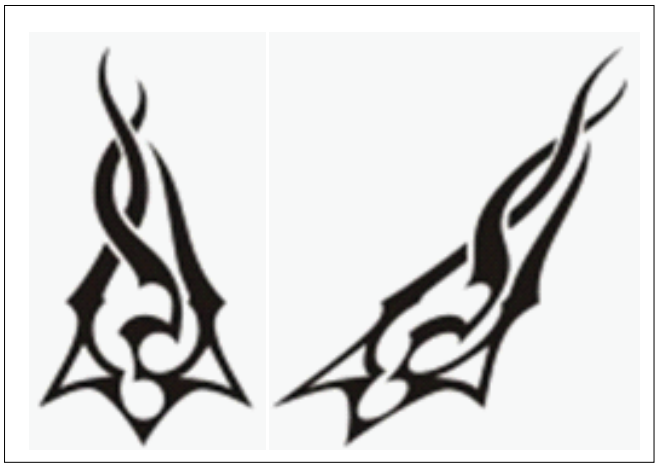
Scaling the object

Lets you size an object to a percentage of its original size.



Skewing the object

Lets you slant an object to one side.

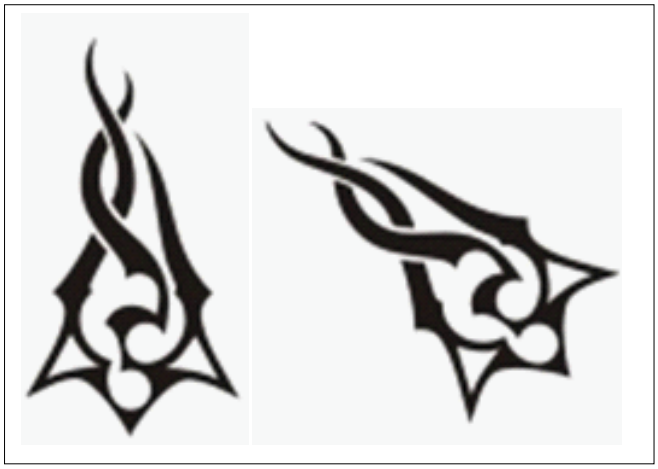


Stretching the object

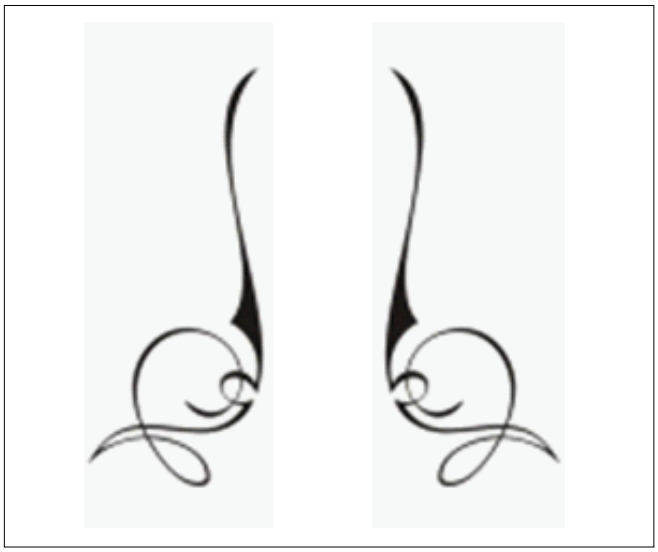
Lets you change the height and width of an object nonproportionally.

Rotating the object

Lets you turn an object around its center axis or a point relative to its position.



Mirroring lets you create a horizontal or vertical mirror image of an object.



Transforming objects interactively

You can transform an object interactively by using the mouse and the Pick tool. This method is the quickest, but it is not recommended if you want to transform an object with precision.

Other methods for transforming objects

You can transform an object in any of the following ways:

- For more precise results, you can select an object with the Pick tool and adjust settings on the property bar. For example, you can specify a precise rotation angle or specify the size of an object.
- The Transformation docker lets you transform objects with precision and apply the transformation to the duplicate of an object, which is created automatically. This feature lets you experiment with transformations without affecting the original object. You can access the Transformation docker by clicking Arrange Transformations and clicking a command.
- The Transform toolbar also lets you transform objects with precision. You can access the Transform toolbar by clicking Windows Toolbars Transform.

Each of these methods lets you apply transformations to a single object or to multiple objects simultaneously.

Clearing and redoing transformations

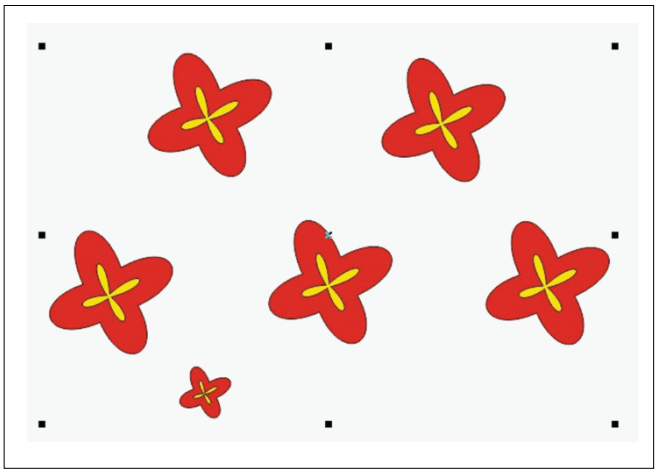
All transformations can be simultaneously cleared at any time.

Define Group

A set of objects that behaves as one unit. Operations you perform on a group apply equally to each of its objects.

Grouping objects

When you group two or more objects, they are treated as a single unit but retain their individual attributes. Grouping lets you apply the same formatting, properties, and other changes to all the objects within the group at the same time. In addition, grouping helps prevent accidental changes to the position of an object in relation to other objects. You can also create nested groups by grouping together existing groups.



Single objects retain their attributes when they are grouped.

You can add objects to or remove objects from a group, and you can delete objects that are members of a group. You can also edit a single object in a group without ungrouping the objects. If you want to edit multiple objects in a group at the same time, you must first ungroup the objects. If a group contains nested groups, you can ungroup all objects in the nested groups simultaneously.

You can create a nested group by selecting two or more groups of objects and clicking Arrange → Group.

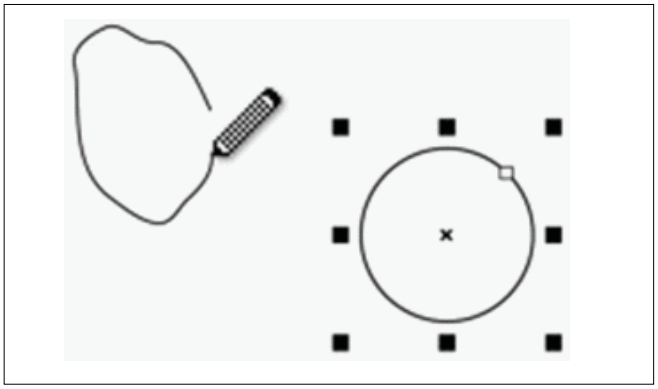
You can also group objects by clicking Window → Dockers → Object manager and dragging the name of an object in the Object manager docker over the name of another object

You can also ungroup objects by clicking the Un-group button on the property bar.

You can also ungroup all nested groups within a group by clicking the Ungroup all button on the property bar.

Smart Drawing Tool

The Smart drawing tool converts your freehand strokes to basic shapes and smoothed curves.

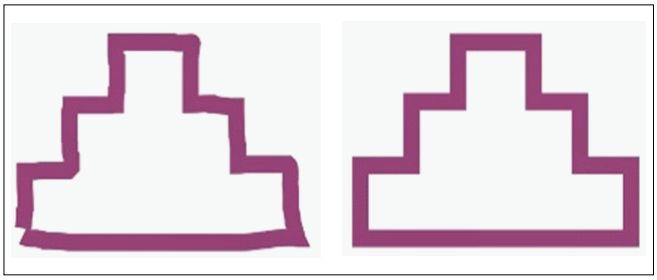


Drawing by using shape recognition

You can use the Smart drawing tool to draw freehand strokes that can be recognized and converted to basic shapes. Rectangles and ellipses are translated to native CorelDRAW objects; trapezoids and parallelograms are translated to Perfect Shapes objects; lines, triangles, squares, diamonds, circles, and arrows are translated to curve objects. If an object is not converted to a shape, it is smoothed. Objects and curves drawn with shape recognition are editable. You can set the level at which CorelDRAW recognizes shapes and converts them to objects. You can also specify the amount of smoothing applied to curves.

You can set the amount of time to elapse between making a pen stroke and the implementation of shape recognition. For example, if the timer is set to one second and you draw a circle, shape recognition takes effect one second after you draw the circle.

You can make corrections as you draw. You can also change the thickness and line style of a shape that was drawn by using shape recognition.



Shapes created with the **Smart drawing** tool are recognized and smoothed.

The Smart drawing tool property bar is displayed only when the Smart drawing tool is selected.

When you overlap lines drawn with the Smart drawing tool, the outline thickness is determined by the average.

Printing your work

Using CorelDRAW, you can print one or more copies of the same drawing. You can also specify the page type and the page range that you want to print.

Before printing a drawing, you can specify printer properties, including paper size and device options. For example, you can specify that the printer features such as duplexing stapling.

Certain printers support the automatic matching of page size and orientation. To enable this option, you need to modify the driver compatibility settings for the printer by clicking Tools Options. In the list of categories, double-clicking Global, Printing, clicking Driver compatibility, and enabling the Printer can match document page sizes check box. In the Print dialog box, you can then choose Match orientation and size from the Page list box.

Laying out print jobs

You can lay out a print job by specifying the size, position, and scale. Tiling a print job prints portions of each page on separate sheets of paper that you can assemble into one sheet. You would, for example, tile a print job that is larger than your printer paper.

Previewing print jobs

You can preview your work to show how the position and size of the print job will appear on paper. For a detailed view, you can zoom in on an area. You can view how the individual color separations will appear when printed.

Before printing your work, you can view a summary of issues for a print job to find potential printing problems. For example, you can check the current print job for print errors, possible print problems, and suggestions for resolving issues.

Applying print styles

A print style is a set of saved printing options. Each print style is a separate file. This lets you move a print style from one computer to another, back up a print style, and keep document-specific styles in the same directory as the document file.

You can select an existing print style, create a new print style, or edit a print style and save the changes. You can also delete print styles.

Fine-tuning print jobs

You can fine-tune print jobs before to ensure printing quality. Because problems sometimes occur when you are printing text to a non-PostScript printing device (GDI printer), you can decrease printing time by specifying driver compatibility for non-PostScript printing devices.

If a printing device has difficulty processing large bitmaps, you can divide a bitmap into smaller, more manageable chunks by setting an output threshold. If any lines appear when the printing device prints the chunks, you can set an overlap value to produce a seamless image.

On occasion, you may experience difficulties with printing complex files. To print complex files, you may need to spend a considerable amount of time fixing and correcting the files. Another option is to convert a page to a bitmap, which is also known as rasterizing, which can allow you to print complex files.

To reduce file size, you can downsample bitmaps. Because bitmaps are made up of pixels, when you downsample a bitmap, the number of pixels per line decreases, which decreases the file size.

Printing colors accurately

CorelDRAW allows you to manage colors when printing to help you ensure accurate color reproduction. You can print the document with the document colors settings applied or you can choose alternate color settings only for printing. You can also print a document using the color proofing settings that you previously specified in the Color proof settings docker.

In addition, you can choose a rendering intent to effectively interpret the out-of-gamut colors when printing. The rendering intent that you choose depends on the graphical content of the document.

Notes for GDI printers

GDI printers support only two color spaces: RGB and Grayscale. If your document contains colors from multiple color spaces, for example RGB, CMYK, and spot colors, you must convert all of the colors to RGB or Grayscale before printing.

Printing to a PostScript printer

PostScript is a page-description language that sends printing instructions to a PostScript device. All the elements in a print job (for example, curves and text) are represented by lines of PostScript code that the printing device uses to produce the document. For improved compatibility you can choose a device independent PostScript device. You can also select a PostScript Printer Description (PPD) file. A PostScript Printer Description file describes the capabilities and features of your PostScript printer and is available from your printer's manufacturer.

You can automatically increase the fountain steps in a fountain fill to decrease banding. To ensure that your print jobs print properly, you can also reduce curve complexity by increasing flatness. Curve flatness determines how smooth a curve appears when printed.

A print job that contains too many fonts may not print properly, and a print job that contains too many spot colors increases file size. You can set the PostScript options to warn you when a print job contains more than a set number of fonts or spot colors.

By default, the printing device driver downloads Type 1 fonts to the printing device. You can disable the Download Type 1 Fonts option so that fonts are printed as graphics (either curves or bitmaps). This may be useful when the file contains many fonts that would take an unacceptably long time to download or would fail to download because of their file size. Bitmap versions of TrueType fonts look better in small print and print faster than regular fonts. You can choose the maximum number of bitmap fonts that a print job can contain.

Working with imposition layouts

Working with imposition layouts lets you print more than one page of a document on each sheet of paper. You can choose a preset imposition layout to create documents such as magazines and books to print on a commercial printing press; produce documents that involve cutting or folding, such as mailing labels, business cards, pamphlets, or greeting cards; or print multiple thumbnails of a document on one page. You can also edit a preset imposition layout to create your own layout.

You can select a binding method by choosing from three preset binding methods, or you can customize a binding method. When you choose a preset binding method, all but the first signature are automatically arranged.

You can arrange pages on a signature manually or automatically. When you arrange the pages automatically, you can choose the angle of the image. If you have more than one page across or down, you can specify the size of gutters between pages; for example, you can choose the automatic gutter spacing option, which sizes gutters so that the document's pages fill the entire available space in the layout.

When printing on a desktop printer, you can adjust the margins to accommodate the non-printable area of a page. If the margin is smaller than the non-printable area, the edges of some pages or some printers' marks may be clipped by your printer.

Printing printers' marks

Printing printers' marks lets you display information on a page about how a document should be printed. You can specify the position of the printers' marks on the page.

The available printers' marks are as follows:

- Crop/fold marks - represent the size of the paper and print at the corners of the page. You can print crop/fold marks to use as guides to trim the paper. If you print multiple pages per sheet (for example, two rows by two columns), you can choose to print the crop/fold marks on the outside edge of the page so that all crop/fold marks are removed after the cropping process, or you can choose to add crop marks around each row and column. Crop/fold marks ensure that marks appear on each plate of a separated CMYK file.
- Bleed limit - determines how far an image can extend beyond the crop marks. When you use a bleed to extend the print job to the edge of the page, you must set a bleed limit. A bleed requires that the paper you are printing on is larger than the size of paper you ultimately want, and the print job must extend beyond the edge of the final paper size.
- Registration marks - are required to line up film for proofing or printing plates on a color press. They print on each sheet of a color separation.
- Color calibration bars - are color scales that print on each sheet of a color separation and ensure accurate color reproduction. To see calibration bars, the page size of the print job must be larger than the page size of the work you are printing.
- Densitometer scale - is a series of gray boxes ranging from light to dark. These boxes are required to test the density of halftone images. You can position the densitometer scale anywhere on the page. You can also customize the levels of gray that appear in each of the seven squares on the densitometer scale.
- Page numbers - helps you collate pages of an image that do not include any page numbers or do not contain page numbers that correspond to the actual number of pages
- File information - prints file information, such as, the color profile; halftone settings; name, date, and time the image was created; plate number; and job name

Printing colour separations

When you send color work to a print service provider or printing shop, either you or the print service provider must create color separations. Color separations are necessary because a typical printing press applies only one color of ink at a time to a sheet of paper. You can specify the color separations to print, including the order in which they print.

Printing presses produce color using either process color or spot color, or both. You can convert the spot colors to process colors at printing time.

When setting halftone screens to print color separations, we recommend that you use default settings; otherwise, screens can be improperly set and result in undesirable moiré patterns and poor color reproduction. However, if you are using an image-setter, the screen technology should be set to match the type of image-setter the print service provider uses. Before customizing a halftone screen, consult the print service provider to determine the correct setting.

If you have overprinted areas, you can choose how you want those areas to print.

Working with color trapping and overprinting

When colors are trapped, they are intentionally overlapped so that misalignments of print separations are not noticeable. In manual trapping, one color must overprint the other. Overprinting is achieved by printing one color over another. Overprint trapping works best when the top color is much darker than the underlying color; otherwise, an undesirable third color may result (for example, cyan over yellow results in a green object). In some cases, you might actually want to create a third color; for example, you can overprint two spot colors to create a third color.

How overprinted colors mix depends on the type of colors and ink you are mixing and the types of objects you are overprinting. For example, an object that uses a CMYK color overprints differently from an object that uses a spot color. Bitmaps also overprint differently from vector objects. You can preview a simulation of how overprinted colors will mix by using the Enhanced with overprints viewing mode. Some variation between the preview and the printed version may occur, depending on the printer you use.

When you are ready to print, you can choose to preserve overprint settings if you want to trap objects in a document, or if you want to mix the overlapping colors for effect. You can also choose to knock out the overprinted areas so that only the top color is visible. If you want to print a proof version of the file, you can simulate overprints. Simulating overprints rasterizes the file, and it prints using process colors only.

You can set a group of objects to overprint. You can overprint bitmaps; or each vector object's fill, or outline, or both. You can also overprint specific color separations and specify in which order they will print, as well as whether you want to overprint graphics, or text, or both.

The two methods for color trapping automatically are always overprinting black and auto-spreading. Always overprinting black creates a color trap by causing any object that contains 95% black or more to overprint any underlying objects. This option is useful for artwork containing a lot of black text, but it should be used with caution on artwork with a high graphics content. You can adjust the threshold, if the print service provider recommends a black threshold value other than 95%.

Auto-spreading creates color trapping by assigning an outline to an object that is the same color as the object's fill and having it overprint underlying objects. Auto-spreading is created for all objects in the file that meet three conditions: they do not already have an outline, are filled with a uniform fill, and have not already been designated to overprint.

Printing to film

You can set up a print job to produce negative images. An image-setter produces images on film that may need to be produced as negatives depending on which printing device you are using. Consult your print service provider to determine whether you can produce images on film.

You can specify to print with the emulsion down. Printing with the emulsion down produces a backward image on desktop printers.

Usage of guides and drawing tools in CorelDraw

Objectives : At the end of this lesson you shall be able to
- **explain the Guideline, Grid and uses**
- **state the Freehand tool and Polyline tool**
- **uses of Bézier Tool and the Pen Tool**
- **explain the 2-point tool and Artistic media tool**
- **use of B-spline tool.**

Explain the Guideline, Grid and uses

Guidelines

Guidelines are lines that can be placed anywhere in the drawing window to aid in object placement. In some applications, guidelines are known as guides.

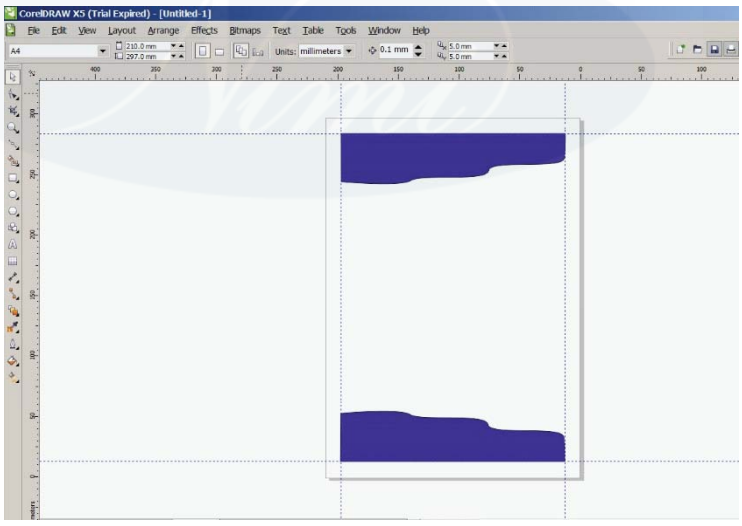
There are three types of guidelines: horizontal, vertical, and slanted. By default, the application displays guidelines that you can add to the drawing window, but you can hide them at any time. You can also use objects as guides.

You can set guidelines for individual pages or you can set guidelines for the entire document.

You can add a guideline wherever you need one; however, you can also choose to add preset guidelines. There are two types of preset guidelines: Corel presets and user-defined presets. Examples of Corel presets include guidelines that appear at 1-inch margins and guidelines that appear at newsletter column borders. User-defined presets are guidelines whose location you specify. For example, you can add preset guidelines that display margins at a distance you specify or that define a column layout or grid. After you add a guideline, you can select it, move it, rotate it, lock it in place, or delete it.

You can have objects snap to the guidelines, so that when an object is moved near a guideline, it can only be centered on the guideline or lined up on either side of the guideline.

Guidelines use the unit of measure specified for rulers.



Guidelines can be placed in the drawing window to aid in object placement.

Grid

A series of evenly spaced horizontal and vertical dots that are used to help draw and arrange objects.

Setting up the grid

The grid is a series of non-printing intersecting lines that you can display in the drawing window. You can use the grid to precisely align and position objects.

You can customize the look of the grid by changing the grid display and grid spacing. The grid display allows you to view the grid as lines or as dots. The spacing allows you to set the distance between the grid lines. The spacing options are based on the unit of measure for the ruler. For example, if the ruler unit of measure is set to inches, the spacing options are based on inches.

If the ruler unit of measure is set to pixels, or if you enabled the Pixel preview, you can specify the color and opacity of the pixel grid.

You can also have objects snap to the grid or pixel grid so that when you move the objects, they jump between grid lines.

Curve Tools

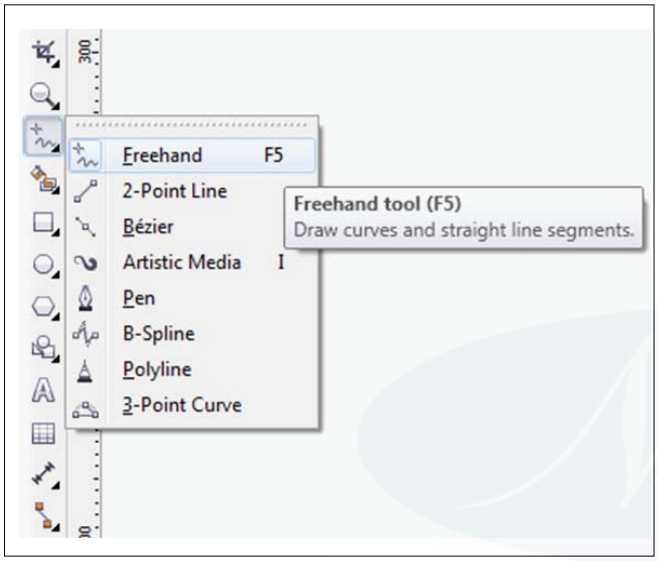
If you want to create a your own unique shapes, you can use one of the curve tools. Using these tools, you can draw an almost unlimited variety of shapes

Drawing lines

A line is a path between two points. Lines can consist of multiple segments, and the line segments can be curved or straight. The line segments are connected by nodes, which are depicted as small squares. CorelDRAW provides various drawing tools that let you draw curved and straight lines, and lines containing both curved and straight segments.

Freehand and Polyline Tools

The Freehand and Polyline tools share a common function, giving you the freedom to draw as if you were sketching by freehand on a physical sketch pad, but the tools work in slightly different ways. Sketched lines can create a single open or closed vector path. Both tools are located in the Toolbox grouped with other line-creation tools, as shown here:



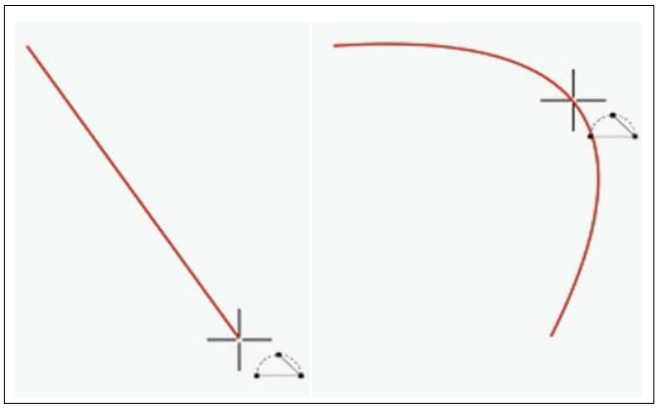
Freehand Tool and Polyline Tool

Using either of these tools, you have control over the smoothness of path shapes drawn using click-drag actions by adjusting the Freehand Smoothing option in the Property Bar before drawing your path. You can control smoothness after drawing a path by selecting nodes with the Shape Tool and then using the Reduce Nodes spin box. Reduce Nodes has a range between 0 and 100 percent; lower values apply less smoothing, and higher values apply more smoothing.

3-Point Curve Tool

The 3-Point Curve Tool is used to build perfectly smooth arcing line segments, with complete control over the direction and steepness of the curve between two points.

You can draw a curved line by specifying its width (left), and then specifying its height and clicking the page (right).



Using the Bézier and Pen Tools

The Bézier Tool and the Pen Tool are variations on the same theme of drawing connected curves and straight segments (unlike the 3-Point Curve Tool), through the action of first clicking to set a path point, and then by either dragging to define a curve behind the click point or by clicking (not dragging) to define a straight path segment behind the click point.

One of the less obvious differences between the two tools is that the Pen Tool offers a "look ahead" point when you draw with it; before you click or click-drag a point, the proposed path between the point before you click and the previous (already defined) point on the path is shown in light blue. When you're just beginning with CorelDRAW, the choice between these tools should be based on the following:

The Pen Tool provides intuitive results when you want a path that has both straight segments and curves. The Bézier Tool excels at creating curved segments that are joined smoothly, and straight segments are not your design goal

2-point line tool

You can draw straight lines by using the 2-point line tool. This tool also allows you to create straight lines that are perpendicular or tangent to objects.

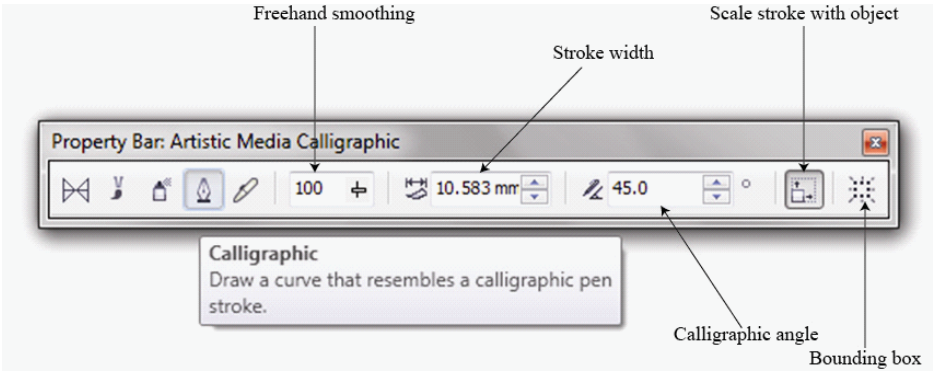
Artistic Media Tools

The Artistic Media tools in CorelDraw lets, you choose from a wide variety of new, sophisticated preset brush styles. You can draw vector shapes, brushstrokes, Sprayed images, calligraphic strokes and pressure sensitive strokes. For each stroke type that is available with the Artistic media tool, you can set preference for the level of smoothing, the stroke width and other properties.

Drawing calligraphic

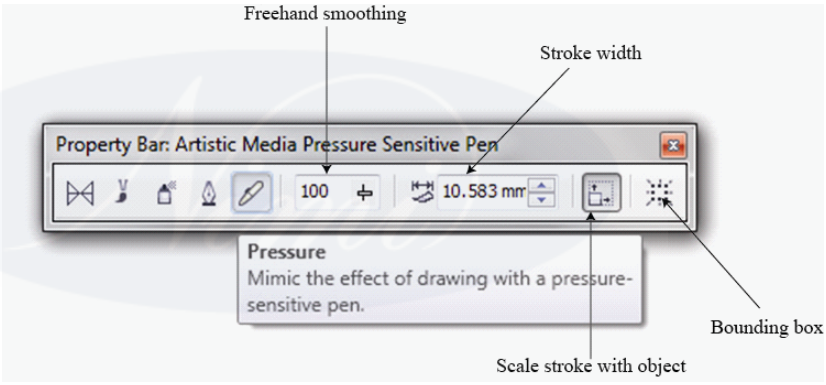
CorelDRAW lets you simulate the effect of a calligraphic pen when you draw lines. Calligraphic lines vary in thickness according to the direction of the line and the angle of the pen nib. By default, calligraphic lines appear as closed shapes drawn with a pencil. You can control the thickness of a calligraphic line by changing the angle of the line you draw in relation to the calligraphic angle you choose. For example, when the line you draw is perpendicular to the

calligraphic angle, the line is at the maximum thickness specified by the pen width. Lines drawn at the calligraphic angle, however, have little or no thickness.



Pressure-sensitive

CorelDRAW lets you create pressure-sensitive lines which vary in thickness. You can create this effect using the mouse or a pressure-sensitive pen and graphics tablet. Both methods result in lines with curved edges and varying widths along a path. For information about using a pressure-sensitive pen on a graphics tablet, see the manufacturer's instructions.

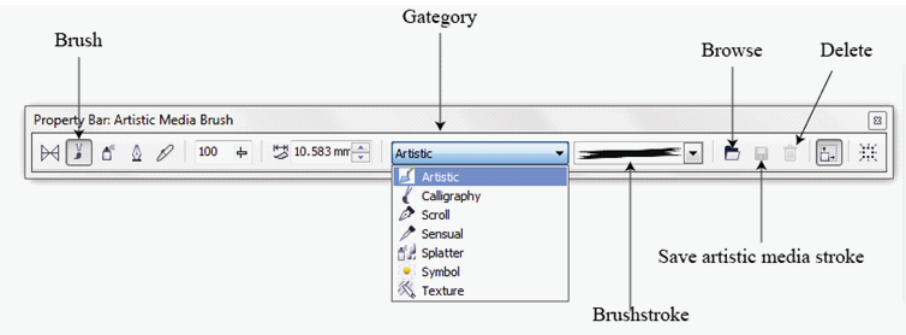


Preset lines

CorelDRAW provides preset lines that let you create thick strokes in a variety of shapes. After you draw a calligraphic or preset line, you can apply a fill to it as you would to any other object.

Brushstrokes

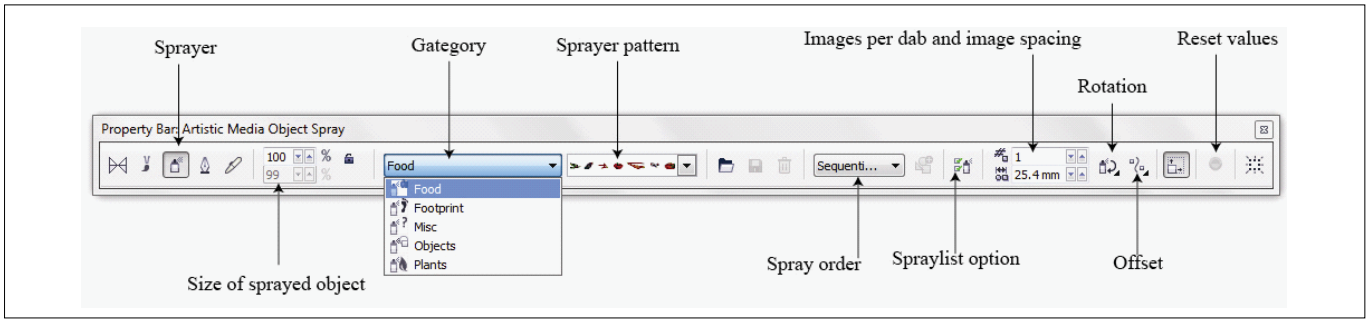
CorelDRAW lets you apply a variety of preset brushstrokes, ranging from strokes with arrowheads to ones that are filled with rainbow patterns. When you draw a preset brushstroke, you can specify some of its attributes. For example, you can change the width of a brushstroke and specify its smoothness.



You can also create custom brushstrokes by using an object or a group of vector objects. When you create a custom brushstroke, you can save it as a preset.

Spraying objects along a line.

CorelDRAW lets you spray a series of objects in a line. Besides graphic and text objects, you can import bitmaps and symbols to spray along a line.



You can control how a sprayed line appears by adjusting the spacing between objects, so they are closer or farther apart from each other. You can also vary the order of objects in the line. For example, if you are spraying a series of objects that includes a star, a triangle, and a square, you can change the spray order so that the square appears first, followed by the triangle and then the star. CorelDRAW also lets you shift the position of objects in a sprayed line by rotating them along the path or offsetting them in one of four different directions: alternating, left, random, or right. For example, you can choose a left offset direction to align the objects you spray to the left of the path.

Objects sprayed along a curved line (left). The objects and line were edited after the objects were sprayed (right).

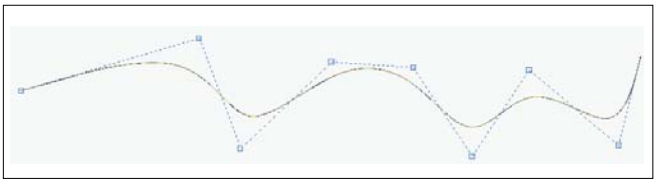
Preset mode

Using the preset mode of the Artistic media tool is perfect when you want to create a basic stroke that can be edited. Preset stroke vary in width and shape, and you can edit them by applying a different preset stroke shape, by stretching and moving the stroke on the page, and by applying the outline and fill to the stroke.

B-spline tool

By using control points, you can easily shape a curved line and draw B-splines, which are typically smooth, continuous curved lines. B-splines touch the first and last control points and are pulled by the points in between. However, unlike the nodes on Bézier curves, control points don't let you specify the points through which a curve passes when you want to align a curve with other drawing elements.

The control points that touch the line are referred to as "clamped". Clamped control points function as anchors. The control points that pull the line but do not touch it are referred to as "floating". The first and last control points are always clamped on open-ended B-splines. The points in between float by default, but you can clamp points if you want to create cusps or straight lines within the B-spline. You can edit completed B-splines by using the control points.



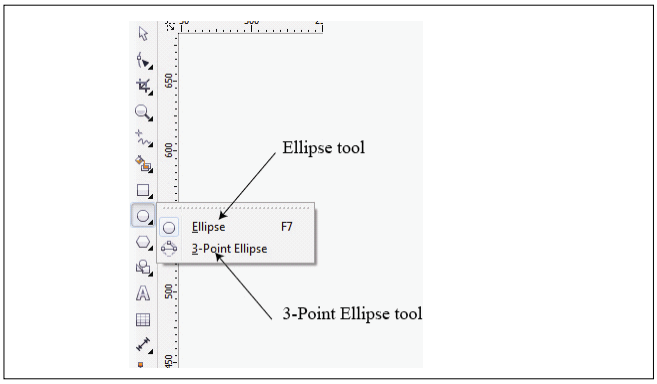
Creating Ellipses, Circles, Rectangles and Squares

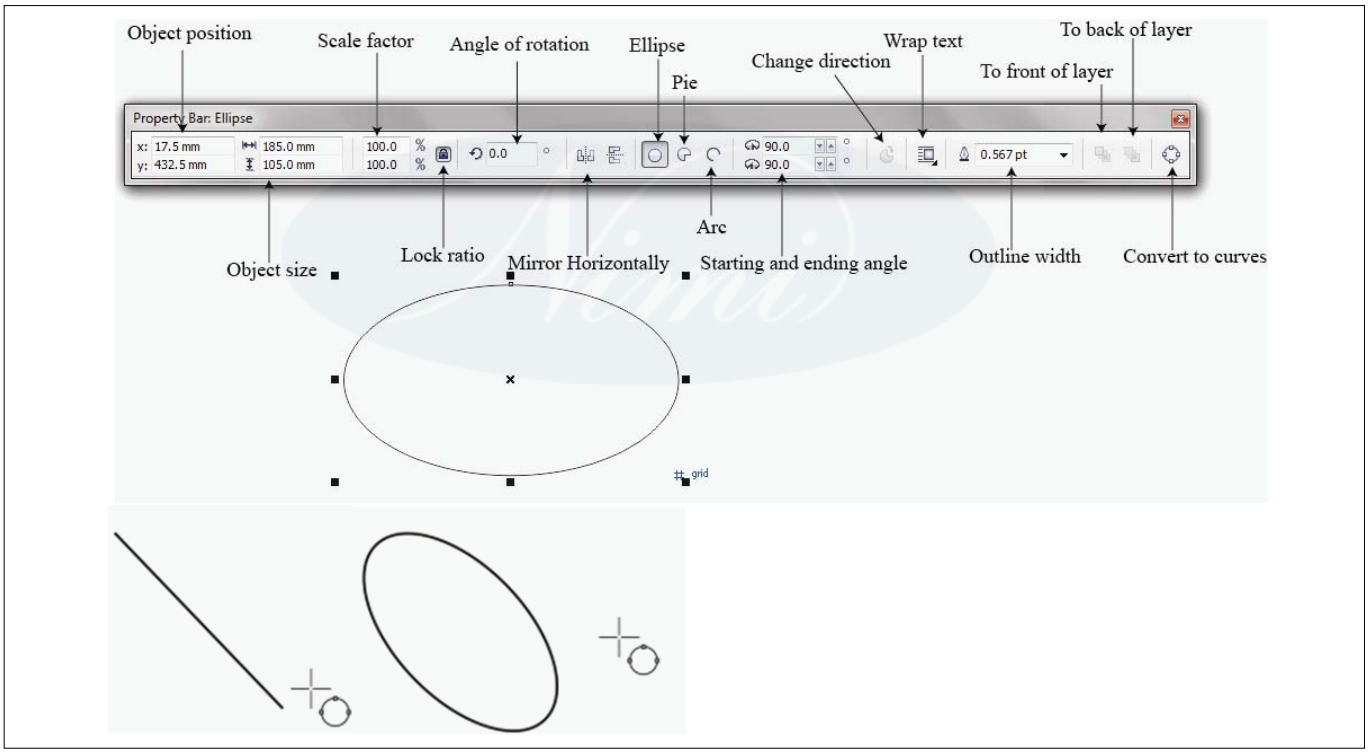
Objectives : At the end of this lesson you shall be able to
- **explain the ellipse, circle, rectangle, and square tools**
- **polygon, star and complex star tools**
- **state the spiral and graph paper tools**
- **explain the shape edit tools.**

Ellipses, circles, rectangle and square

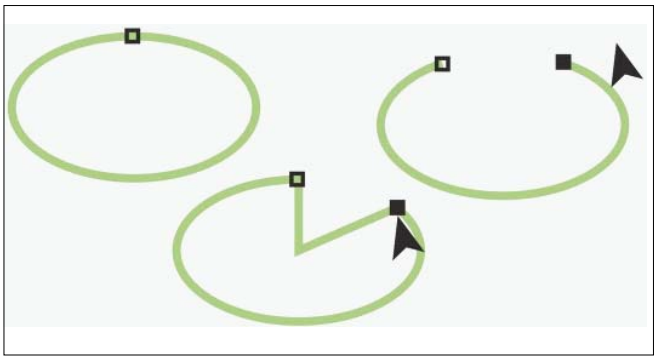
Ellipse and circle

Draw an ellipse or circle by dragging diagonally with the Ellipse tool, or draw an ellipse by using the 3-point ellipse tool to specify its width and height. The 3-point ellipse tool quickly create an ellipse at an angle, eliminating the need to rotate the ellipse.





Using the 3-point ellipse tool, to draw an ellipse by first drawing its centerline and then drawing its height. This method to draw ellipses at an angle



To draw an ellipse or a circle from its center outward by holding down Shift as and drag.

Arcs, and Pie

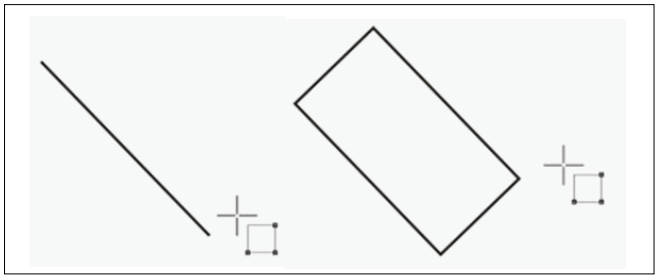
Using the Ellipse tool, draw a new arc or pie shape, or draw an ellipse or circle and then change it to an arc or a pie shape. Change the default properties of new objects that are drawn with the Ellipse tool. For example, to set the default properties so that all new shapes to draw are arcs or pie shapes.

To use the Shape tool to create a pie shape, drag the node of the ellipse (left) to the inside of the ellipse (center). To create an arc, drag the node to the outside of the ellipse (right).

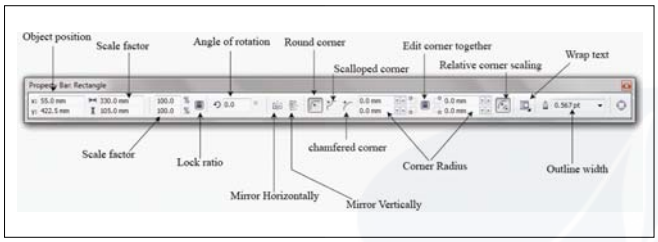
To draw an arc, the ellipse or circle must have an outline

Rectangle and square shapes

Draw a rectangle or square by dragging diagonally with the Rectangle tool or by specifying the width and height with the 3-point rectangle tool. The 3-point rectangle tool lets you quickly draw rectangles at an angle.



Create a 3-point rectangle by first drawing its baseline and then drawing its height. The resulting rectangle is angled.



Property bar of the Rectangle tool

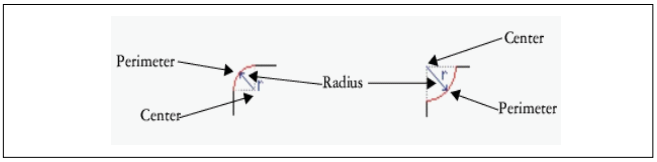
Draw a rectangle or square with rounded, scalloped or chamfered corners. To modify each corner individually or apply the changes to all corners. In addition, to specify that all corners scale relative to the object. To also specify the default corner size for drawing rectangles and squares.

Understanding rounded, scalloped, and chamfered corners

Rounding produces a curved corner, scalloping replaces the corner with an edge that has a curved notch, and chamfering replaces the corner with a straight edge, also known as a bevel.

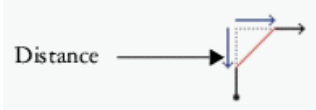
From left to right, to see standard corners with no changes, rounded corners, scalloped corners, and chamfered corners.

To draw rectangles or squares with rounded, scalloped, or chamfered corners, need to specify the corner size. For rounding or scalloping a corner, the corner size determines the corner radius. The radius is measured from the curve's center to its perimeter. Higher corner size values produce more rounded corners or deep scalloped corners.



From left to right, to see the radius of a rounded corner and the radius of a scalloped corner

The size value for chamfering a corner represents the distance to set where the chamfer will begin in relation to the original corner. Higher corner size values produce a longer chamfered edge.

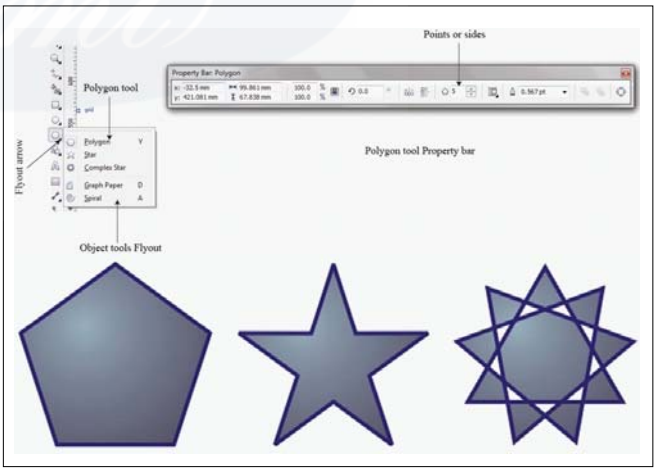


To draw a rectangle from its center outward by holding down Shift as you drag. Draw also a square from its center outward by holding down Shift + Ctrl as you drag.

Draw a rectangle that covers the drawing page by double-clicking the Rectangle tool.

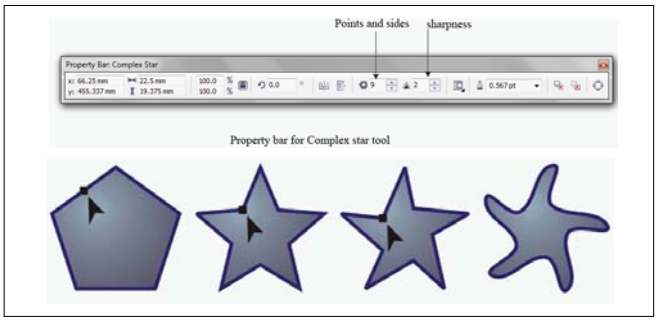
Polygon, star and complex star tools

Draw polygons and two types of stars: perfect and complex. Perfect stars are traditional-looking stars and can have a fill applied to the entire star shape. Complex stars have intersecting sides and produce original results with a fill applied.



Left to right: Polygon, perfect star, and complex star, each with a fountain fill applied

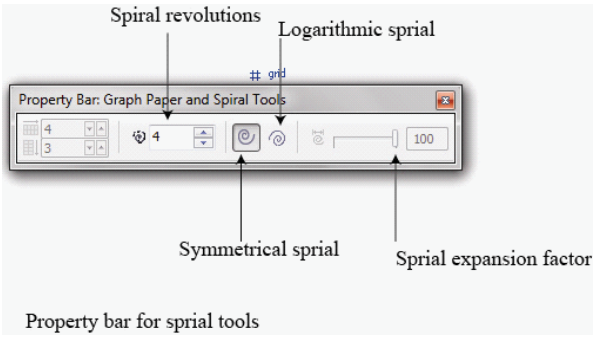
To modify polygons and stars. For example, change the number of sides on a polygon or the number of points on a star, and sharpen the points of a star. Also to use the Shape tool to reshape polygons and complex stars, just as too with any other curve object. Perfect stars can also be reshaped, but with some restrictions.

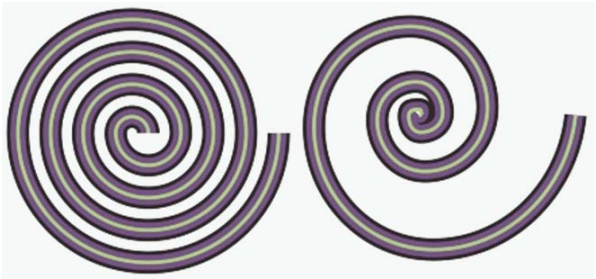


Left to right: The Shape tool was used to change a polygon into a star that can be shaped as a curve object. The line segments of the star were then converted to curves and adjusted to produce the starfish shape.

Spiral Tool

Draw two types of spirals: symmetrical and logarithmic. Symmetrical spirals expand evenly so that the distance between each revolution is equal. Logarithmic spirals expand with increasingly larger distances between revolutions. You can set the rate by which a logarithmic spiral expands outward.





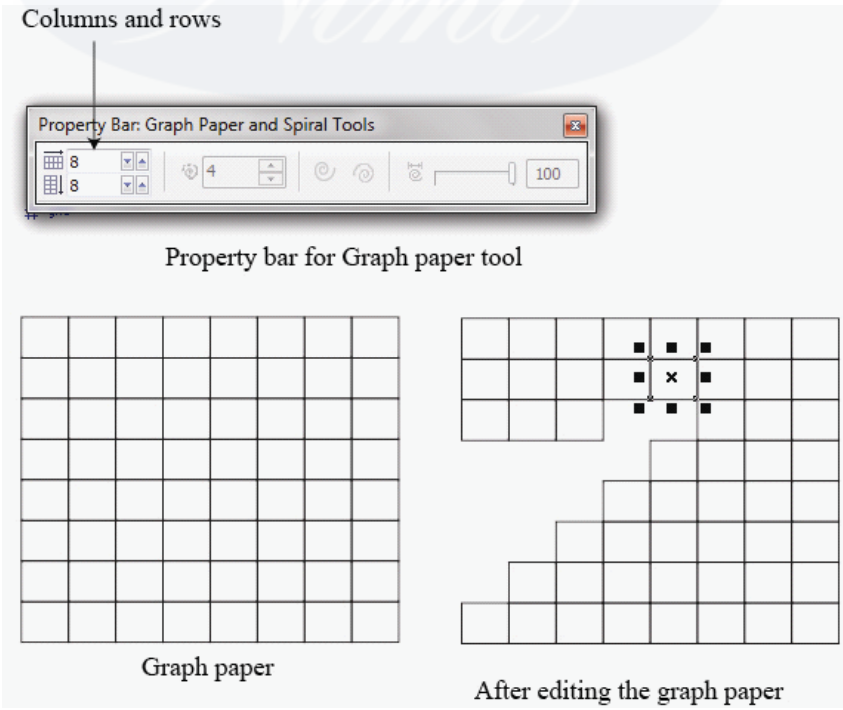
A symmetrical spiral (left) and a logarithmic spiral (right)

Draw a spiral from its center outward by holding down Shift as you drag.

Also draw a spiral with even horizontal and vertical dimensions by holding down Ctrl as you drag.

Graph paper tool

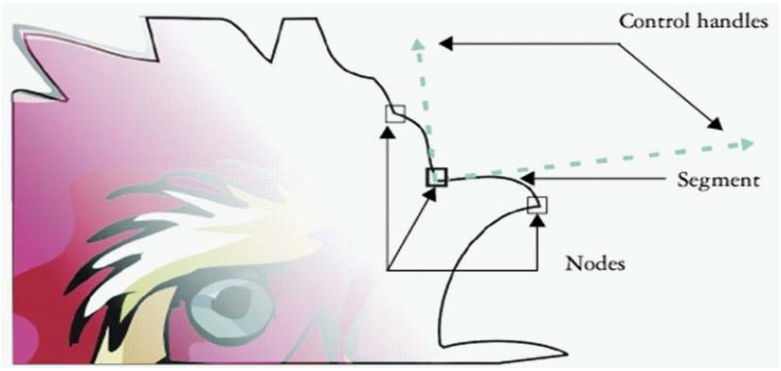
Draw a grid and set the number of rows and columns. A grid is a grouped set of rectangles that you can break apart.



You can also break apart a grid by clicking the Ungroup button on the property bar

Curve objects

A curve object has nodes and control handles, which is use to change the object's shape. A curve object can be any shape, including a straight or curved line. An object's nodes are the small squares that appear along the object's outline. The line between two nodes is called a segment. Segments can be curved or straight. Each node has a control handle for each curved segment connected to it. Control handles help to adjust the curve of a segment.



The components of a curve: control handles, segments, and nodes

Curve objects created in CorelDRAW follow a path that gives them their defining shape. A path can be open (for example, a line) or closed (for example, an ellipse) and can sometimes include subpaths.

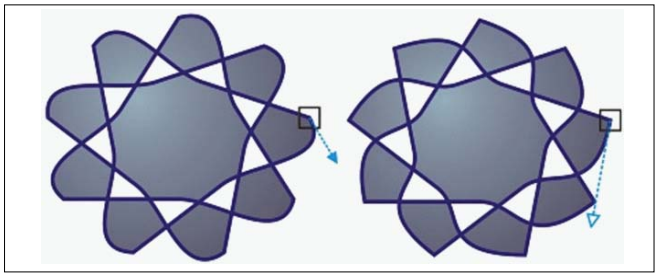
Most objects that are added to a drawing are not curve objects, with the exception of spirals, freehand lines, and Bézier lines. Therefore, if you want to customize the shape of an object or text object, it is recommended that you convert it to a curve object.

You can also convert an object to a curve object by selecting the object and clicking the Convert to curves button on the property bar.

Selecting and moving nodes

Select individual, multiple, or all of the object's nodes. Selecting multiple nodes toshape different parts of an object simultaneously. The marquee select nodes by enclosing them with a rectangular marquee box, or by enclosing them with an irregularly shaped marquee box. Freehand marquee selection is useful when you want to select specific nodes in complex curves.

When a node is selected on curved segments, control handles are displayed. You can adjust the shape of the curved segments by moving the nodes and control handles.



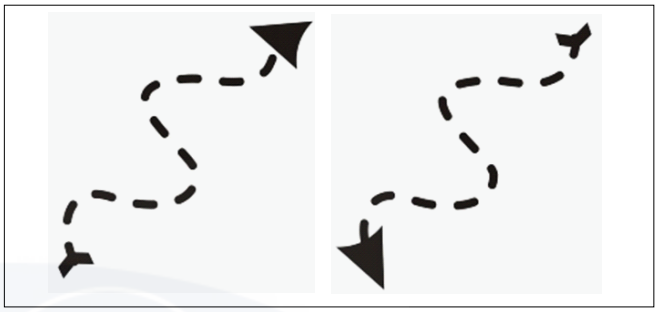
Usually, a control handle is displayed as a solid blue arrowhead (left). When a control handle overlaps with a node, it is displayed as an unfilled blue arrowhead beside the node (right).

The Shape tool is the standard tool for moving nodes. Also set an option to use the Pick and Bézier tools for selecting and moving nodes.

Manipulating segments

To move curved segments to change an object's shape. Also control the smoothness of curved segments.

To change the direction of a curve object by reversing the position of its start and end nodes. The effect is apparent only when the ends of a curve object are different. For example, when an arrowhead is applied to the end node of a curve object, changing the direction results in moving the arrowhead to the start node.

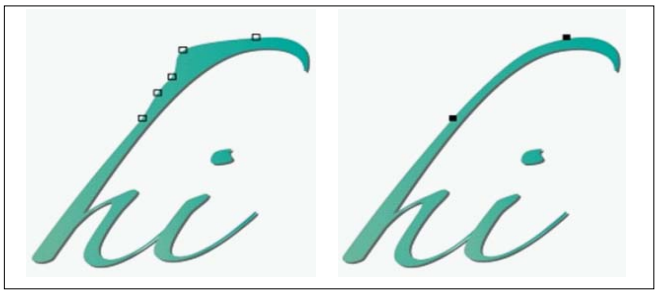


Changing the direction of a curve

Adding, removing, joining, and aligning nodes

Add nodes, to increase the number of segments and, therefore, the amount of control you have over the shape of the object. To delete selected nodes to simplify an object's shape.

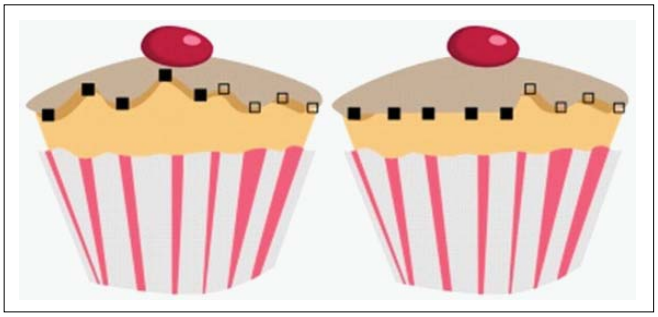
When curve objects contain many nodes, it is difficult to edit and output them to devices such as vinyl cutters, plotters, and rotary engravers. You can have the number of nodes in a curve object reduced automatically. Reducing the number of nodes removes overlapping nodes and can smooth a curve object. This feature is especially useful for reducing the number of nodes in objects imported from other applications.



Reducing the number of nodes to smooth a curve object

To join the start and end nodes of an open path such as a line to create a closed object. This feature is useful for filling an object with color because you can apply fills only to the inside of closed objects.

To align the nodes of a curve object horizontally or vertically



Using node types

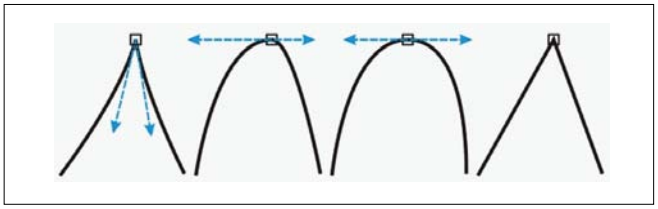
To change the nodes on a curve object to one of four types: cusp, smooth, symmetrical, or line. The control handles of each node type behave differently.

Cusp nodes to create sharp transitions, such as corners or sharp angles, in a curve object. To move the control handles in a cusp node independently of one another, changing only the line on one side of the node.

With smooth nodes, the lines passing through the node take on the shape of a curve, producing smooth transitions between line segments. The control handles of a smooth node are always directly opposite one another, but they may be at different distances from the node.

Symmetrical nodes are similar to smooth nodes. They create a smooth transition between line segments, but they also to give lines on both sides of a node the same curve appearance. The control handles of symmetrical nodes are directly opposite each other and at an equal distance from the node.

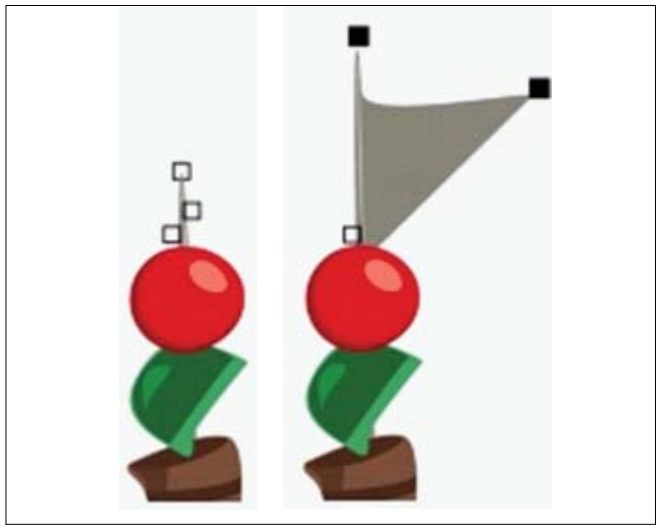
Line nodes to shape curve objects by changing the shape of their segments. To make a curved segment straight or a straight segment curved. Making a straight segment curved does not noticeably change the segment's appearance, but it displays control handles that to move to change the segment's shape.



Left to right: Cusp, smooth, symmetrical, and line nodes

Transforming nodes

Shape objects by stretching, scaling, rotating, and skewing their nodes. For example, to scale the corner nodes of a curve object to enlarge the curve object proportionally. Also, a curve object or parts of a curve object can be rotated in a counterclockwise or clockwise direction.



Stretching nodes

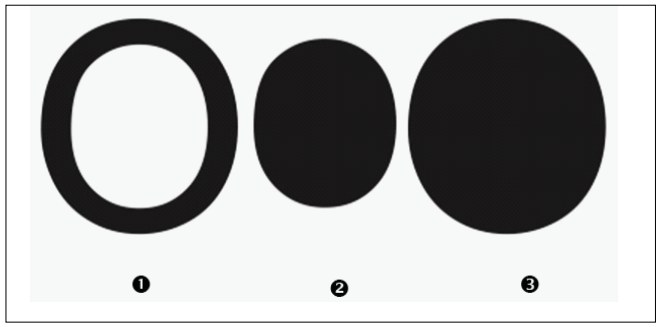
Breaking the path of curve objects

Paths

Paths outline an object's shape and are often visible as one or more line or curve segments. To disconnect line segments from one another to create subpaths. Even though they are not connected, subpaths are still part of the defining path of the original object; however, to extract a subpath to create two separate objects: the extracted subpath and the object it was extracted from.

Subpaths

Subpaths are the basic curves and shapes from which a single curve object is constructed. For example, a single curve object with subpaths is often created when text is converted to curves. The letter "O," for instance, is composed of two ellipses: the outside ellipse that defines the letter's shape and the inside ellipse that defines the "hole." The ellipses are subpaths that compose the single curve object, "O." One of the basic reasons for creating an object with subpaths is that can produce objects with holes in them. In the following example, to see objects underneath the center of the letter "O."

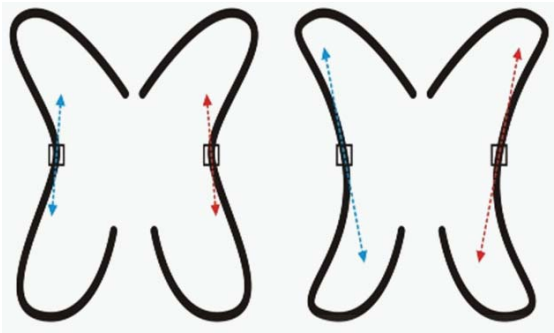


1) The letter "O" is converted to curves. 2) The resulting subpaths are the outside ellipse that defines the shape of the letter and the inside ellipse that defines the hole. 3) In comparison, the black ellipse consists of a single path and cannot contain a "hole."

Mirroring changes in curve objects

To change mirror in curve objects, to edit nodes and have the same edits take place in reverse on corresponding nodes. For example, to move a node to the right, and its corresponding node moves the same distance to the left.

To mirror changes, select two curve objects one of which was created by mirroring the other, or a symmetrical object. Next, need to choose whether to mirror changes horizontally (along a vertical line of symmetry) or vertically (along a horizontal line of symmetry). Finally, need to select the appropriate corresponding nodes so that editing changes are mirrored across the selected objects.

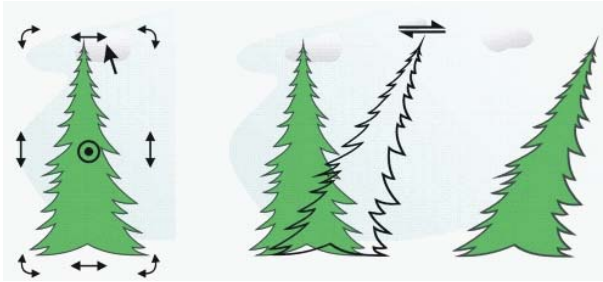


Left: Two corresponding nodes are selected in mirrored curve objects. Right: When the blue control handles are moved, the change is reflected in the corresponding control handles (in red).

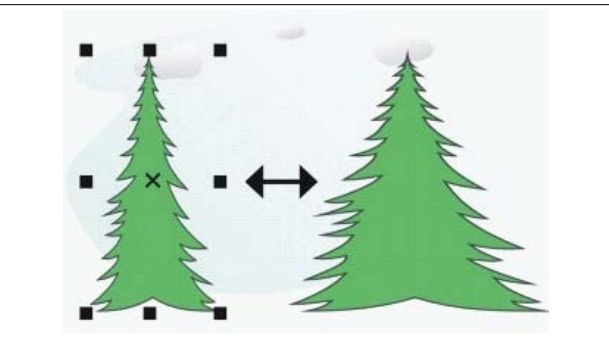
Skewing and stretching objects

skew and stretch objects in CorelDRAW. Change to skew an object, to specify the degree by which you want to slant the object. Stretching changes an object's vertical and horizontal dimensions non- proportionally.

CorelDRAW also to change the skew and sizing anchor point of an object from its default center position.



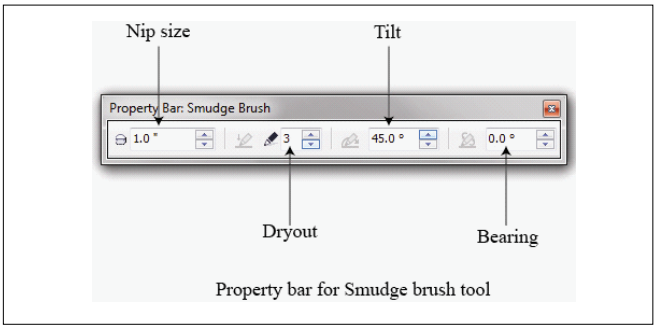
Skewing an object horizontally



Stretching an object horizontally

Smudging objects

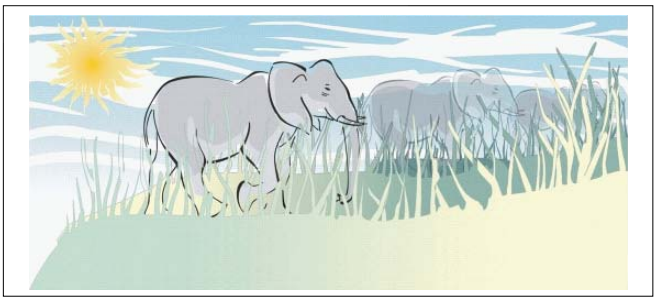
Smudging is to distort an object by dragging its outline. When applying smudging to an object, you can control the extent and shape of the distortion whether to activate the controls for the graphics tablet stylus or use the settings that apply to a mouse.



Property bar for Smudge brush tool

The smudging effect responds to both the angle of rotation - or bearing - and the tilt angle of a graphics tablet stylus. Rotating the stylus changes the angle of the smudging effect and tilting the stylus flattens the brush tip and changes the shape of the smudging. If using a mouse, you can simulate the bearing and tilt of the stylus by specifying values. Increasing the bearing angle from 0 - 359° changes the angle of the brushstroke. As to decrease the tilt angle from 90° - 15°, to change the smudging shape by flattening the brush tip.

Smudging can respond to the pressure of a stylus on a tablet where the smudging widens with more pressure and narrows with less. If using a mouse or want to override stylus pressure, enter real values to simulate the pressure of a stylus on a graphics tablet. Negative values to -10 create a narrowing distortion, 0 maintains an even stroke width, and positive values to 10 create an expanding distortion.



Objects placed in the foreground and background have been shaped by outside smudging (sun's rays and blades of grass) and inside smudging (clouds).

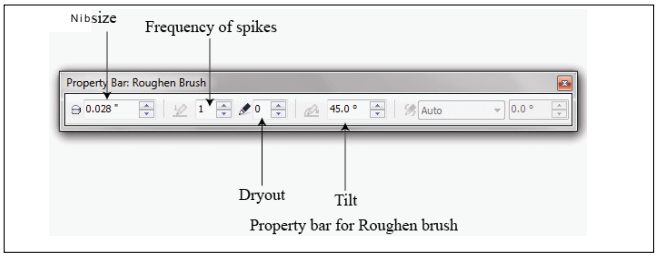
Whether to using a stylus or a mouse, must specify the nib size. The nib size determines the width of the smudging applied to an object.

To apply the smudging effect to the inside and outside of an object

Smudging cannot apply to Internet or embedded objects, linked images, grids, masks, mesh-filled objects, or objects with blend and contour effects.

Roughening objects

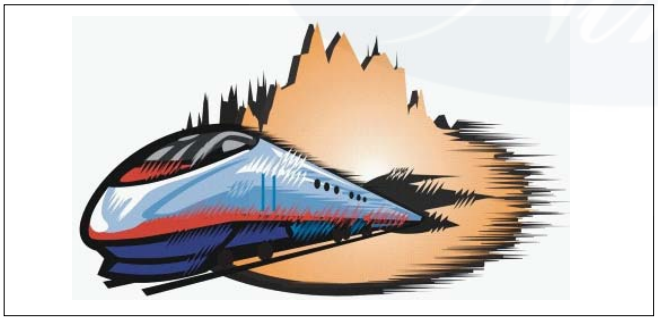
The roughening effect to apply a jagged or spiked edge to objects, including lines, curves, and text. To control the size, angle, direction, and number of the indentations whether you activate the graphics tablet stylus or apply settings to a mouse.



The roughening effect is determined either by movements of a graphics tablet stylus, by fixed settings, or by automatically applying perpendicular spikes to the line. Tilting the stylus toward and away from the tablet's surface increases and decreases the size of the spikes. When using a mouse, to specify the tilt angle from 0 - 90°. Determine the direction of the spikes by changing the angle of rotation (or bearing) of the stylus as to apply the roughening effect to an object. When using a mouse, to set the bearing angle from 0 - 359°. Also increase or decrease the number of spikes that are applied as the drag.

The roughening effect also responds to the pressure of the stylus on the tablet. The more pressure to apply, the more spikes are created in the roughened area. Using a mouse, you can specify values to simulate the stylus pressure.

To change the brush nib size



Roughening allows you to apply jags or spikes to part of an outline or path.

To make the tilt angle and bearing angle responsive to the graphics tablet stylus, right-click the roughened object, and select a command from the submenu.

To get the minimum and maximum values for the roughening controls, right-click the control on the property bar, and click Settings

Distortion effects

To apply three types of distortion effects to shape objects.

Distortion effect Description

Push and pull

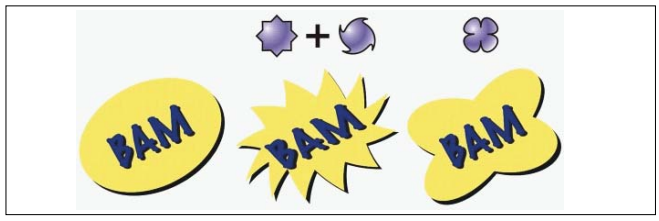
Drag to push the edges of an object in or pull the edges of an object out.

Zipper

Apply to saw tooth effect to the edges of the object. To adjust the amplitude and frequency of the effect.

Twister

To rotate an object to create a swirl effect. Choose the direction of the swirl, as well as the origin, degree, and amount of rotation.

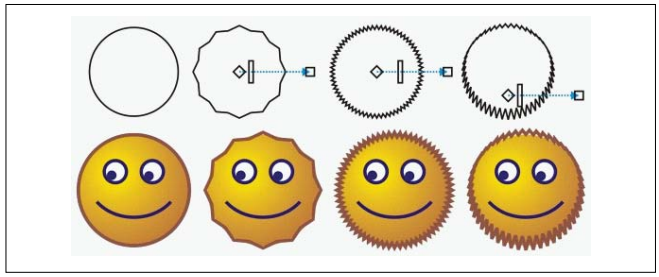


From left to right: Original image; Zipper and Twister distortions applied; Pull distortion applied

After apply distort an object, to change the effect by altering the center of distortion. This point is identified by a diamond-shaped handle, around which a distortion appears. It is similar to a mathematical compass, where the pencil moves around a stationary point. Place the center of distortion anywhere in the drawing window, or choose to center it in the middle of an object so that the distortion is distributed evenly and the shape of the object changes in relation to its center.

To create an even more dramatic effect by applying a new distortion to an already distorted object. Don't lose the effect of the original distortion if, for example, to apply a zipper distortion on top of a twister distortion. The CorelDRAW application also to remove and copy distortion effects.

Center a distortion by clicking the Center distortion button on the property bar.



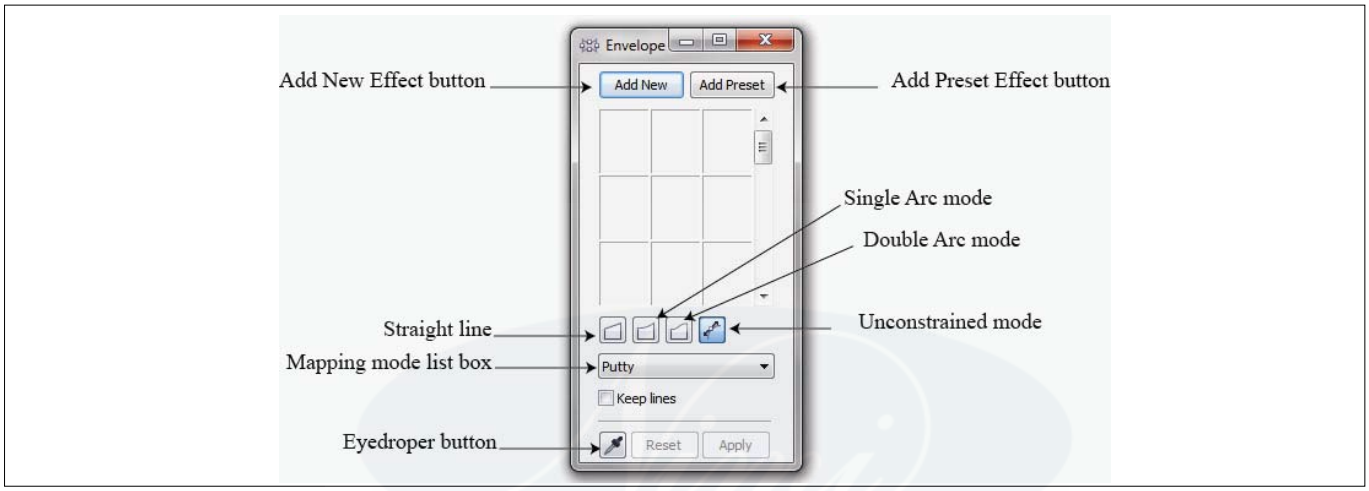
Use the interactive vector controls to edit a distortion effect. Upper left: Zipper effect applied to circle. Upper right: Zipper effects with higher frequency (more spikes) applied. Bottom: Results of applying zipper effects.

Shaping objects

Objectives : At the end of this lesson you shall be able to
- **state shaping object by use envelope effects**
- **explain the extrude and bevel effects**
- **state the Lens effects**
- **describe the blending and contour effects**
- **explain the perspective effects.**

Shaping objects by use envelopes effects

CorelDRAW apply to shape objects, including lines, artistic text, and paragraph text frames by applying envelopes to them. Envelopes are made of multiple nodes that you can move to shape the envelope and, as a result, change the shape of the object. To apply a basic envelope that conforms to the shape of an object, or to apply also a preset envelope. After you apply an envelope, to edit it or add a new envelope to continue changing the object's shape. CorelDRAW also to copy and remove envelopes.



Edit an envelope by adding and positioning its nodes. Adding nodes gives more control over the shape of the object contained in the envelope. CorelDRAW also to delete nodes, move multiple nodes simultaneously, change nodes from one type to another, and change a segment of an envelope to a line or curve.

To change the mapping mode of an envelope to specify how the object fits to the envelope. For example, stretch an object to fit the basic dimensions of the envelope, and then apply the horizontal mapping mode to compress it horizontally so that it fits the shape of the envelope.

Extrude effect

To make objects appear three-dimensional by creating extrusions. Create extrusions by projecting points from an object and joining them to create an illusion of three dimensions. CorelDRAW also to apply a vector extrusion to an object in a group.

After to create an extrusion, copy or clone its attributes to a selected object. Cloning and copying transfer the extrusion attributes of an extruded object to another. However, the cloned extrusion settings cannot be edited independently from the master.

Change an extruded form by rotating it and rounding its corners.

CorelDRAW also to remove a vector extrusion.

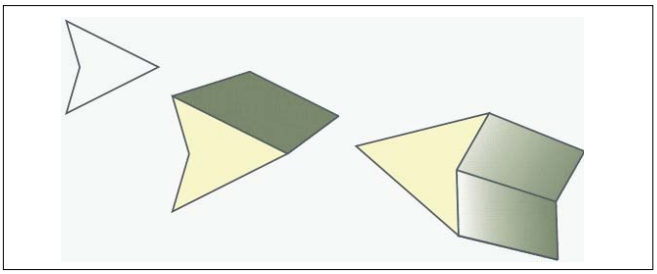
Bevels

Another way in which give an object a three-dimensional appearance is by applying a beveled edge to an extrusion. A bevel creates the illusion that an object's extruded edges are cut on an angle. To specify the angle and depth values of the bevel to control the effect.

Create a bevel effect without extruding an object.

Extruded fills

To apply fills to an entire extrusion or only to the extruded surfaces. Cover each surface individually with the fill, or drape the fill so that it blankets the entire object with no breaks to the pattern or texture.



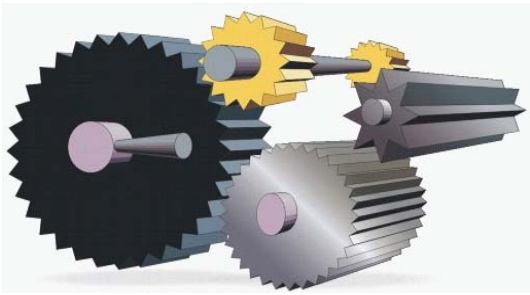
Left to right: A simple shape, the shape with an extruded fill of solid color, the shape with an extruded gradient fill and a rotation applied.

Lighting

Enhance extrusions by applying light sources. Add up to three light sources to project toward the extruded object with varying intensity. No longer need light sources, you can remove them.

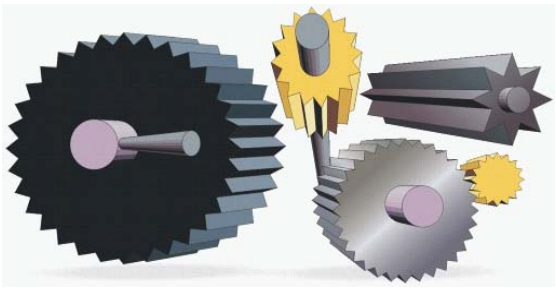
Vanishing points

Create a vector extrusion in which the lines of the extrusion converge at a vanishing point. The vanishing point of a vector extrusion can be copied to another object so that both objects appear to recede toward the same point.



Extrusions with the same vanishing point

Also to give two extrusions different vanishing points.



Extrusions with different vanishing points

Lens effect

Lenses change how the object area beneath the lens appears, not the actual properties and attributes of the objects. To apply lenses to any vector object, such as a rectangle, ellipse, closed path, or polygon. You can also change the appearance of artistic text and bitmaps. When to apply a lens over a vector object, the lens itself becomes a vector image. Likewise, if the lens is placed over a bitmap, the lens also becomes a bitmap.

After you apply a lens, copy it and use it with another object

The lens types applied to the original (far left): (left to right) Heat map, Magnify, and a Custom color map

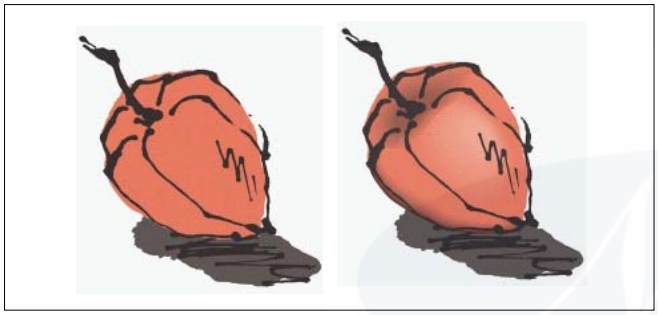
The following are the types of lenses apply to objects.

Lens	Description
Brighten	To brighten and darken object areas and set the rate of the brightness and darkness
Color add	Simulate an additive light model. The colors of the objects beneath the lens are added to the color of the lens as if you were mixing colors of light. Choose the color and the amount of color you want to add.
Color limit	To view an object area with only black and the lens color showing through. For example, if place a green color limit lens over a bitmap, all colors except green and black are filtered out in the lens area.
Custom color map	Change all the colors of the object area beneath the lens to a color ranging between two colors you specify. You can choose the range's start and end colors and the progression between the two colors. The progression can follow a direct, forward, or reverse route through the color spectrum.
Fish eye	To apply distort, magnify, or shrink the objects beneath the lens, according to the percentage value you specify

Heat map lens	Create the effect of an infrared image by mimicking the heat levels of colors in object areas beneath the
Invert	Change the colors beneath the lens to their complementary CMYK colors. Complementary colors are colors that are opposite one another on the color wheel.
Magnify	Magnify an area on an object by an amount that you specify. The magnify lens overrides the original object's fill, making the object look transparent.
Tinted grayscale	Change the colors of object areas beneath the lens to their grayscale equivalents. Tinted grayscale lenses are particularly effective for creating sepia-tone effects.
Transparency	To make an object look like a piece of tinted film or colored glass
Wireframe	To display the object area beneath the lens with the outline or fill color you choose. For example, set red for the outline and blue for the fill, all areas beneath the lens appear to have red outlines and blue fills.

Blending objects

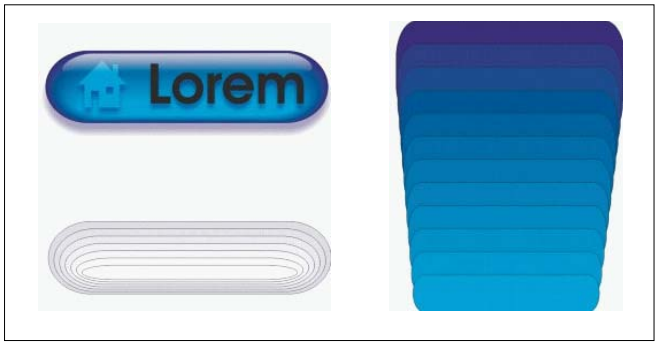
CorelDRAW lets to create blends, such as straight-line blends, blends along a path, and compound blends. Blends are often used for creating realistic shadows and highlights in objects.



The highlights and shadows in the object on the right were created by using blends.

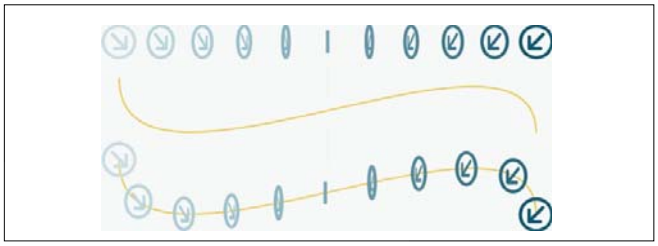
A straight-line blend shows a progression in shape and size from one object to another. The outline and fill colors of the intermediate objects progress along a straight-line path across the color spectrum. The outlines of intermediate objects show a gradual progression in thickness and shape.

After to create a blend, copy or clone its settings to other objects. Copy a blend, the object takes on all the blend-related settings, except for their outline and fill attributes. Clone a blend, changes to make to the original blend (also called the master) are applied to the clone.



Straight-line blends can be used to create graphics with a glass-like appearance. The rollover button (left) contains a blend of tightly overlapped blended objects.

Can fit objects along part or all of a path's shape, and add one or more objects to a blend to create a compound blend.

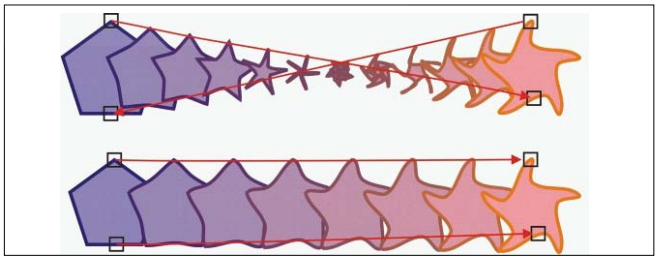


The straight-line blend (top) is fitted to a curved path (bottom).

Change the appearance of a blend by adjusting the number and spacing of its intermediate objects, the blend's color progression, the nodes the blends map to, the blend's path, and the start and end objects. Fuse the components of a split or compound blend to create a single object.

This compound blend consists of three blends.

To split and remove a blend



By mapping nodes, control the appearance of a blend. Two nodes on the polygon are mapped to two nodes of a star shape, showing a more gradual transition (bottom).

To set object and color acceleration rates by clicking the Object and color acceleration button on the property bar and moving the corresponding slider.

Contour

An effect created by adding evenly spaced concentric shapes inside or outside the borders of an object. This effect can also be used for creating cuttable outlines for devices, such as plotters, engraving machines, and vinyl cutters

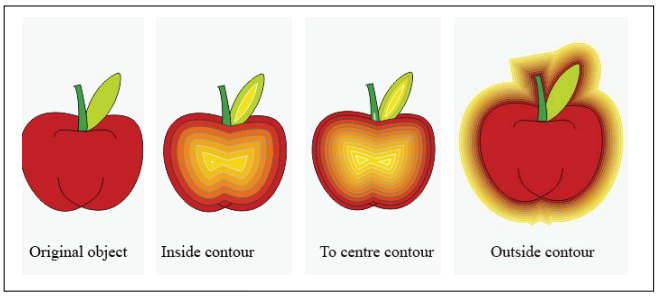
Contouring objects

contour an object to create a series of concentric lines that progress to the inside or outside of the object. CorelDRAW also to set the number and distance of the contour lines.

In addition to creating interesting 3D effects, to use contours to create cuttable outlines for output to devices, such as plotters, engraving machines, and vinyl cutters.

After contouring an object, copy or clone its contour settings to another object. Change the colors of the fill between the contour lines and the contour outlines themselves. Set a color progression in the contour effect, where one color blends into another. The color progression can follow a straight, clockwise, or counterclockwise path through the color range of your choice.

Separate an object from its contour lines.

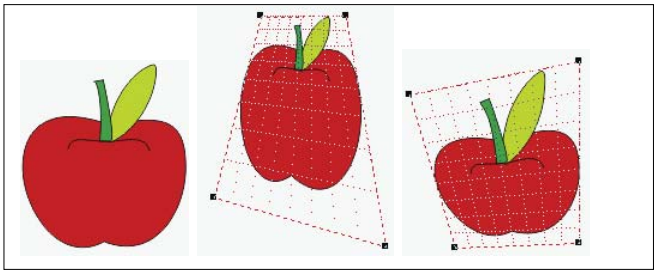


Perspective to objects

Create a perspective effect by shortening one or two sides of an object. This effect gives an object the appearance of receding in one or two directions, thereby creating a one-point perspective or a two-point perspective.

Perspective effects can be added to objects or grouped objects. Also to add a perspective effect to linked groups, such as contours, blends, extrusions, and objects created with the Artistic media tool. You can't add perspective effects to paragraph text, bitmaps, or symbols.

The original graphic (left) with one-point (middle) and two-point (right) perspective applied to it.



Fills effects

Objectives : At the end of this lesson you shall be able to
- **define colours, types of colour and features of colors**
- **sate Uniform fills and fountain fills**
- **explain the Pattern fills and Texture fills**
- **state the Postscript fills and mesh fills**
- **explain the area fills**
- **describe the colors.**

Filling objects

To add colored, patterned, textured, and other fills to the inside of objects or other enclosed areas. Customize a fill and set it as a default, so that each object you draw has the same fill.

Uniform fills

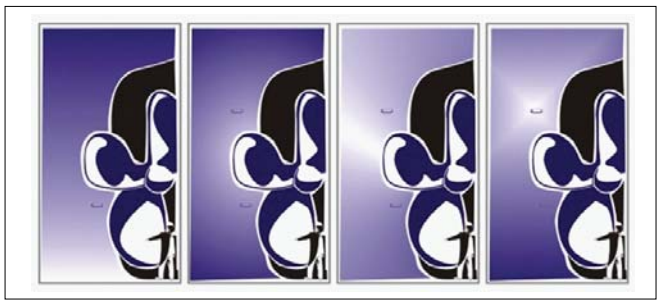
Apply a uniform fill to objects. Uniform fills are solid colors that choose or create by using color models and color palettes.

To apply a uniform fill by using the Uniform fill tool in the toolbox. Also apply a uniform fill by clicking the Interactive fill tool in the toolbox, and choosing Uniform fill from the Fill type list box on the property bar.

Fountain fills

A fountain fill is a smooth progression of two or more colors that adds depth to an object. Fountain fills are also known as gradient fills.

There are four types of fountain fills: linear, radial, conical, and square. A linear fountain fill flows in a straight line across the object, a conical fountain fill creates the illusion of light hitting a cone, a radial fountain fill radiates from the center of the object, and a square fountain fill is dispersed in concentric squares from the center of the object.



There four types of fountain fills (left to right): linear, radial, conical, and square.

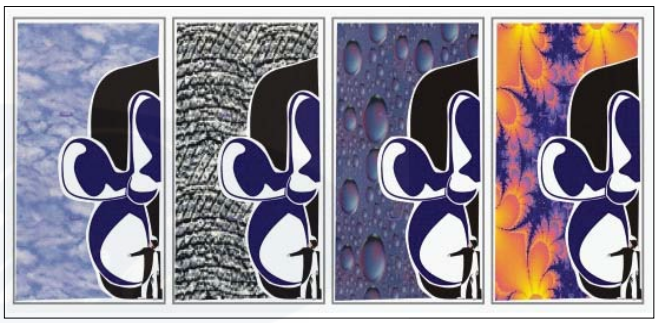
To apply preset fountain fills, two-color fountain fills, and custom fountain fills to objects. Custom fountain fills can contain two or more colors, which you can position anywhere in the fill's progression. After you create a custom fountain fill, save it as a preset.

When apply a fountain fill, to specify attributes for the fill type you choose; for example, the direction of a fill's color blend, the fill's angle, center point, midpoint, and edge pad.

Adjust the print and display quality of the fountain fill by specifying the number of fountain steps. By default, the fountain step setting is locked so that the print quality of the fountain fill is determined by the value specified in the print settings and the display quality is determined by the default value you set. However, Unlock the fountain steps setting when you apply a fountain fill and specify a value that applies to both the print and view quality of the fill.

Pattern fills

Fill objects with two-color, full-color, or bitmap pattern fills.



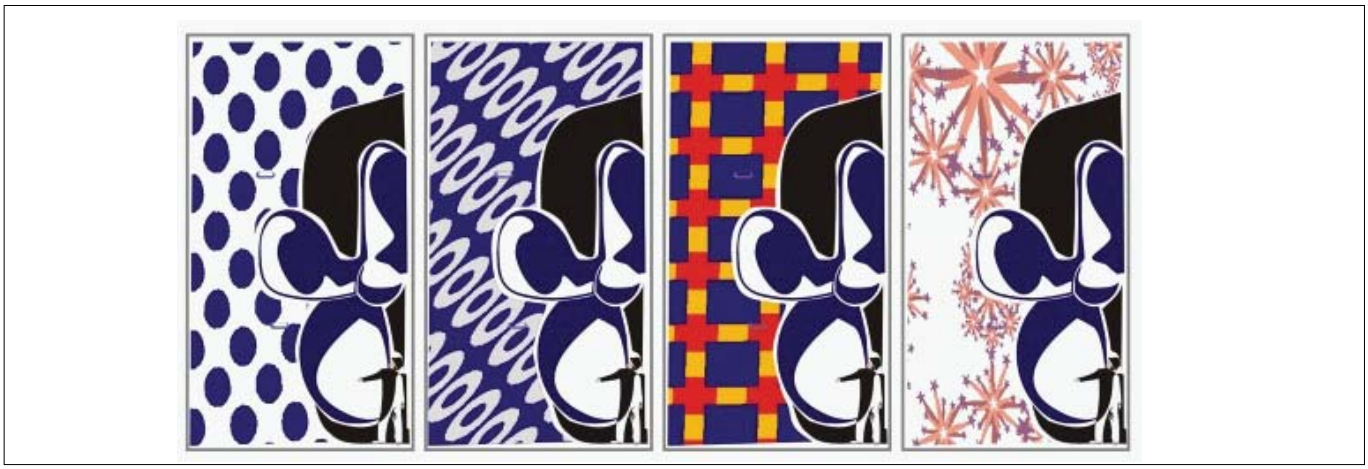
Examples of bitmap pattern fills

A two-color pattern fill is composed of only the two colors that you choose. A full-color pattern fill is a more complex vector graphic that can be composed of lines and fills. A bitmap pattern fill is a bitmap image whose complexity is determined by its size, image resolution, and bit depth.

CorelDRAW provides preset pattern fills that to apply to objects; however, to create your own pattern fills. For example, create pattern fills from objects that you draw or images that you import.

Change the tile size of pattern fills. To specify exactly where these fills begin by setting the tile origin. CorelDRAW also to set offset tiles in a fill. Adjusting the horizontal or vertical position of the first pattern, relative to the top of the object, affects the rest of the fill.

How the pattern fill appears by specifying whether to mirror the fill so that alternating tiles are the reflections of one another. If want a pattern fill to change according to actions you perform on the filled object, to specify that to want it to transform with the object. For example, if enlarge an object filled with a pattern that transforms, the pattern becomes larger while the number of tiles is not increased.



To apply a pattern of two colors or many colors to an object.

Texture fills

A texture fill is a randomly generated fill that use to give objects a natural appearance. CorelDRAW provides preset textures, and each texture has a set of options that change. Use colors from any color model or palette to customize texture fills. Texture fills can hold only RGB colors; however, other color models and palettes can be used as a reference to select colors.

Change the tile size of texture fills. Increasing the resolution of a texture tile increases the accuracy of the fill. To specify exactly where these fills begin by setting the tile origin. CorelDRAW also offset tiles in a fill. Adjusting the horizontal or vertical position of the first tile, relative to the top of the object, affects the rest of the fill.

PostScript texture fills

To apply PostScript texture fills to objects. A PostScript texture fill is created in the PostScript language. Some textures are very complex, and large objects that contain PostScript texture fills may take time to print or to update on the screen. Depending on the view mode are using, the letters "PS" - rather than the fill - may appear.

To apply a PostScript texture fill, change several parameters, such as the size, line width, and the amount of gray that appears in the texture's foreground and background.

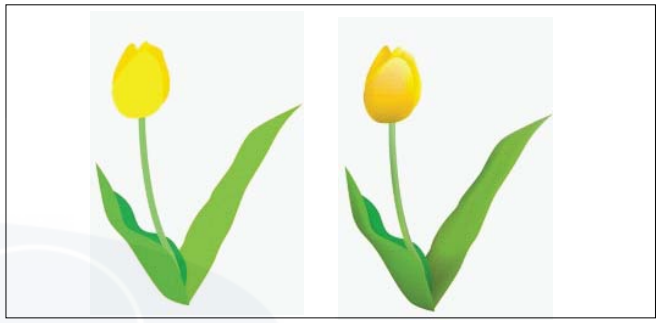
To rotate, skew, adjust the tile size, and change the center of the texture to create a custom fill.

If want a texture fill to change according to the actions perform on the filled object, to specify that to want the fill to transform with the object. For example, if enlarge an object filled with a texture that transforms, the texture becomes larger instead of increasing the number of tiles.

Texture fills are powerful features that can enhance a drawing. However, they also increase the size of a file and the time it takes to print, may want to use them in moderation.

Mesh fills

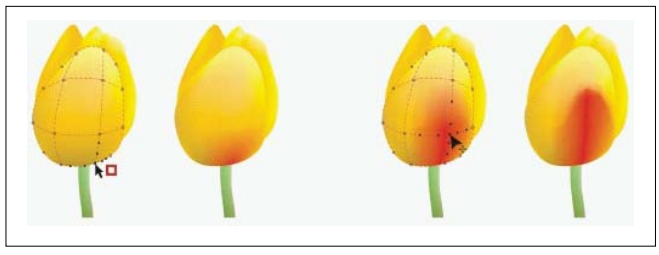
When fill an object with a mesh fill, create unique effects. For example, to create smooth color transitions in any direction without having to create blends or contours. Apply a mesh fill, to specify the number of columns and rows in the grid, and specify the grid's intersecting points. After have created a mesh object, edit the mesh fill grid by adding and removing nodes or intersections. Also remove the mesh.



Mesh fills were applied to the original drawing (left) to give it a realistic look (right).

A mesh fill can be applied only to closed objects or a single path. Ifwant to apply a mesh fill to a complex object, first create a mesh-filled object and combine it with the complex object to form a PowerClip object.

To add color to a patch of a mesh fill and to the individual intersection nodes. To also choose to mix colors for a more blended appearance.



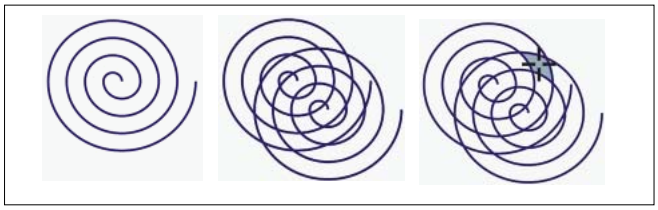
Left: Adding a color to a mesh fill. **Right:** Moving an intersection node in a mesh fill lets you adjust the progression of colors.

In addition, can smooth the color in a mesh fill to reduce the appearance of hard edges. Also reveal objects underneath a selected area by applying transparency to the mesh fill.

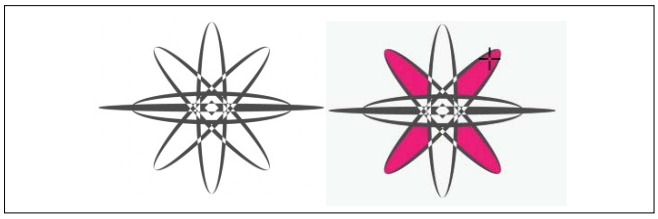
Fills to areas

To apply fills to any enclosed area by using the Smart fill tool. Unlike other fill tools, which fill only objects, the Smart fill tool detects the edges of an area and creates a closed path so that the area can be filled. For example, if draw a

freehand line that crosses over itself to create loops, the Smart fill tool can detect the edges of the loops and fill them. As long as the paths of one or more objects completely enclose an area, it can be filled.

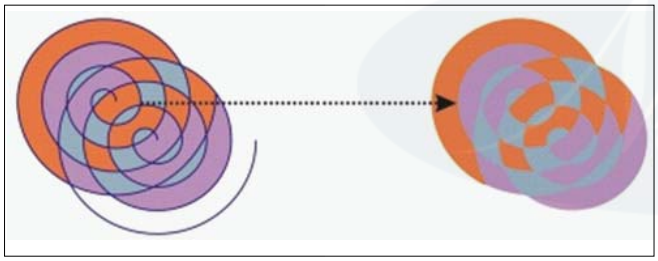


In the example above, the original spiral object is duplicated and offset, resulting in enclosed areas that can be filled by using the Smart fill tool.



Using the Smart fill tool to fill enclosed areas

Because the Smart fill tool creates a path around the area, it essentially creates a new object that can be filled, moved, copied, or edited. This means the tool can be used in one of two ways: to fill an area or to create a new object from an area.



Although primarily used to fill areas, the Smart fill tool can also be used to create new objects. In the example above, the original objects - the two spirals (left) - are deleted (right), but the fill remains because each filled area is actually an object.

Fills

There are a number of tasks that are common to all types of fills. You can choose a default fill color so that every object you add to a drawing has the same fill. To also remove any fill, copy it to another object, or use it to fill an area surrounded by an open curve

Understanding color management

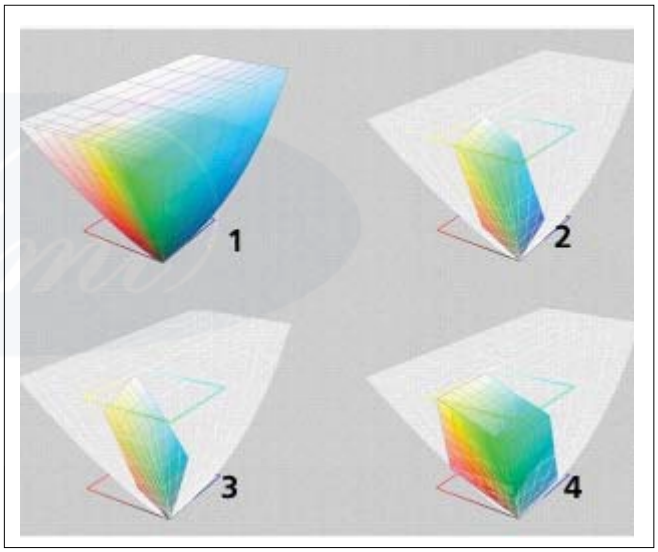
Different tools are used during the process of creating and sharing a document. For example, to may start with a file that was created in another application or import an image that was captured by a digital camera or scanner. After completing the document, to print it or e-mail it to a colleague for review. Each of the tools that you use in your workflow has a different way of interpreting color. In addition, each tool has its own range of available colors, called a color space, which is a set of numbers that define how each color is represented.

Example of a document workflow

In other words, when defining and interpreting color, each tool speaks a unique language. Consider a color in the color space of your digital camera: a vivid blue RGB color

with the values Red = 0, Green = 0, and Blue =255. This color may appear as a different color in the color space of your monitor. In addition, the color space of the printer may not contain a match for this color. As a result,when document moves through the workflow, this vivid blue color gets lost in the translation and is not accurately reproduced. A color management system is designed to improve the communication of color in the workflow so that the color of the output matches your intended color.

Colors are defined by their color space. 1. Lab color space. 2. sRGB color space, displayed against the Lab color space. 3. U.S. Web Coated (SWOP) v2 color space. 4. ProPhotoRGB color space.



What is color management?

Color management is a process that to predict and control color reproduction, regardless of the source or destination of the document. It ensures a more accurate color representation when a document is viewed, modified, shared, exported to another format, or printed.

A color management system, also known as a color engine, uses color profiles to translate the color values from one source to another. For example, it translates the colors that are displayed on the monitor into the colors that a printer can reproduce. Color profiles define the color space of monitors, scanners, digital cameras, printers, and the applications that you use to create or edit documents.

Why do I need color management?

If the document requires accurate color representation, want to learn more about color management. The complexity of your workflow and the ultimate destination of the

documents are also important considerations. If the documents are destined only for online viewing, color management may not be as important. However, if plan to open documents in another application or if the creating documents for print or multiple types of output, then proper color management is essential.

Color management lets you do the following:

- reproduce colors consistently across your workflow, especially when opening documents that were created in other applications
- reproduce colors consistently when sharing files with others
- preview (or "soft-proof") colors before they are sent to their final destination, such as a printing press, a desktop printer, or the Web
- reduce the need to adjust and correct documents when sending them to different destinations

A color management system does not offer identical color matching, but it greatly improves color accuracy.

Aligning and arranging the objects

Objectives : At the end of this lesson you shall be able to
- **explain the copy, duplicate, and delete the objects**
- **explain the align and distribute the object**
- **state the combining and locking the object**
- **describe finding and replacing the object**
- **describe the barcode and symbols**
- **preparation of graphic design and layout.**

Copy, duplicate, and delete objects

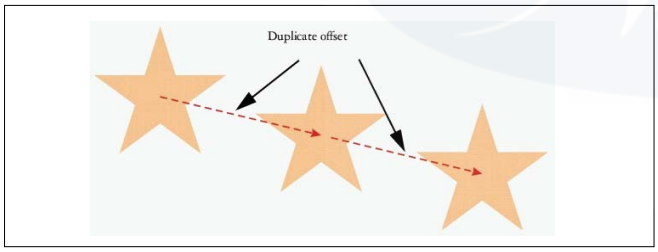
CorelDRAW provides you with several ways to copy objects. When you no longer need an object, you can delete it.

Cutting, copying, and pasting

To cut or copy an object to place it on the Clipboard and paste it into a drawing or another application. Cutting an object places it on the Clipboard and removes it from the drawing. Copying an object places it on the Clipboard but keeps the original in the drawing.

Duplicating

Duplicating an object places a copy directly in the drawing window and does not use the Clipboard. Duplicating is faster than copying and pasting. Also, when duplicating an object, to specify the distance between the duplicate and the original object along the x and y axis. This distance is known as the offset.



To apply a transformation, such as rotating, sizing, or skewing, to the duplicate of an object while keeping the original object intact. If need decide that to keep the original object, to delete the duplicate.

Copying objects at a specified position

To create multiple copies of objects simultaneously, while specifying their position, without using the Clipboard. For example, to distribute object copies horizontally, to the left or right of the original object; or you can distribute copies of objects vertically, below or above the original object. Specify the spacing between copies of objects, or you can specify the offset at which copies of objects are created in relation to each other.

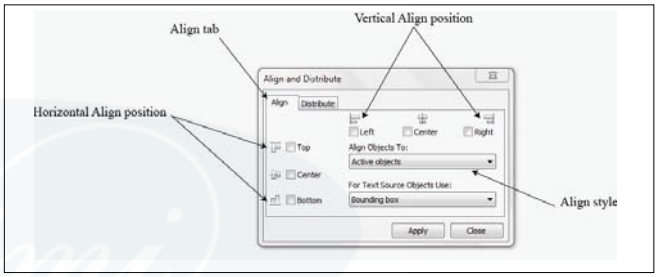
Copying objects quickly

Use other methods to create copies of objects quickly, without using the Clipboard. To use the plus sign (+) on the numeric keypad to place a copy of an object on top of the original object, or create copies instantly by pressing the Spacebar or right-clicking while dragging an object.

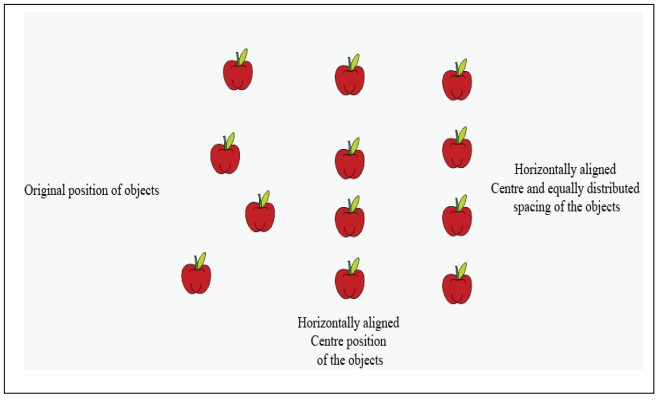
Aligning and distributing objects

CorelDRAW lets you precisely align and distribute objects in a drawing. Align objects with each other and with parts of the drawing page, such as the center, edges, and grid. When align objects with objects, line them up by their centers or by their edges.

Align multiple objects horizontally or vertically with the center of the drawing page. Single or multiple objects can also be arranged along the edge of the page and to the nearest point on a grid.



Distributing objects automatically adds spacing between them based on their width, height, and center points. Distribute objects so that their center points or selected edges (for example, top or right) appear at equal intervals. Also distribute objects so that there is equal space between them. To distribute objects over the extent of the bounding box surrounding them or over the entire drawing page.



Align an object with another object

Select the objects one at a time, the last object selected is the reference point for aligning the other objects. If the marquee select the objects before you align them, the object that is positioned in the upper-left corner of the selection is used.

- To align objects along the vertical axis, enable the Left, Center, or Right check box.
- To align objects along the horizontal axis, enable the Top, Center, or Bottom check box.

Aligning text objects, choose one of the following from the For text source objects use list box:

- First line baseline - uses the baseline of the first line of text as a reference point
- Last line baseline - uses the baseline of the last line of text as a reference point
- Bounding box - uses the bounding box of a text object as a reference point

To align objects with another object quickly, without using the Align and distribute dialog box, by clicking Arrange Align and distribute and clicking any of the first six alignment commands. The letter next to a command name indicates the keyboard shortcut that you can use to align objects. For example, the letter L next to the Align left command shows that can press L to align objects with the leftmost point of the object that is used as a reference point.

Align objects by selecting them and clicking the Align and distribute button on the property bar.

Align an object with the page center

- Center to page - aligns all objects with the page center, both vertically and horizontally
- Center to page vertically - aligns objects with the page center along a vertical axis
- Center to page horizontally - aligns objects with the page center along a horizontal axis

Also align all objects with the page center, vertically and horizontally, by pressing P.

Align objects by selecting them and clicking the Align and distribute button on the property bar.

Align an object with the grid by choosing Grid from the Align objects to list box.

Distribute objects

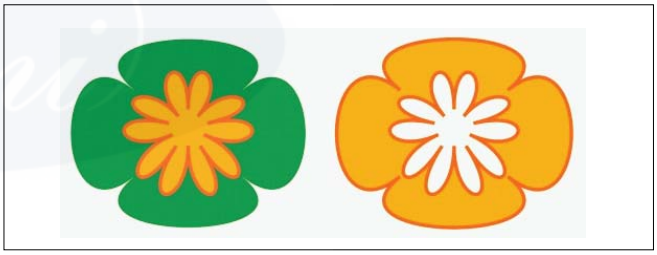
To distribute the objects horizontally, enable one of the following options from the top-right row:

- Left - evenly spaces the left edges of the objects
- Center - evenly spaces the center points of the objects
- Spacing - places equal intervals between the selected objects
- Right - evenly spaces the right edges of the objects
- To distribute the objects vertically, enable one of the following options from the column on the left:
- Top - evenly spaces the top edges of the objects
- Center - evenly spaces the center points of the objects
- Spacing - places equal intervals between the selected objects
- Bottom - evenly spaces the bottom edges of the objects
- To indicate the area over which the objects are distributed, enable one of the following options:
- Extent of selection - distributes the objects over the area of the bounding box surrounding them
- Extent of page - distributes the objects over the drawing page

Combining objects

Combining two or more objects creates a single object with common fill and outline attributes. To combine rectangles, ellipses, polygons, stars, spirals, graphs, or text so that they are converted to a single curve object. If need to modify the attributes of an object that has been combined from separate objects, to break apart the combined object. Extract a subpath from a combined object to create two separate objects. Weld two or more objects to create a single object.

The two objects (left) are combined to create a single object (right). The new object has the fill and outline properties of the last object selected.



The two objects (left) are combined to create a single object (right). The new object has the fill and outline properties of the last object selected.

Break apart a combined object that contains artistic text, the text breaks apart into lines first, and then into words. Paragraph text breaks into separate paragraphs.

Locking objects

Locking an object prevents from accidentally moving, sizing, transforming, filling, or otherwise changing it. Lock single, multiple, or grouped objects. To change a locked object, need to unlock it first. Unlock one object at a time, or all locked objects at the same time.

Cannot lock linked objects, such as blends, contours, or text inside an object. And also cannot lock objects within groups or linked groups

Finding and replacing objects

Using search criteria that you specify, the Find wizard guides you step-by-step when you need to find and select objects in a drawing. The search criteria can include object type and its related properties, fill and outline properties,

vector effects applied to objects, or the name of an object or style. For example, can search for and select all rectangles with rounded corners and without fill, or all text on a path. Can also search for objects that contain the same properties as a selected object. Change the search criteria in the middle of a search. To also save search criteria for later use.

The Replace wizard guides to through the process of finding objects that contain the properties specify and then replacing those properties with others. For example, can replace all object fills of a certain color with fills of a different color. Also replace color models and palettes, outline properties, and text attributes, such as font and font size.

Also search for specific words and replace them with other words.

Inserting bar codes

The Barcode wizard in CorelDRAW lets to add bar codes to drawings. A bar code is a group of bars, spaces, and sometimes numbers that is designed to be scanned and read into computer memory. Bar codes are most commonly used to identify merchandise, inventory, and documents.

The Barcode wizard guides through the process of inserting a bar code.

symbol

A reusable object or group of objects. A symbol is defined once and can be referenced many times in a drawing.

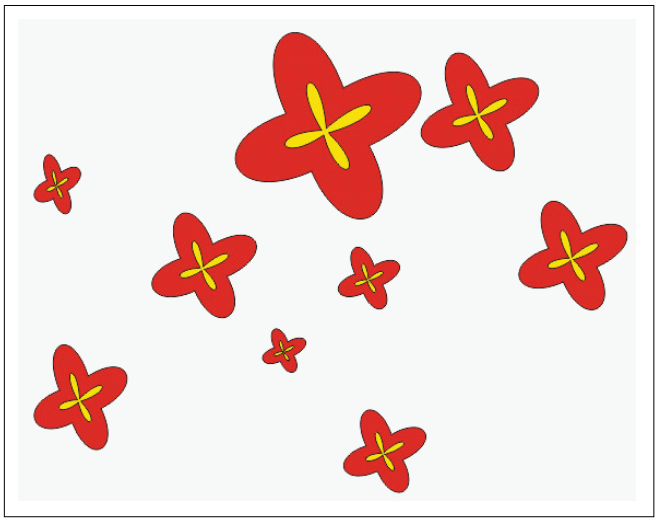
symbols

The CorelDRAW application lets to create objects and save them as symbols. Symbols are defined once and can be referenced many times in a drawing. Each time to insert a symbol into a drawing, create an instance of the symbol. Symbol definitions, as well as information about instances, are stored in a symbol manager, which is part of the CorelDRAW (CDR) file. Using symbols for objects that appear many times in a drawing helps to reduce file size.

Creating, editing, and deleting symbols

Symbols are objects that are defined once and can be referenced many times in a drawing. Multiple instances of a symbol in a drawing with little impact on file size. Symbols make editing a drawing quicker and easier, as changes made to a symbol are automatically inherited by all instances.

Symbols are created from objects. When convert an object to a symbol, the new symbol is added to the Symbol manager, and the selected object becomes an instance. Create a symbol from multiple objects. To edit a symbol; any changes to make affect all instances in a drawing. The selection handles for symbols differ from those for objects. Selection handles for symbols are blue; selection handles for objects are black. To delete a symbol instance and purge unused symbol definitions. Purging removes all symbol definitions that are not instanced in a drawing.



Using symbols for objects that appear many times helps to reduce file size.

Using symbols in drawings

Insert a symbol into a drawing, which creates a symbol instance. To modify certain properties of a symbol instance, such as size and position, without affecting the symbol definition stored in the library. To revert a symbol instance to an object or objects while preserving its properties. To delete a symbol instance.

Managing collections and libraries

When create symbols, to store them in library files that are grouped into collections. To store symbols in a local library, so that they are only available in the current drawing, or export symbols to a network library that can be shared between drawings.

The Symbol manager docker always displays libraries and collections that are in the local Symbols folder. To add collections and libraries in the Symbols folder from elsewhere on the network. When insert a local or external symbol into a drawing, a copy of the symbol definition is added to the document, but it remains linked to the source symbol.

Sharing symbols between drawings

In CorelDRAW, each drawing has its own library of symbols, which is part of the CorelDRAW (CDR) file. Share symbols between drawings by copying and pasting. Copying symbols to the Clipboard leaves the originals in the library.

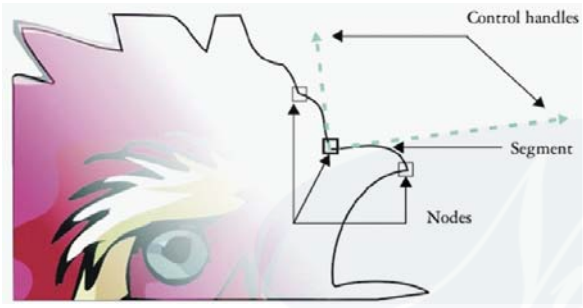
To copy and paste instances of a symbol to and from the Clipboard. Pasting a symbol instance places the symbol in the library and also places an instance of the symbol in the drawing. Subsequent pasting will place another instance of the symbol in the drawing without adding to the library. If a modified symbol instance is pasted into a drawing, the new instance maintains the properties of the original instance, and the new symbol definition in the library maintains the properties of the original symbol. Symbol instances are copied and pasted in the same way other objects are.

Shaping object

Objectives : At the end of this lesson you shall be able to
- **state the curve object and explain the use of nodes**
- **explain the smudging objects**
- **state the roughening objects**
- **distortion effects**
- **explain the weld, trim, interest and simplify the object**
- **describe powerclip object.**

Curve objects

A curve object has nodes and control handles, which is use to change the object's shape. A curve object can be any shape, including a straight or curved line. An object's nodes are the small squares that appear along the object's outline. The line between two nodes is called a segment. Segments can be curved or straight. Each node has a control handle for each curved segment connected to it. Control handles help to adjust the curve of a segment.

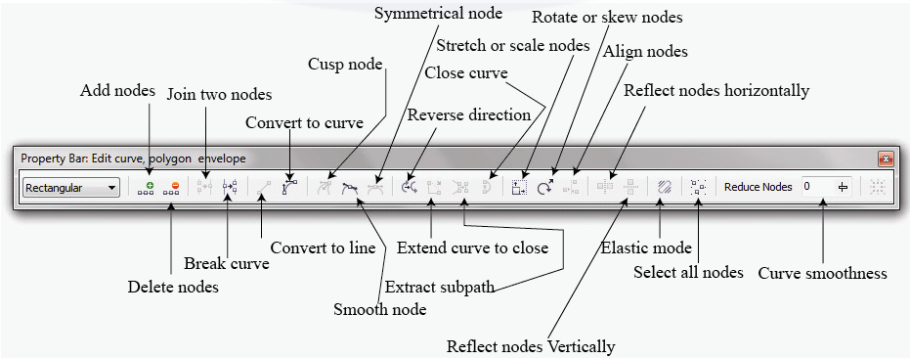


The components of a curve: control handles, segments, and nodes

Curve objects created in CorelDRAW follow a path that gives them their defining shape. A path can be open (for example, a line) or closed (for example, an ellipse) and can sometimes include subpaths.

Most objects that are added to a drawing are not curve objects, with the exception of spirals, freehand lines, and Bézier lines. Therefore, if you want to customize the shape of an object or text object, it is recommended that you convert it to a curve object.

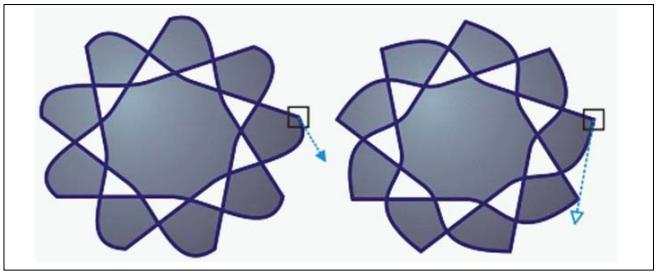
You can also convert an object to a curve object by selecting the object and clicking the Convert to curves button on the property bar.



Selecting and moving nodes

Select individual, multiple, or all of the object's nodes. Selecting multiple nodes toshape different parts of an object simultaneously. The marquee select nodes by enclosing them with a rectangular marquee box, or by enclosing them with an irregularly shaped marquee box. Freehand marquee selection is useful when you want to select specific nodes in complex curves.

When a node is selected on curved segments, control handles are displayed. You can adjust the shape of the curved segments by moving the nodes and control handles.



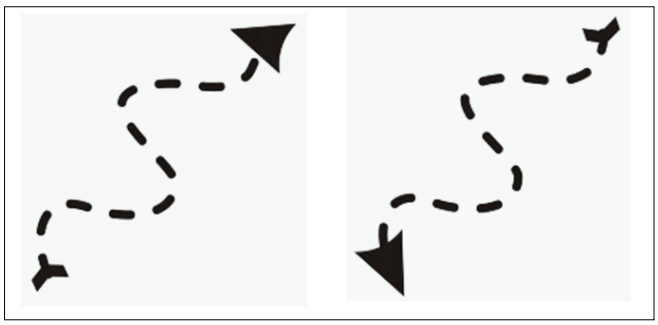
Usually, a control handle is displayed as a solid blue arrowhead (left). When a control handle overlaps with a node, it is displayed as an unfilled blue arrowhead beside the node (right).

The Shape tool is the standard tool for moving nodes. Also set an option to use the Pick and Bézier tools for selecting and moving nodes.

Manipulating segments

To move curved segments to change an object's shape. Also control the smoothness of curved segments.

To change the direction of a curve object by reversing the position of its start and end nodes. The effect is apparent only when the ends of a curve object are different. For example, when an arrowhead is applied to the end node of a curve object, changing the direction results in moving the arrowhead to the start node.

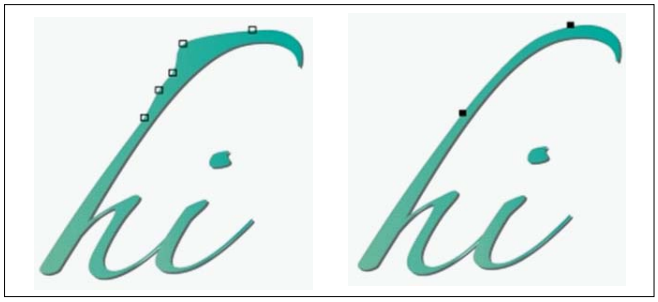


Changing the direction of a curve

Adding, removing, joining, and aligning nodes

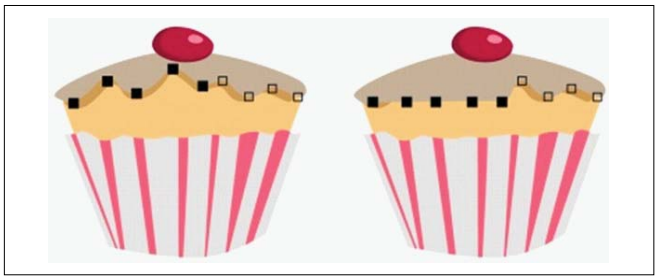
Add nodes, to increase the number of segments and, therefore, the amount of control you have over the shape of the object. To delete selected nodes to simplify an object's shape.

When curve objects contain many nodes, it is difficult to edit and output them to devices such as vinyl cutters, plotters, and rotary engravers. You can have the number of nodes in a curve object reduced automatically. Reducing the number of nodes removes overlapping nodes and can smooth a curve object. This feature is especially useful for reducing the number of nodes in objects imported from other applications.



Reducing the number of nodes to smooth a curve object

To join the start and end nodes of an open path such as a line to create a closed object. This feature is useful for filling an object with color because you can apply fills only to the inside of closed objects.



Using node types

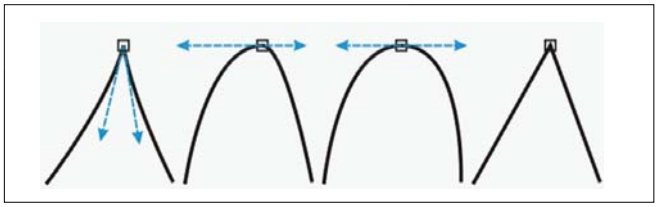
To change the nodes on a curve object to one of four types: cusp, smooth, symmetrical, or line. The control handles of each node type behave differently.

Cusp nodes to create sharp transitions, such as corners or sharp angles, in a curve object. To move the control handles in a cusp node independently of one another, changing only the line on one side of the node.

With smooth nodes, the lines passing through the node take on the shape of a curve, producing smooth transitions between line segments. The control handles of a smooth node are always directly opposite one another, but they may be at different distances from the node.

Symmetrical nodes are similar to smooth nodes. They create a smooth transition between line segments, but they also to give lines on both sides of a node the same curve appearance. The control handles of symmetrical nodes are directly opposite each other and at an equal distance from the node.

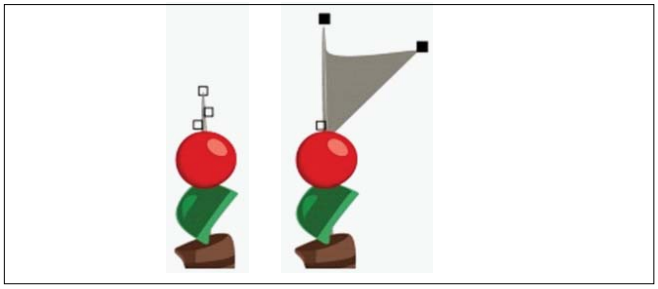
Line nodes to shape curve objects by changing the shape of their segments. To make a curved segment straight or a straight segment curved. Making a straight segment curved does not noticeably change the segment's appearance, but it displays control handles that to move to change the segment's shape.



Left to right: Cusp, smooth, symmetrical, and line nodes

Transforming nodes

Shape objects by stretching, scaling, rotating, and skewing their nodes. For example, to scale the corner nodes of a curve object to enlarge the curve object proportionally. Also, a curve object or parts of a curve object can be rotated in a counterclockwise or clockwise direction.



Stretching nodes

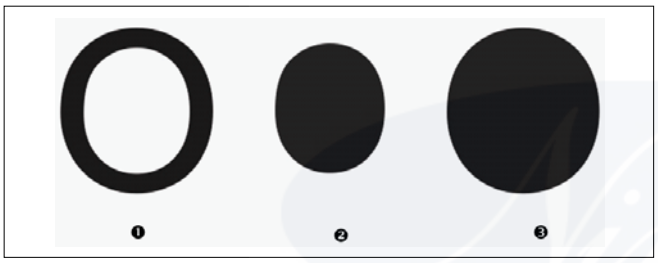
Breaking the path of curve objects

Paths

Paths outline an object's shape and are often visible as one or more line or curve segments. To disconnect line segments from one another to create subpaths. Even though they are not connected, subpaths are still part of the defining path of the original object; however, to extract a subpath to create two separate objects: the extracted subpath and the object it was extracted from.

Subpaths

Subpaths are the basic curves and shapes from which a single curve object is constructed. For example, a single curve object with subpaths is often created when text is converted to curves. The letter "O," for instance, is composed of two ellipses: the outside ellipse that defines the letter's shape and the inside ellipse that defines the "hole." The ellipses are subpaths that compose the single curve object, "O." One of the basic reasons for creating an object with subpaths is that can produce objects with holes in them. In the following example, tosee objects underneath the center of the letter "O."

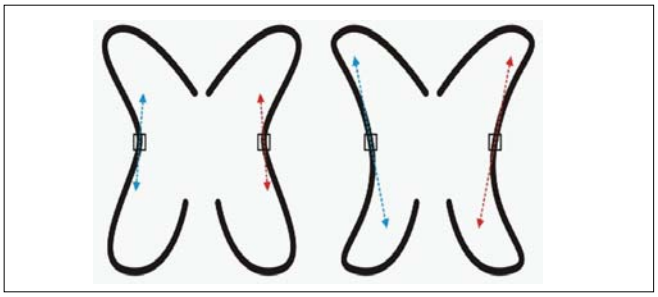


1) The letter "O" is converted to curves. 2) The resulting subpaths are the outside ellipse that defines the shape of the letter and the inside ellipse that defines the hole. 3) In comparison, the black ellipse consists of a single path and cannot contain a "hole."

Mirroring changes in curve objects

To change mirror in curve objects, to edit nodes and have the same edits take place in reverse on corresponding nodes. For example, to move a node to the right, and its corresponding node moves the same distance to the left.

To mirror changes, select two curve objects one of which was created by mirroring the other, or a symmetrical object. Next, need to choose whether to mirror changes horizontally (along a vertical line of symmetry) or vertically (along a horizontal line of symmetry). Finally, need to select the appropriate corresponding nodes so that editing changes are mirrored across the selected objects.

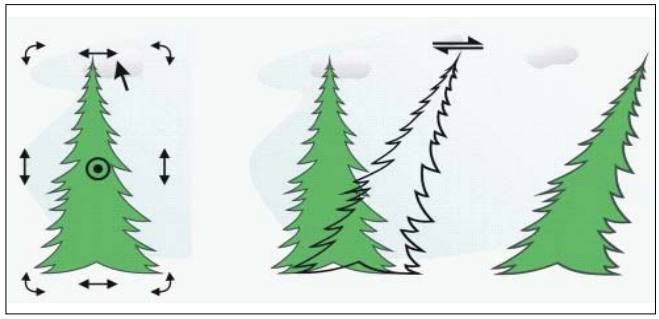


Left: Two corresponding nodes are selected in mirrored curve objects. Right: When the blue control handles are moved, the change is reflected in the corresponding control handles (in red).

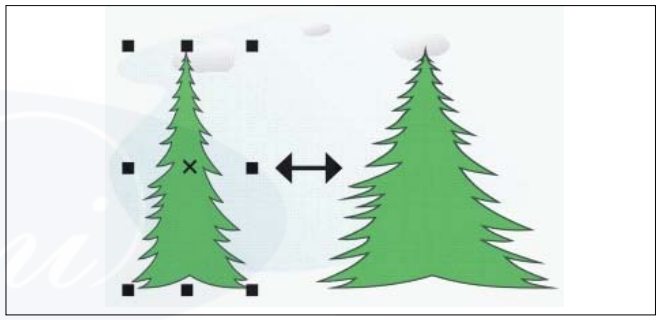
Skewing and stretching objects

skew and stretch objects in CorelDRAW. Change to skew an object, to specify the degree by which you want to slant the object. Stretching changes an object's vertical and horizontal dimensions non- proportionally.

CorelDRAW also to change the skew and sizing anchor point of an object from its default center position.



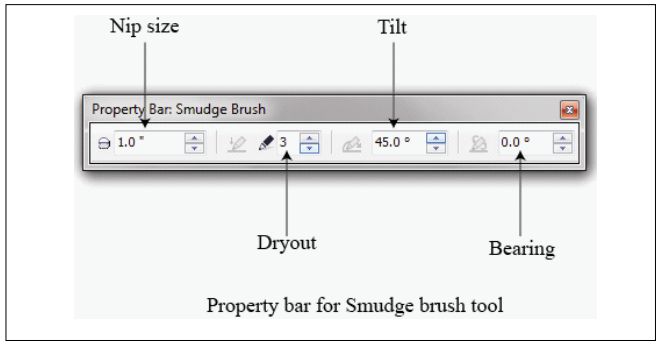
Skewing an object horizontally



Stretching an object horizontally

Smudging objects

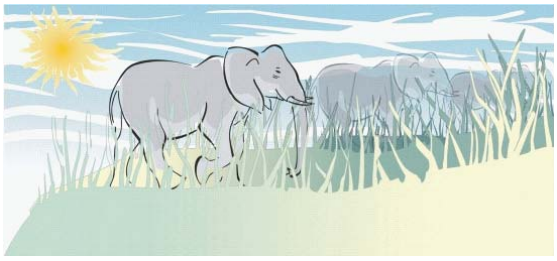
Smudging is to distort an object by dragging its outline. When applying smudging to an object, you can control the extent and shape of the distortion whether to activate the controls for the graphics tablet stylus or use the settings that apply to a mouse.



The smudging effect responds to both the angle of rotation - or bearing - and the tilt angle of a graphics tablet stylus. Rotating the stylus changes the angle of the smudging effect and tilting the stylus flattens the brush tip and changes the shape of the smudging. If using a mouse, you can simulate the bearing and tilt of the stylus by specifying values. Increasing the bearing angle from 0 - 359° changes

the angle of the brushstroke. As to decrease the tilt angle from 90° - 15°, to change the smudging shape by flattening the brush tip.

Smudging can respond to the pressure of a stylus on a tablet where the smudging widens with more pressure and narrows with less. If using a mouse or want to override stylus pressure, enter real values to simulate the pressure of a stylus on a graphics tablet. Negative values to -10 create a narrowing distortion, 0 maintains an even stroke width, and positive values to 10 create an expanding distortion.



Objects placed in the foreground and background have been shaped by outside smudging (sun's rays and blades of grass) and inside smudging (clouds).

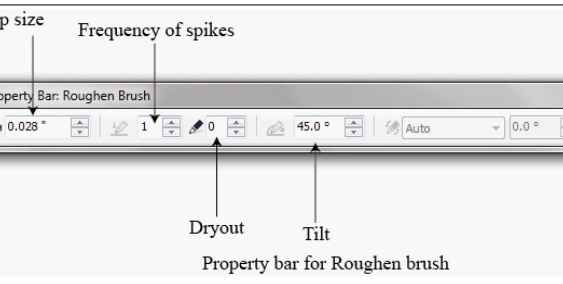
Whether to using a stylus or a mouse, must specify the nib size. The nib size determines the width of the smudging applied to an object.

To apply the smudging effect to the inside and outside of an object

Smudging cannot apply to Internet or embedded objects, linked images, grids, masks, mesh-filled objects, or objects with blend and contour effects.

Roughening objects

The roughening effect to apply a jagged or spiked edge to objects, including lines, curves, and text. To control the size, angle, direction, and number of the indentations whether you activate the graphics tablet stylus or apply settings to a mouse.

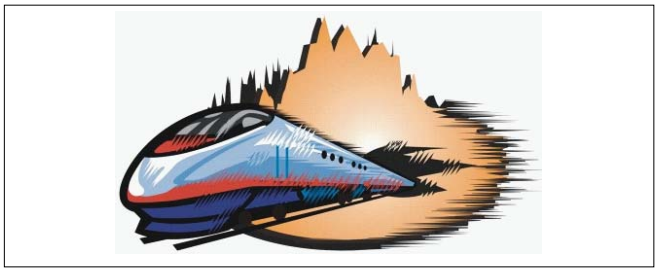


Property bar for Roughen brush

The roughening effect is determined either by movements of a graphics tablet stylus, by fixed settings, or by automatically applying perpendicular spikes to the line. Tilting the stylus toward and away from the tablet's surface increases and decreases the size of the spikes. When using a mouse, to specify the tilt angle from 0 - 90°. Determine the direction of the spikes by changing the angle of rotation (or bearing) of the stylus as to apply the roughening effect to an object. When using a mouse, to set the bearing angle from 0 - 359°. Also increase or decrease the number of spikes that are applied as the drag.

The roughening effect also responds to the pressure of the stylus on the tablet. The more pressure to apply, the more spikes are created in the roughened area. Using a mouse, you can specify values to simulate the stylus pressure.

To change the brush nib size.



Roughening allows you to apply jags or spikes to part of an outline or path.

To make the tilt angle and bearing angle responsive to the graphics tablet stylus, right-click the roughened object, and select a command from the submenu.

To get the minimum and maximum values for the roughening controls, right-click the control on the property bar, and click Settings

Distortion effects

To apply three types of distortion effects to shape objects.

Distortion effect Description

Push and pull

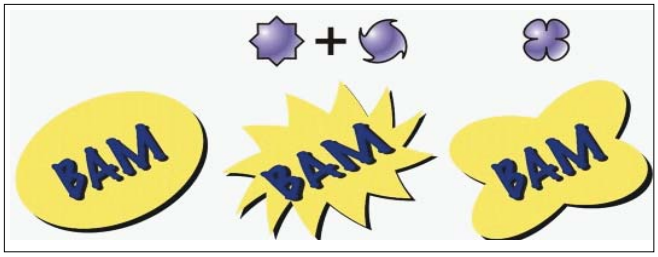
Drag to push the edges of an object in or pull the edges of an object out.

Zipper

Apply a to saw tooth effect to the edges of the object. To adjust the amplitude and frequency of the effect.

Twister

To rotate an object to create a swirl effect. Choose the direction of the swirl, as well as the origin, degree, and amount of rotation.



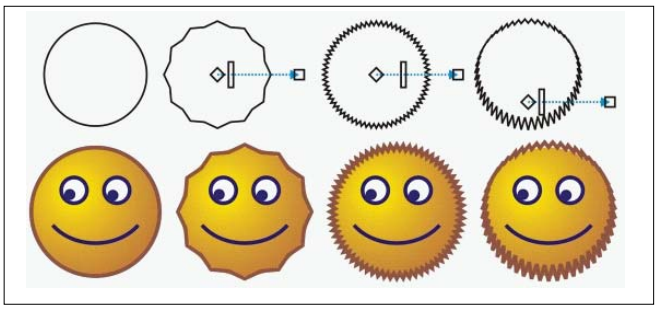
From left to right: Original image; Zipper and Twister distortions applied; Pull distortion applied

After apply distort an object, to change the effect by altering the center of distortion. This point is identified by a diamond-shaped handle, around which a distortion appears. It is similar to a mathematical compass, where the pencil moves around a stationary point. Place the center of distortion anywhere in the drawing window, or choose to

center it in the middle of an object so that the distortion is distributed evenly and the shape of the object changes in relation to its center.

To create an even more dramatic effect by applying a new distortion to an already distorted object. Don't lose the effect of the original distortion if, for example, to apply a zipper distortion on top of a twister distortion. The CorelDRAW application also to remove and copy distortion effects.

Center a distortion by clicking the Center distortion button on the property bar.



Use the interactive vector controls to edit a distortion effect. Upper left: Zipper effect applied to circle. Upper right: Zipper effects with higher frequency (more spikes) applied. Bottom: Results of applying zipper effects.

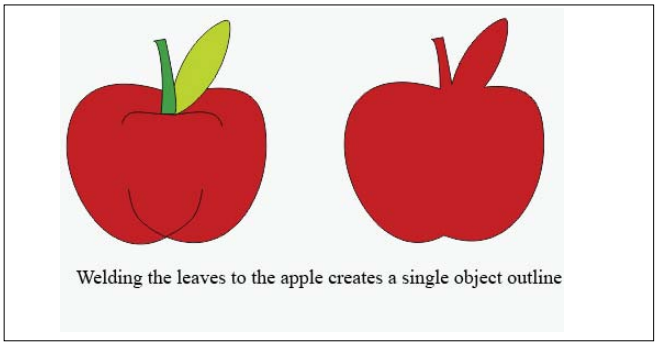
Welding and intersecting objects

To create irregular shapes by welding and intersecting objects. Weld or intersect almost any object, including clones, objects on different layers, and single objects with intersecting lines. However, to cannot weld or intersect paragraph text, dimension lines, or masters of clones.

Weld objects to create one object with a single outline. The new object uses the welded objects' perimeter as its outline and adopts the fill and outline properties of the target object. All intersecting lines disappear.

Weld objects regardless of whether they overlap each other. If weld objects that do not overlap, they form a weld group that acts as a single object. In both cases, the welded object takes on the fill and outline attributes of the target object.

Weld single objects with intersecting lines so that the object breaks into several subpaths, but its appearance remains the same



Intersecting creates an object from the area where two or more objects overlap. The shape of this new object can be simple or complex, depending on the shapes you intersect. The new object's fill and outline attributes depend on the object you define as the target object.

PowerClip object

An object created by placing objects (contents objects) inside other objects (container objects). If the contents object is larger than the container object, the contents object is automatically cropped. Only the contents that fit inside the container object are visible.

CorelDRAW to place vector objects and bitmaps, such as photos, inside other objects, or containers. A container can be any object, for example artistic text or a rectangle. Place an object into a container that is larger than the container, the object, called the content, is cropped to fit the form of the container. This creates a PowerClip object.

Objects before becoming a PowerClip object: artistic text and a bitmap

To create more complex PowerClip objects by placing one PowerClip object inside another PowerClip object to produce a nested PowerClip object. Also to copy the contents of one PowerClip object to another PowerClip object.

In the PowerClip object, the artistic text is the container, and the bitmap forms the contents. The bitmap is shaped to the letters of the artistic text.

After create a PowerClip object can modify the content and the container. For example, to lock the content, so that when you move the container, the content moves with it. CorelDRAW also to extract the content from a PowerClip object, so that to delete the content or modify it without affecting the container.

Adding and formatting text

Objectives : At the end of this lesson you shall be able to

- **sate the Anatomy of a Font**
- **explain the adding and formatting text**
- **state the fitting text to a path**
- **explain the formatting paragraph and wrapping the text**
- **embedding graphics and adding special characters.**

The Anatomy of a Font

When looking for a font that seems appropriate for a specific design, the shape of theindividual characters might or might not work out the way you intend; you want the spacingbetween lines of text (called leading) to be extremely tight, but the ascender on certaincharacters is too high and juts into the preceding line of text. What's an ascender? The vertical strokes in characters have names typographers use and you should, too, whendescribing an ideal font or when seeking one.

Character height Used to describe the overall height, which includes not only thecharacter but also the space above the character, this is usually coded in by theperson designing the typeface. Character height determines how much interlinespacing you'll need to make more than one line of text.

Cap height

This isthe height of a capital letter in a typeface, which is usually notthe same as character height, nor is it necessarily the height of all characters (whichis called the ascender).

Ascender

This is the height of the tallest character in a font; usually it's the' f', then 'h' or a swash if the font contains this embellishment.

Descender

This is the part of body of an alphabet which falls below the baseline. This is the lowest part of a character; usually a g or y, except when a font has swashes.

X-height

The measurement of a lowercase character, traditionally measured bythe letter x in the font.

Baseline

An imaginary line where all the characters should rest. In other words, baseline is a hypothetical line connecting lower case English alphabets which do not have descender.

Artistic text

A type of text created with the Text tool. Use artistic text to add short lines of text, such as titles, or to apply graphic effects, such as fitting text to a path, creating extrusions and blends, and creating all other special effects. An artistic text object can contain up to 32,000 characters.

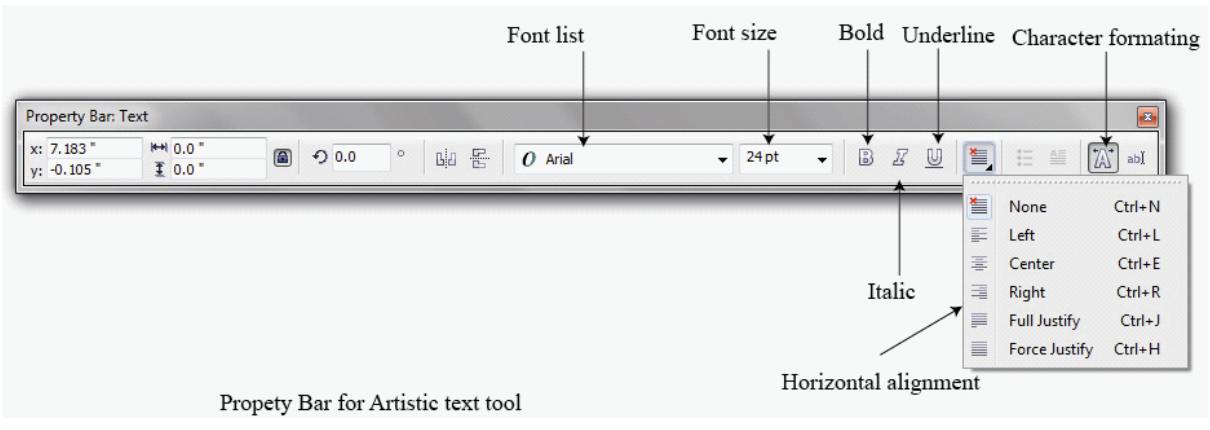
Adding paragraph text

A text type that allows you to apply formatting options and directly edit large blocks of text.

Adding text

Add two types of text to drawings - artistic text and paragraph text. Add short lines of artistic text and then apply a wide range of effects, such as drop shadows or a contour, to the text. Paragraph text, also known as "block text," can be used for larger bodies of text that have greater formatting requirements. To add both paragraph and artistic text directly in the drawing window.

Add artistic text along an open or closed path. Also to fit existing artistic and paragraph text to a path.

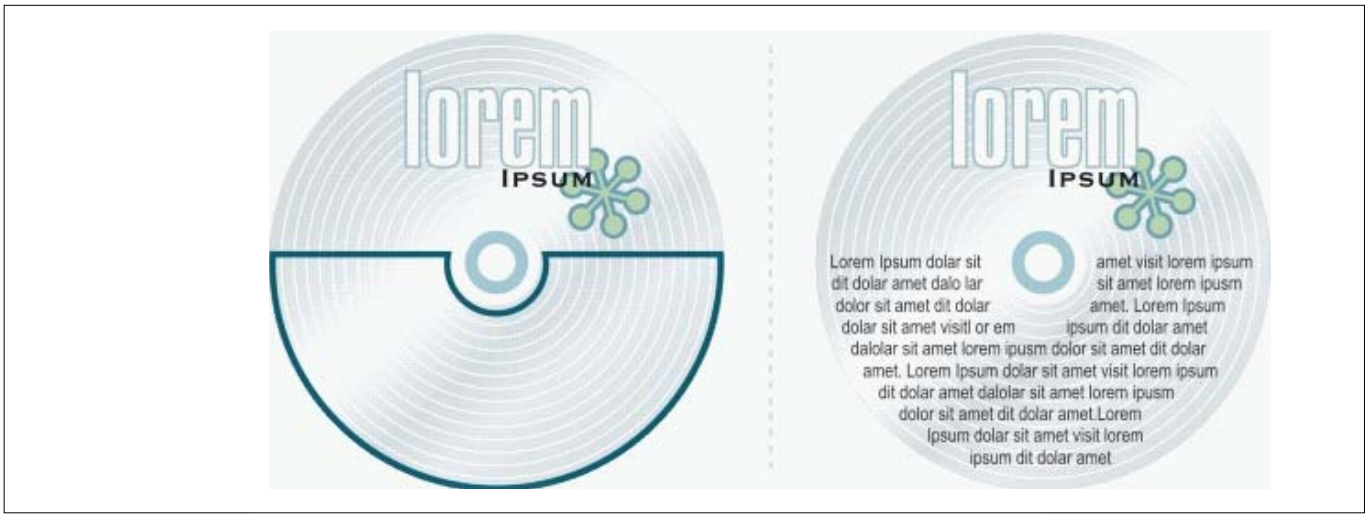


Propety Bar for Artistic text tool

When adding paragraph text, first create a text frame. By default, paragraph text frames remain the same size regardless of how much text to add them. Any text that continues past the lower-right border of the text frame is hidden and becomes red until either enlarge the text frame or link it to another text frame. Fit text to a text frame by automatically adjusting the point size so that the text fits perfectly.

Also can expand and shrink text frames automatically type, so that the text fits perfectly in the text frame.

To insert a paragraph text frame inside a graphic object. Use the object as a container for text and, and it increases the number of different shapes that use as text frames. Also to separate text from an object, so that each can be moved or modified independently and the text retains its shape.



Paragraph text placed inside an object. You can make the object invisible by removing its outline.

When import or paste text, to maintain formatting, maintain fonts and formatting, or discard fonts and formatting. Maintaining fonts ensures that imported or pasted text retains its original font type. Maintaining formatting preserves information such as bullets, columns, and bold or italic formatting. Preserve the text color or import black text as CMYK black. Choose to discard fonts and formatting, the properties of the selected text are applied to the imported or pasted text. If no text is selected, the default font and formatting properties are applied to the imported or pasted text.

Selecting text

To modify text, you must first select it. Choose to select either entire text objects or only specific characters.

Encoding text

After opening or importing a drawing that contains text in a language different from the language of your operating system, to find that the text is not displayed correctly. To display text correctly,change the encoding. Encoding determines the character set of text.

Encoding settings do not affect the display of text outside the drawing window, such as keywords, filenames, and text entries in the Object manager and Object data manager dockers. For these types of text, use code page settings in the Open or Import dialog boxes to set the proper characters.

Changing the basic properties of text

Enhance both artistic text and paragraph text by modifying the character properties. Change the default text style, so that the same properties are applied to all new artistic or paragraph text. For example, change the font type and size, or change the text to bold or italic.

Finding, editing, and converting text

Find text in a drawing and replace it automatically. Also find special characters, such as an em dash or optional hyphen. Edit text directly in the drawing window or in a dialog box.

Additional formatting options are available for paragraph text. Apply these formatting options to artistic text by first converting the text to paragraph text. Likewise, to apply special effects to paragraph text by converting the text to artistic text.

Can also convert both paragraph and artistic text to curves. By transforming characters into single lines or curve objects, to add, delete, or move the nodes of individual characters to alter their shape.

Convert text to curves, the appearance of the text is preserved, including font, style, character position and rotation, spacing, and any other text settings and effects. Any linked text objects are also converted to curves. If to convert paragraph text in a fixed-sized text frame to curves, any text that overflows the text frame is deleted.

Change the text format to subscript or superscript, which is useful if a drawing contains scientific notation. Also add underlines, strikethrough lines, and overlines to text. In addition, change the thickness of these lines and change the distance between the lines and the text.

Change text to lowercase or uppercase without deleting or replacing letters. Also increase or decrease font size by a specified increment. By default, the unit of measure is points. Change this setting for the active drawing and all subsequent drawings that you create, so that the new unit of measure is used in all font settings.

If need to increase the redraw speed for text that is smaller than a specific font size, use lines to represent the text. This method, called "greeking" text, is useful for creating prototypes of documents or drawings. Make text readable again by reducing the greeking value or by zooming in on the text.

Aligning text

To align both paragraph text and artistic text horizontally. Align paragraph text, the text is positioned in relation to the paragraph text frame. Horizontally align all paragraphs, or only selected paragraphs, in a paragraph text frame. Alternatively, vertically align all paragraphs in a paragraph text frame or align text with another object.

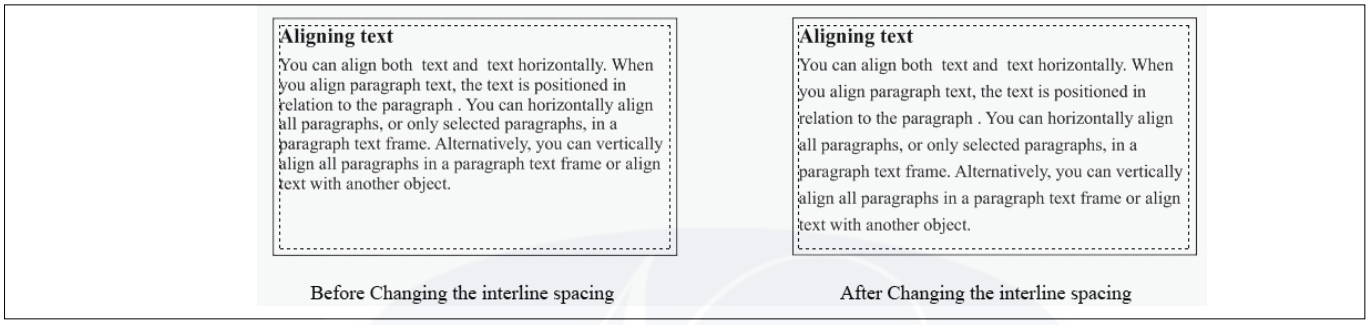
Artistic text can be aligned horizontally, but not vertically. Align artistic text, the entire text object is aligned in relation to the bounding box. If characters have not been shifted horizontally, applying no alignment produces the same result as applying left alignment.

If select the objects one at a time, the last object selected is the reference point for aligning the other objects. If marquee select the objects before you align them, the object that is positioned in the upper-left corner of the selection is used.

If have applied a linear transformation, such as rotation, to the text and are aligning objects with a baseline, the objects align with the baseline point of the starting edge of the text object.

Spacing text

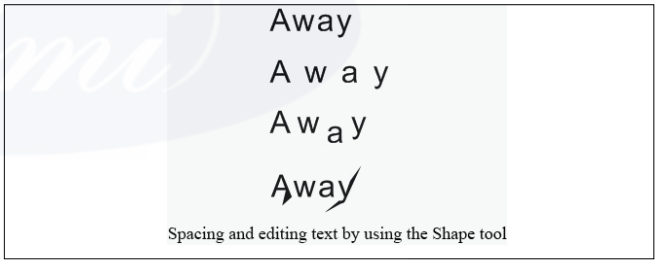
The space between lines of text. This spacing is known as "leading" or "interline spacing." Changing the leading for artistic text applies the spacing to lines of text that are separated by a hard return. For paragraph text, leading applies only to lines of text within the same paragraph. To change the spacing before and after paragraphs in paragraph text.



To change character spacing and word spacing in selected paragraphs, or in an entire paragraph text frame or artistic text object. Changing the spacing between characters is also known as "tracking" or "letter spacing." You can change the spacing between characters in an entire block of text or in a small group of characters.

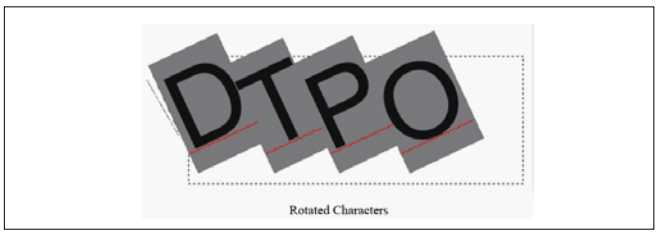
To change kern pairs of selected characters. Kerning refers to the repositioning of two characters to balance the optical space between them. For example, kerning is often used to decrease the space in character pairs such as AW, WA, VA, or TA. Such character pairs are known as "kerning pairs." Kerning increases readability and makes letters appear balanced and proportional, especially at larger font sizes.

With CorelDRAW, space text by using the Paragraph formatting and Character formatting dockers, or by using the Shape tool.



Shifting and rotating text

Artistic and paragraph text can be shifted vertically or horizontally, or rotated, to create interesting effects. Straighten text into its original position, and you can return vertically shifted characters to the baseline. Also to change mirror artistic and paragraph text.



Fitting text to a path

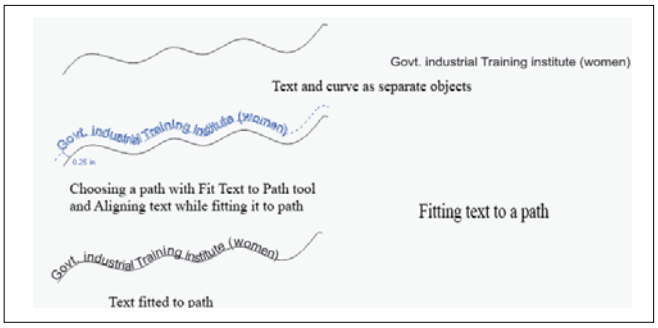
To add artistic text along the path of an open object (for example, a line) or a closed object (for example, a square). To also fit existing text to a path. Paragraph text can be fitted to open paths only.

After fit text to a path, to adjust the text position relative to that path. For example, an mirror the text horizontally,

vertically, or both. Using tick spacing, you can specify an exact distance between the text and the path.

CorelDRAW treats text fitted to a path as one object; however, separate the text from the object if you no longer want it to be part of the path. When the separate text from a curved or closed path, the text retains the shape of the object to which it was fitted.

The text reverts to its original appearance straighten it.



Formatting paragraph text

CorelDRAW offers various formatting options for paragraph text. For example, add to fit text to a paragraph text frame. Fitting text to a text frame increases or decreases the point size of text so that it fits the text frame exactly. Use columns to lay out text-intensive projects, such as newsletters, magazines, and newspapers. You can create columns of equal or varying widths and gutters.

Applying drop caps to paragraphs enlarges the initial letter and insets it into the body of text. To customize a drop cap by changing its settings. For example, to change the distance between the drop cap and the body of text, or specify the number of lines of text that you want to appear next to the drop cap. You can remove the drop cap at any point, without deleting the letter.

Use bulleted lists to format information. text wrap around bullets, or offset a bullet from text to create a hanging indent. CorelDRAW lets you customize bullets by changing their size, position, and distance from text. To change the spacing between items in a bulleted list.

After you add a bullet, you can remove it without deleting the text.

To add tab stops to indent paragraph text, remove tab stops, and change the alignment of tab stops. Also set tab stops with trailing leader characters, so that dots automatically precede the tab stops.

When adding drop caps, bullets, tab stops, and columns, save time by previewing all the changes make before committing to them. When preview the changes, they are temporarily applied directly to the text in the drawing window. Exactly how the new settings would affect your drawing if they were applied.

Indenting changes the space between a paragraph text frame and the text that it contains. To add and remove indents without deleting or retyping text. Indent an entire paragraph, the first line of a paragraph, or all lines of a paragraph except the first line (a hanging indent). To set indent from the right side of the text frame.

change the formatting of selected paragraph text frames, or of selected text frames plus the text frames with which they are currently linked.

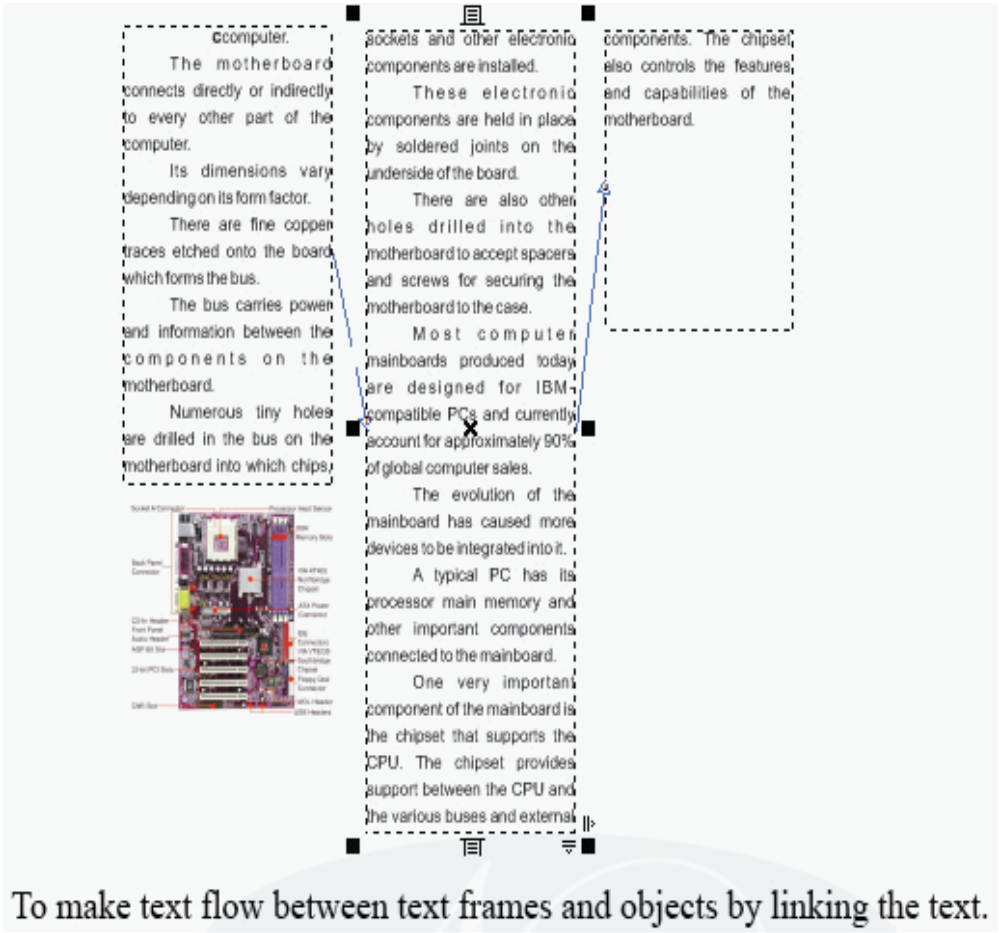
Combining and linking paragraph text frames

To apply combine paragraph text frames. Also to break paragraph text frames apart into subcomponents - columns, paragraphs, bullets, lines, words, and characters. Every time to break apart a text frame, the subcomponents are placed into separate paragraph text frames.

Linking paragraph text frames directs the flow of text from one text frame to another if the amount of text exceeds the size of the first text frame. If shrink or enlarge a linked paragraph text frame, or change the size of the text, the amount of text in the next text frame is automatically adjusted. Link paragraph text frames before or after to type text.

To cannot link artistic text. However, link a paragraph text frame to an open or closed object. The link a paragraph text frame to an open object, such as a line, the text flows along the path of the line. Linking a text frame to a closed object, such as a rectangle, inserts a paragraph text frame and directs the flow of text inside the object. If text exceeds the open or closed path, to link the text to another text frame or object. And also link to paragraph text frames and objects across pages.

After linking paragraph text frames, to redirect the flow from one object or text frame to another. When to select the text frame or object, a blue arrow indicates the direction of the text flow.



To remove links between multiple paragraph text frames, and between paragraph text frames and objects. When y only the two linked paragraph text frames and to remove the link, the text flows into the remaining paragraph text frame. Removing a link between paragraph text frames with a series of links redirects the flow of text into the next paragraph text frame or object.

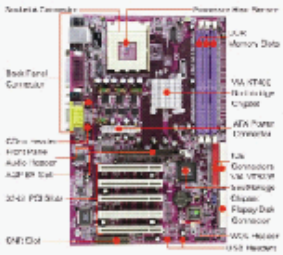
By default, paragraph formatting, such as columns, drop caps, and bullets, is applied to the selected paragraph text frames only. However, to change your settings so that formatting is applied to all linked text frames, or to all selected and subsequently linked text frames. For example, if apply columns to the text in one text frame, choose whether to apply columns to the text in all the linked text frames.

Wrapping paragraph text around objects, artistic text, and text frames

To change the shape of text by wrapping paragraph text around an object, artistic text, or a paragraph text frame. To apply wrap text by using contour or square wrapping styles. The contour wrapping styles follow the curve of the object. The square wrapping styles follow the bounding box of the object. You can also adjust the amount of space between paragraph text and the object or text, and to remove any previously applied wrapping style.

Computer Motherboard Knowledge

* A computer motherboard is one of the most important components of a computer.
* It is the main printed circuit board (PCB) in the computer and is sometimes referred to as the system board, mainboard and, in Apple's terminology, the logic board. Sometimes it's casually referred to as 'mobo'.
* The motherboard itself is just a piece of fiberglass. It's actually the hardware mounted on it that does all the work in the computer.
* The motherboard connects directly or indirectly to every other part of the computer.
* Its dimensions vary depending on its form factor.
* There are fine copper traces etched onto the board which forms the bus.
* The bus carries power and information between the components on the motherboard.
* Numerous tiny holes are drilled in the bus on the motherboard into which chips, sockets and other electronic components are installed.



* These electronic components are held in place by soldered joints on the underside of the board.
* There are also other holes drilled into the motherboard to accept spacers and screws for securing the motherboard to the case.
* Most computer mainboards produced today are designed for IBM-compatible PCs and currently account for approximately 90% of global computer sales.
* The evolution of the mainboard has caused more devices to be integrated into it.
* A typical PC has its processor main memory and other important components connected to the mainboard.
* One very important component of the mainboard is the chipset that supports the CPU. The chipset provides support between the CPU and the various buses and external components. The chipset also controls the features and capabilities of the motherboard.

Text wrapped around an object by using the contour wrapping style

Embedding graphics and adding special characters

Embed a graphic object or bitmap in text. The graphic object or bitmap is treated as a text character. As a result, to apply formatting options according to the type of text in which is to embed the graphic object. To remove an embedded object from text, after which the object returns to its original state.

Add special characters to text as text objects or as graphic objects. When add special characters as text, format the characters as to do the text. When the add special characters as graphic objects, the characters are curves. Consequently, to edit them as you would other graphic objects.

Displaying nonprinting characters

To display nonprinting characters, such as spaces, tabs, and formatting codes. For example, when the display nonprinting characters, a space appears as a tiny black dot, a nonbreaking space appears as a circle, and an em space appears as a line. When enabled, nonprinting characters are displayed only when you add or edit text.

Click→Text→Show nonprinting characters

Adding and formatting the table

Objectives : At the end of this lesson you shall be able to
- **explain the table format and their uses**
- **state the resizing table cells, rows and columns**
- **explain the adding text and graphics.**

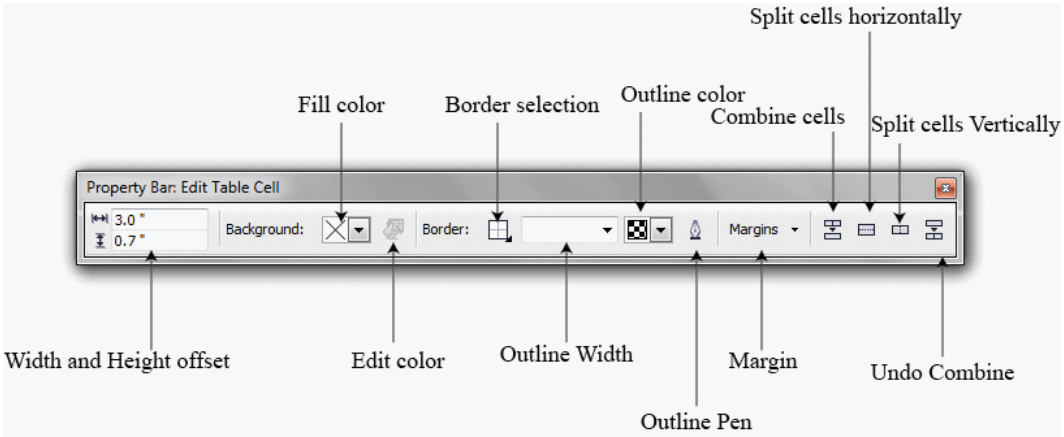
Tables

A table provides a structured layout that lets you present text or images within a drawing. Draw a table, or create a table from paragraph text. Easily change the look of a table by modifying the table properties and formatting. In addition, because tables are objects, manipulate them in various ways. And also import existing tables from a text file or a spreadsheet.

A table to create a structured layout for text and graphic elements.

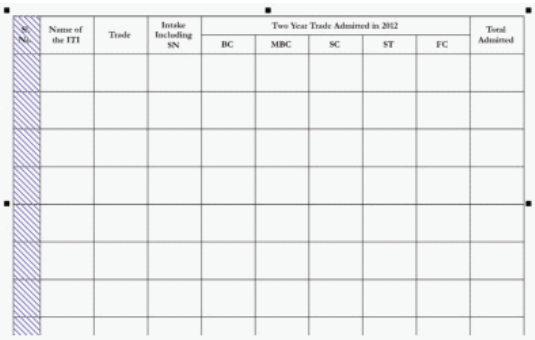
Selecting, moving, and navigating table components

select a table, table rows, table columns, or table cells before you insert rows or columns, change the table border properties, add a background fill color, or edit other table properties. Move the selected rows and columns to a new location in a table. And copy or cut a row or column from one table and paste it in another table. In addition, to move from one table cell to another when editing the table cell text, and set the direction in which the Tab key lets you move around a table.

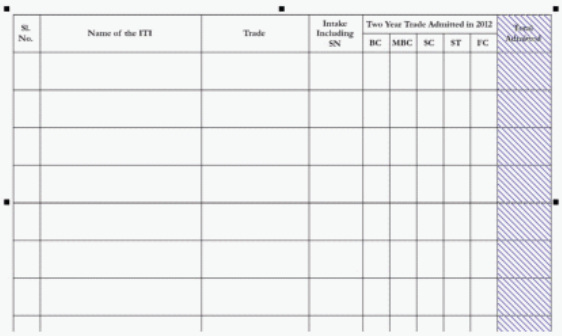


Resizing table cells, rows, and columns

After create a table to resize table cells, rows, and columns for the use of table tool and table menu. In addition, for previously changed the sizes of some rows or columns, redistribute all rows or all columns so that they are the same size.



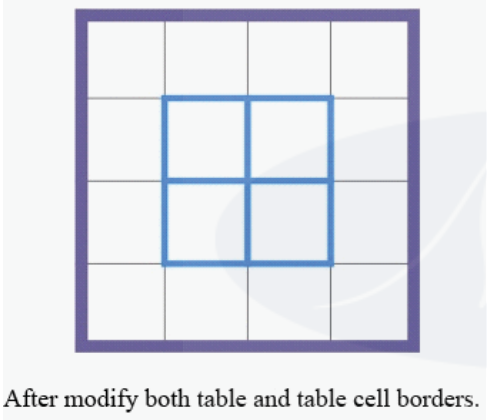
Before resizing the table



After resizing the table

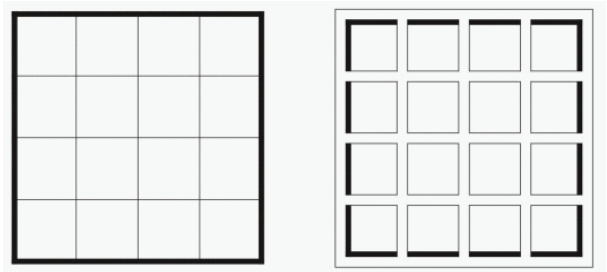
Formatting tables and cells

Change the look of a table by modifying both table and cell borders. For example, to change the table border width or color.



After modify both table and table cell borders.

To change the table cell margins and cell border spacing. The cell margins to increase the space between the cell borders and the text in the cell. By default, table cell borders overlap to form a grid. However, increase the cell border spacing to move the borders away from each other. As a result, the cells do not form a grid, but appear as individual boxes (also known as "separated borders").



After modify an existing table (left) by applying separated borders (right).

Text in tables

To add text to table cells, and modify this text as would any other paragraph text. For example,change the font, add bullets, or add indents to table text. Change the text properties of a single table cell, or of multiple table cells simultaneously. In addition, add tab stops to table cells so that text is shifted away from the cell margins.

Whentype text in a new table, choose to automatically adjust the size of table cells.

Converting tables to text

If you no longer want table text to appear in a table, convert the table text to paragraph text.

Merging and splitting tables and cells

Change how a table is configured by merging adjacent cells, rows, and columns. Merge table cells, the formatting of the upper-left cell is applied to all merged cells. Alternatively, unmerge cells that were previously merged. Also split table cells, rows, or columns. Splitting to create new cells, rows, or columns without changing the size of the table.

Adding images, graphics, and backgrounds to tables

If need to arrange bitmap images or vector graphics in an orderly way, add them to tables. Also change the look of a table by adding a background color using the property bar and table menu.

Insert a graphic or an image by holding down the right mouse button over the image, dragging the image to a cell, releasing the right mouse button, and then clicking Place inside cell.

Adding and formatting the Bitmap

Objectives : At the end of this lesson you shall be able to
- **explain the bitmap image and formatting the bitmap images**
- **explain the method of changing bitmaps to the paletted color mode**
- **define special effects in bitmaps**
- **describe convert Bitmaps to black-and-white images**
- **explain the bitmap due tone.**

Define bitmaps

An image composed of grids of pixels or dots. To convert a vector graphic to a bitmap and also import and crop bitmaps in CorelDRAW. Add color masks, watermarks, special effects, and change the color and tone of the images.

Importing files

To import files created in other applications. For example, import a Portable Document Format (PDF), JPEG, or Adobe Illustrator (AI) file. To import a file and place it in the active application window as an object. And can also resize and center a file as you import it. The imported file becomes part of the active file. To import a bitmap as an externally linked image. Link to an external file, edits to the original file are automatically updated in the imported file.

While importing a bitmap, resample it to reduce the file size, or crop it to eliminate unused areas of the photo. And can also crop a bitmap to select only the exact area and size of the image you want to import.

To import a file from an earlier version of CorelDRAW that contains text in a language different from the language of your operating system, you can use code page settings to ensure that object names, keywords, and notes saved with the file are displayed correctly.

Exporting files

Use the File Export command to export files to a variety of bitmap and vector file formats that can be used in other applications. For example, to export a file to the Adobe Illustrator (AI) or GIF format. And also export a file so that it is optimized for use with a suite of office productivity applications, such as Microsoft Word or Corel WordPerfect Office.

When to exporting a file, the original file is left open in the drawing window in its existing format.

And also can use the File Save as command to save files to various vector formats. After save a file to a different format, the saved file is displayed immediately in the drawing window. It is recommended that to first save the file as a CorelDRAW (CDR) file because some file formats do not support all of the features found in a CorelDRAW file.

Specify settings for such controls as dithering, anti-aliasing, overprinting black, background transparency, and color profile.

When to export a file to a bitmap file format, such as TIFF, JPEG, CPT, or PSD, the same bitmap conversion options are available.

Converting vector graphics to bitmaps

Converting a vector graphic or object to a bitmap lets to apply special effects to the object with CorelDRAW. The process of converting a vector graphic to a bitmap is also known as "rasterizing."

Convert the vector graphic, to select the color mode of the bitmap. A color mode determines the number and kind of colors that make up the bitmap, so the file size is also affected.

Changing the color mode of bitmaps

The colors of the images with in CorelDRAW are based on color modes. Color modes define the color characteristics of images and are described by their component colors. The CMYK color mode is composed of cyan, magenta, yellow, and black values; the RGB color mode is composed of red, green, and blue values.

Although may not be able to see the difference between an image in the CMYK color mode and an image in the RGB color mode on screen, the images are quite different. For the same image dimensions, an RGB image has a smaller file size than a CMYK image and the RGB color space, or gamut, can display more colors. Therefore, images intended for the Web or desktop printers, which require accurate color fidelity, are generally in RGB mode. Where accurate print reproduction is needed, such as on a commercial printing press, images are generally created in CMYK mode. Paletted color images attempt to preserve color fidelity while reducing the file size, making them ideal for on-screen uses.

Each time to convert an image, may lose color information. For this reason, should save an edited image before you change it to a different color mode.

CorelDRAW supports the following color modes:

- o Black and White (1-bit)
- o Duotone (8-bit)
- o Grayscale (8-bit)
- o Paletted (8-bit)
- o RGB Color (24-bit)
- o Lab Color (24-bit)
- o CMYK Color (32-bit)

Introduction to Crop the bitmap image

To cut unwanted areas of an image without affecting the resolution of the part that remains.

Cropping objects or bitmap images

Cropping means to quickly remove unwanted areas in objects and imported graphics, eliminating the need to ungroup objects, break linked groups apart, or convert objects to curves. Can also crop vector objects and bitmaps.

When cropping objects, to define a rectangular area (cropping area) that to want keep. Object portions outside the cropping area are removed. To specify the exact position and size of the cropping area, and to rotate and resize it. And also remove the cropping area.

To crop only selected objects without affecting other objects in a drawing, or crop all objects on the drawing page. In either case, the affected text and shape objects are automatically converted to curves.

Changing bitmaps to the paletted color mode

The paletted color mode, also called indexed color mode, is sometimes used for images on the World Wide Web. When convert an image to the paletted color mode, a fixed color value is assigned to each pixel. These values are stored in a compact color table, or palette containing up to 256 colors. As a result, the paletted color mode image contains less data than a 24 bit color mode image, and it has a smaller file size. Conversion to paletted color mode works best on images that have a limited range of colors.

Choosing, editing, and saving a color palette

To change an image to the paletted color mode, to use a predefined palette, or to customize a color palette by replacing individual colors.

Saving conversion settings

After choose a color palette and set the dithering and range sensitivity for changing an image to the paletted color mode, can save the settings as a conversion preset that to use with other images. Add as many conversion presets as you want.

The color palette you use is called the processed color palette. It can be saved for use with other images.

Dithering

Changing images to the paletted color mode to use dithering to enhance color information. Dithering places pixels with specific colors or values relative to other pixels of a specific color. The relationship of one colored pixel to another creates the appearance of additional colors that do not exist in the color palette.

Types of dithering

Ordered dithering and error diffusion. Ordered dithering approximates color blends using fixed dot patterns; as a result, solid colors are emphasized and edges appear harder. Error diffusion scatters pixels irregularly, making edges and colors softer. Jarvis, Stucki, and Floyd-Steinberg are conversion options that provide error diffusion.

The Ordered dithering option applies more quickly than the error diffusion options (Jarvis, Stucki, and Floyd-Steinberg) but is less accurate.

Specifying a range-sensitivity color

Change an image to the paletted color mode and specify a focus color and a range sensitivity for the focus color, so that the focus color and colors that fall within the range settings are included in the processed color palette. To specify how much emphasis to place on the range sensitivity. Because the palette has a maximum of 256 colors, emphasizing a focus color reduces the number of colors that fall outside the range sensitivity.

Special effects in bitmaps

You can apply a wide range of special effects to bitmaps, such as three-dimensional (3D) and artistic effects.

Special effect category

3D Effects

To create the illusion of depth. Effects include Emboss, Page Curl, and Perspective.

Art Strokes

To apply hand-painted techniques. Effects include Crayon, Impressionist, Pastels, Watercolor, and Pen & Ink.

Blur

To blur an image to simulate movement, speckling, or gradual change. Effects include Gaussian Blur, Motion Blur, and Zoom.

Camera

To simulate the effect produced by a diffusion lens

Color Transform

Create photographic illusions by using color reduction and replacements. Effects include Halftone, Psychedelic, and Solarize.

Contour

To highlight and enhance the edges of an image. Effects include Edge Detect and Trace Contour.

Creative

To apply various textures and shapes to an image. Effects include Fabric, Glass Block, Crystallize, Vortex, and Stained Glass.

Distort Lets you distort image surfaces. Effects include Ripple, Blocks, Swirl, and Tile.

Noise

To modify the graininess of an image. Effects include Add Noise, Remove Moire, and Remove Noise.

Sharpen

Add a sharpening effect to focus and enhance edges. Effects include Adaptive Unsharp, High Pass, and Unsharp Mask.

Plug-ins

Use a third-party filter to apply effects to bitmaps in CorelDRAW.An installed plug-in appears at the bottom of the Bitmaps menu.

Adding plug-in filters to CorelDRAW provides additional features and effects that can use to edit images. To add plug-in filters, and to remove them when you no longer need them.

Convert Bitmaps to black-and-white images

To change any image to a black-and-white image. In addition to conversion settings such as threshold, screen type, and intensity, there are seven conversion options that affect how the converted images will look.

Line art

Produces a high-contrast, black-and-white image. Colors with a grayscale value lower than the threshold value that you set change to black, while colors with a grayscale value higher than the threshold value change to white.

Ordered

Organizes the gray levels into repeating geometric patterns of black and white pixels. Solid colors are emphasized and image edges are hard. This option is best suited for uniform colors.

Halftone

Creates different shades of gray by varying the pattern of black and white pixels in an image. Choose the screen type, angle for the halftone, lines per unit, and the unit of measure.

Cardinality-Distribution

Creates a textured look by applying a calculation and distributing the result to the screen.

Jarvis

Applies the Jarvis algorithm to the screen. This form of error diffusion is suitable for photographic images.

Stucki

Applies the Stucki algorithm to the screen. This form of error diffusion is suitable for photographic images.

Floyd-Steinberg

Applies the Floyd-Steinberg algorithm to the screen. This form of error diffusion is suitable for photographic images.

Change bitmaps to duotones

To convert an image to a duotone, change a bitmap to the grayscale color mode and enhance it using one to four additional colors, giving the image greater tonal depth.

The following four variations of the color mode correspond to the number of additional inks:

Monotone

A grayscale image colored with a single tone

Duotone

A grayscale image colored with two tones. In most cases, one is black and the other is colored.

Tritone

A grayscale image colored with three tones. In most cases, one is black and the other two are colored.

Quadtone

A grayscale image colored with four tones. In most cases, one is black and the other three are colored.

Adjust tone curves

To change an image to a duotone, a tone curve grid that represents the dynamic tone curves that are used throughout the conversion is displayed. The horizontal plane (x-axis) displays the 256 possible shades of gray in a grayscale image (0 is black; 255 is white). The vertical plane (y-axis) indicates the intensity of a color (from 0 to 100 percent) that is applied to the corresponding grayscale values. For example, a grayscale pixel with a color value of 25 is printed with a 25-percent tint of the color. By adjusting the tone curves, to control the color and intensity of the tone that is added to an image.

Saving and loading inks

You can save an adjusted duotone tone curve and ink settings and then load them for use with other bitmaps.

Specifying how overprint colors display

To change an image to a duotone, specify the colors to overprint when to print an image. Overprint colors are used to preserve color integrity when inks overlap. When display the image, each color is applied on the screen in sequence, creating a layered effect.

View all instances in which the colors to choose for the duotone conversion overlap. Associated with each instance is the color that is produced by the overlap. And also choose new overprint colors to see how they overlap.

Duotones will hold their color ink information when saving to Encapsulated PostScript (EPS), Portable Document Format (PDF) and CorelDRAW (CDR) file formats. Other file formats don't support duotone images.

Printing and printer properties in CorelDraw

Objectives : At the end of this lesson you shall be able to
- **describe about printing the art work**
- **explain the imposition layout**
- **explain about the Printer's Mark's**
- **describe the printing color separation**
- **explain the color trapping and overprinting.**

Printing the work

Print command is used to produce hard copy of documents or produce pdf files.To print one or more copies of the same drawing using Corel Draw,Specify the page type and the page range that you want to print.

Before printing a drawing, to specify printer properties, including paper size and device options. For example, specify that the printer features such as duplexing stapling.

Certain printers support the automatic matching of page size and orientation. To enable this option, need to modify the driver compatibility settings for the printer by clicking Tools Options. In the list of categories, double-clicking Global, Printing, clicking Driver compatibility, and enabling the Printer can match document page sizes check box. In the Print dialog box, choose Match orientation and size from the Page list box.

Layout print jobs

Layout a print job by specifying the size, position, and scale. Tiling a print job prints portions of each page on separate sheets of paper that can assemble into one sheet. For example, tile a print job that is larger than your printer paper.

Image position and size area, enable one of the following options:

- As in document - maintains the image size as it is in the document
- Fit to page - sizes and positions the print job to fit to a printed page
- Reposition images to - lets you reposition the print job by choosing a position from the list box

Enabling the Reposition images to option to specify size, position, and scale in the corresponding boxes.

Previewing print jobs

Preview finished work to show how the position and size of the print job will appear on paper. For a detailed view, zoom in on an area. To view how the individual color separations will appear when printed.

Before printing your work, view a summary of issues for a print job to find potential printing problems. For example, you can check the current print job for print errors, possible print problems, and suggestions for resolving issues.

Print styles

A print style is a set of saved printing options. Each print style is a separate file. This lets to move a print style from one computer to another, back up a print style, and keep document-specific styles in the same directory as the document file.

Select an existing print style, create a new print style, or edit a print style and save the changes. And also delete print styles.

Fine-tuning print jobs

Fine-tune print jobs before to ensure printing quality. Because problems sometimes occur the printing text to a non-PostScript printing device (GDI printer), decrease is printing time by specifying driver compatibility for non-PostScript printing devices.

If a printing device has difficulty processing large bitmaps, can divide a bitmap into smaller, more manageable chunks by setting an output threshold. If any lines appear when the printing device prints the chunks, set an overlap value to produce a seamless image.

On occasion, may experience difficulties with printing complex files. Print complex files, to spend a considerable amount of time fixing and correcting the files. Another option is to convert a page to a bitmap, which is also known as rasterizing, which can allow to print complex files.

To reduce file size, can down sample bitmaps. Because bitmaps are made up of pixels, when down sample a bitmap, the number of pixels per line decreases, which decreases the file size.

Printing colors accurately

CorelDRAW allows to manage colors when printing to help ensure accurate color reproduction. Print the document with the document colors settings applied or choose alternate color settings only for printing. Also print a document using the color proofing settings that previously specified in the Color proof settings docker.

In addition, to choose a rendering intent to effectively interpret the out-of-gamut colors when printing. The rendering intent that choose depends on the graphical content of the document.

Notes for GDI printers

GDI printers support only two color spaces: RGB and Grayscale. If the document contains colors from multiple

color spaces, for example RGB, CMYK, and spot colors, must convert all of the colors to RGB or Grayscale before printing.

Printing to a PostScript printer

PostScript is a page-description language that sends printing instructions to a PostScript device. All the elements in a print job (for example, curves and text) are represented by lines of PostScript code that the printing device uses to produce the document. For improved compatibility choose a device independent PostScript device. To select a PostScript Printer Description (PPD) file. A PostScript Printer Description file describes the capabilities and features of PostScript printer and is available from the printer's manufacturer.

Imposition layouts

Impositionlayouts to print more than one page of a document on each sheet of paper. Choose a preset imposition layout to create documents such as magazines and books to print on a commercial printing press; produce documents that involve cutting or folding, such as mailing labels, business cards, pamphlets, or greeting cards; or print multiple thumbnails of a document on one page. And also edit a preset imposition layout to create your own layout.

To select a binding method by choosing from three preset binding methods, or customize a binding method. Choose a preset binding method, all but the first signature are automatically arranged.

Arrange pages on a signature manually or automatically. The arrange the pages automatically, choose the angle of the image. If have more than one page across or down, specify the size of gutters between pages; for example, choose the automatic gutter spacing option, which sizes gutters so that the document's pages fill the entire available space in the layout.

When printing on a desktop printer, adjust the margins to accommodate the non-printable area of a page. If the margin is smaller than the non-printable area, the edges of some pages or some printers' marks may be clipped by the printer.

Printing printers' marks

Printing printers' marks to display information on a page about how a document should be printed. To specify the position of the printers' marks on the page.

The available printers' marks are as follows:

Crop/fold marks

Represent the size of the paper and print at the corners of the page. Print crop/fold marks to use as guides to trim the paper. If the print multiple pages per sheet (for example, two rows by two columns), to choose to print the crop/fold marks on the outside edge of the page so that all crop/fold marks are removed after the cropping process, or choose to add crop marks around each row and column. Crop/fold marks ensure that marks appear on each plate of a separated CMYK file.

Bleed limit

Determines how far an image can extend beyond the crop marks. When to use a bleed to extend the print job to the edge of the page, must set a bleed limit. A bleed requires that the paper printing on is larger than the size of paper to ultimately want, and the print job must extend beyond the edge of the final paper size.

Registration marks

Required to line up film for proofing or printing plates on a color press. They print on each sheet of a color separation.

Color calibration bars

Color scales that print on each sheet of a color separation and ensure accurate color reproduction. To see calibration bars, the page size of the print job must be larger than the page size of the work on the printing.

Densitometer scale

Densitometer is a series of gray boxes ranging from light to dark. These boxes are required to test the density of halftone images. Position the densitometer scale anywhere on the page. Customize the levels of gray that appear in each of the seven squares on the densitometer scale.

Page numbers

Page numbers helps you collate pages of an image that do not include any page numbers or do not contain page numbers that correspond to the actual number of pages

File information

Prints file information, such as, the color profile; halftone settings; name, date, and time the image was created; plate number; and job name

Maintain OPI links

Open Prepress Interface (OPI) lets to use low-resolution images as placeholders for the high-resolution images that appear in your final work. When a print service provider receives the file, the OPI server substitutes the high-resolution images for the low-resolution placeholders.

The Maintain OPI links option is available for PostScript devices only.

Printing color separations

Printing color separations to send color work to a print service provider or printing shop, either or the print service provider must create color separations. Color separations are necessary because a typical printing press applies only one color of ink at a time to a sheet of paper. Specify the color separations to print, including the order in which they print.

Printing presses produce color using either process color or spot color, or both. Convert the spot colors to process colors at printing time.

When setting halftone screens to print color separations, we recommend that to use default settings; otherwise,

screens can be improperly set and result in undesirable moiré patterns and poor color reproduction. However, if using an imagesetter, the screen technology should be set to match the type of imagesetter the print service provider uses. Before customizing a halftone screen, consult the print service provider to determine the correct setting.

If have overprinted areas, to choose how you want those areas to print.

Change the order in which color separations print, by enabling the Use advanced settings check box in the Options area. In the separations list at the bottom of the dialog box, click in the Order column next to the color separation that to want change. Chose a new order value from the list box.

If want to print separations using a color profile that is different than the document color profile, click the Color tab, and choose a color profile from the Correct colors using color profile list box.

Color trapping and overprinting

When colors are trapped, they are intentionally overlapped so that misalignments of print separations are not noticeable. In manual trapping, one color must overprint the other. Overprinting is achieved by printing one color over another. Overprint trapping works best when the top color is much darker than the underlying color; otherwise, an undesirable third color may result (for example, cyan over yellow results in a green object). In some cases, might actually want to create a third color; for example, overprint two spot colors to create a third color.

How overprinted colors mix depends on the type of colors and ink are mixing and the types of objects are overprinting. For example, an object that uses a CMYK color overprints differently from an object that uses a spot color. Bitmaps also overprint differently from vector objects. That can preview a simulation of how overprinted colors will mix by using the Enhanced with overprints viewing mode.

When ready to print, choose to preserve overprint settings if you want to trap objects in a document, or if want to mix the overlapping colors for effect. Choose to knock out the overprinted areas so that only the top color is visible. If want to print a proof version of the file, can simulate overprints. Simulating overprints rasterizes the file, and it prints using process colors only.

To set a group of objects to overprint. The overprint bitmaps; or each vector object's fill, or outline, or both. And also overprint specific color separations and specify in which order they will print, as well as whether want to overprint graphics, or text, or both.

The two methods for color trapping automatically are always overprinting black and auto-spreading. Always overprinting black creates a color trap by causing any object that contains 95% black or more to overprint any underlying objects. This option is useful for artwork containing a lot of black text, but it should be used with caution on artwork with a high graphics content. To adjust the threshold, if the print service provider recommends a black threshold value other than 95%.

Auto-spreading creates color trapping by assigning an outline to an object that is the same color as the object's fill and having it overprint underlying objects. Auto-spreading is created for all objects in the file that meet three conditions: they do not already have an outline, are filled with a uniform fill, and have not already been designated to overprint.

Specifying In-RIP trapping settings

In-RIP trapping allows you to specify advanced trapping settings. Before selecting In-RIP trapping, ensure that your PostScript 3 printer supports In-RIP trapping options.

Select a trap width - the amount that one color spreads into another. Specify image trap placement, which determines where the trap occurs. For example, specify whether the trap is a choke or a spread, depending upon the neutral densities of adjacent colors. Neutral density indicates the lightness or darkness of a color and helps determine how adjacent colors spread into one another.

Specify a threshold at which a trap is created by specifying a step trap limit. If trap colors are of similar neutral densities, the trap placement adjusts accordingly. The step trap limit specifies a threshold at which a trap adjusts.

Before trapping, to set the inks; for example, set an ink to opaque, as in the case of a metallic ink, so that nothing shows through it. To reduce the visibility of a trap, decrease the amount of ink color in a trap. This is especially helpful in the case of pastel colors, contrasting colors, and colors with similar neutral densities.

Print to film

To set up a print job to produce negative images. An imagesetter produces images on film that may need to be produced as negatives depending on which printing device are using. Consult the print service provider to determine whether the produce images on film.

Specify to print with the emulsion down. Printing with the emulsion down produces a backward image on desktop printers.

Print service provider

When send a file to a print service provider, the provider takes your file and converts it directly to film or to plates.

When prepare a print job for printing, which can send camera-ready paper output or the work on disk. If send the work on disk, the print service provider needs either a PostScript file or a native file from the application that to use. Creating a file to send to an imagesetter or a platesetter, speak with the print service provider about the best file format and printing device settings to use. Always provide a final printout of the work to the print service provider, even if it is only a black-and-white representation. This helps the print service provider to identify and assess any potential problems.

Before printing a drawing, choose and properly configure the appropriate printing device driver. Consult the printing device manufacturer instructions, or the print service provider or printing shop that to use to print the work, to find out the best way to set up the printing device driver.

Creating a document and column set up for a variety of publications

Objectives : At the end of this lesson you shall be able to
- **learning about new document options**
- **learning about new print document in multiple column layout**
- **understanding new book work layout.**

Introduction

Adobe InDesign is a desktop publishing software application produced by Adobe Systems. InDesign is a page layout application in which graphics (created elsewhere) and text are combined to create layouts and prepare them for printing. Graphics can be used to create works such as posters, flyers, brochures, magazines, newspapers and books. InDesign can also publish content suitable for tablet devices in conjunction with Adobe Digital Publishing Suite.

Graphic designers and production artists are the principal users, reating adn laying out periodical publications, posters, and print media. It also supports export to EPUB and SWF formats to create e-books and digigtal publications, including digital magazines, and content suitable for consumption on tablet computers. The Adobe InCopy word processor uses the same formatting engine as InDesign.

InDesign is the successor to Adobe PageMaker, which was acquired with the purchase of Aldus in late 1994. Actually Indesign is Adobe's replacemetn of PageMaker. In 2002, InDesign was the first Mac OS X-native desktop publishing software. In version 3 (InDesign CS) it received a boost in distribution by being bundled with Photoshop, Illustrator, and Acrobat in the Creative Suite.

InDesign exports documents in Adobe's Portable Document (PDF) format and has multilingual support. It was the first DTP application to support Unicode for text processing, advanced typography with OpenType fonts, advanced transparency features, layout styles, optical margin alignment and cross-platform scripting using JavaScript.

Intent

If you are creating a document to be output to PDF or SWF for the web, choosing the Web option changes several options in the dialog box, such as turning off Facing Pages, changing the orientation from portrait to landscape, and using a page size based on monitor resolution. You can edit any of these settings after the document is created.

CS6 and later: Digital publishing intent has been added for publications aimed for the Digital Publishing Suite. You can also change the intent of the document after it is created.

Number of pages

Specify the number of pages to create in the new document.

Start Page

Specify which number the document starts on. If you specify an even number (such as 2) with Facing Pages selected, the first spread in the document begins with a two-page spread.

Facing Pages

Select this option to make left and right pages face each other in a double-page spread, such as for books and magazines. Deselect this option to let each page stand alone, such as when you're printing flyers or posters or when you want objects to bleed in the binding.

After you've created a document, you can use the Pages panel to create spreads with more than two pages or force the first two pages to open as a spread.

Master Text Frame

CS5.5 and earlier: Select this option to create a text frame the size of the area within the margin guides, matching the column settings you specified. The master text frame is added to the A Master.

The Master Text Frame option is available only when you've chosen File > New > Document.

Primary Text Frame

CS6 and later: select this option to add a primary text frame on the master page. When you apply a new master page, the story in the primary text frame automatically flows into the primary text frame of the new master page.

Page Size

Choose a page size from the menu, or type values for Width and Height. Page size represents the final size you want after bleeds or other marks outside the page are trimmed.

Orientation

Click Portrait  (tall) or Landscape  (wide). These icons interact dynamically with the dimensions you enter in Page Size. When Height is the larger value, the portrait icon is selected. When Width is the larger value, the landscape icon is selected. Clicking the deselected icon switches the Height and Width values.

Tip: To specify the dimensions of the bleed and slug areas, click the Arrow button before the Bleed and Slug label in the New Document dialog box. To make the bleed or slug areas extend evenly on all sides, click the Make All Settings The Same icon  .

Bleed

The Bleed area allows you to print objects that are arranged at the outer edge of the defined page size. For a page of the required dimensions, if an object is positioned at its edge, some white may appear at the edge of the printed area due to slight misalignment during printing or trimming. For this reason, you should position an object that is at the edge of the page of the required dimensions a little beyond the edge, and trim after printing. Bleed area is shown by a red line on the document. You can set bleed area settings from Bleed in the Print dialog box.

Slug

The slug area is discarded when the document is trimmed to its final page size. The slug area holds printing information, customized color bar information, or displays other instructions and descriptions for other information in the document. Objects (including text frames) positioned in the slug area are printed but will disappear when the document is trimmed to its final page size.

Objects outside the bleed or slug area (whichever extends farther) do not print.

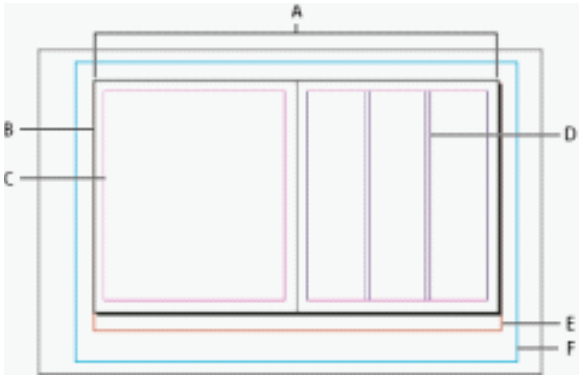
Preview

(Only in InDesign CC) Select this checkbox to see how your new document will look like. Make necessary changes to the options if the preview is not as desired.

You can also click the Save Document Preset icon to save document settings for future use

Document window overview

Each page or spread in your document has its own pasteboard and guides, which are visible in Normal View mode. (To switch to Normal View, choose View > Screen Mode > Normal.) The pasteboard is replaced with a gray background when the document is viewed using one of the Preview modes. You can change the color of this preview background and guides in Guides & Pasteboard preferences.



Document and guides in Normal View Mode

A. Spread (black lines) **B.** Page (black lines) **C.** Margin guides (magenta lines) **D.** Column guides (violet lines) **E.** Bleed area (red lines) **F.** Slug area (blue lines)

Document window notes

Lines of other colors are ruler guides which, when present, appear in the layer color when selected.

Column guides appear in front of margin guides. When a column guide is exactly in front of a margin guide, it hides the margin guide.

Create custom page sizes

You can create custom page sizes that appear in the Page Size menu in the New Document dialog box.

1. Choose File > New > Document.
2. Choose Custom Page Size from the Page Size menu.
3. Type a name for the page size, specify page size settings, and then click Add.

The New Doc Sizes.txt file that lets you create custom page sizes in previous version of InDesign is not available in InDesign CS5 or later.

Define document presets

You can save document settings for page size, columns, margins, and bleed and slug areas in a preset to save time and ensure consistency when creating similar documents.

1. Choose File > Document Presets > Define.
2. Click New in the dialog box that appears.
3. Specify a name for the preset and select basic layout options in the New Document Preset dialog box.
4. Click OK twice.

You can save a document preset to a separate file and distribute it to other users. To save and load document preset files, use the Save and Load buttons in the Document Presets dialog box.

Change document setup, margins, and columns

After you create a document, you may change your mind about how you want it set up. For example, you may want single pages instead of facing pages, or you may want to change the page size or margin settings.

Change document setup

Changing options in the Document Setup dialog box affects every page in the document. If you change page size or orientation after objects have been added to pages, you can use the Layout Adjustment feature to minimize the amount of time needed for arranging existing objects.

1. Choose File > Document Setup.
2. Specify the document options, and then click OK.

Change page margin and column settings

You can change column and margin settings for pages and spreads. When you change the column and margin settings on a master page, you change the setting for all pages to which the master is applied. Changing the columns and margins of regular pages affects only those pages selected in the Pages panel.

The Margins and Columns dialog box doesn't alter columns inside text frames. Text frame columns exist only within individual text frames, not on the page itself. You can set up columns within individual text frames by using the Text Frame Options dialog box. Text frame columns can also be affected by the Layout Adjustment feature.

Do one of the following:

1. To change margin and column settings for one spread or page, go to the spread you want to change, or select one spread or page in the Pages panel.
2. To change margin and column settings for multiple pages, select those pages in the Pages panel, or select a master that controls the pages you want to change.
3. Choose Layout > Margins And Columns, specify the following options, and then click OK.

Margins

Type values to specify the distance between margin guides and each edge of the page. If Facing Pages is selected in the New Document or Document Setup dialog box, the Left and Right margin option names change to Inside and Outside, so that you can specify additional inside margin space to accommodate binding.

Columns

Specify the number of columns.

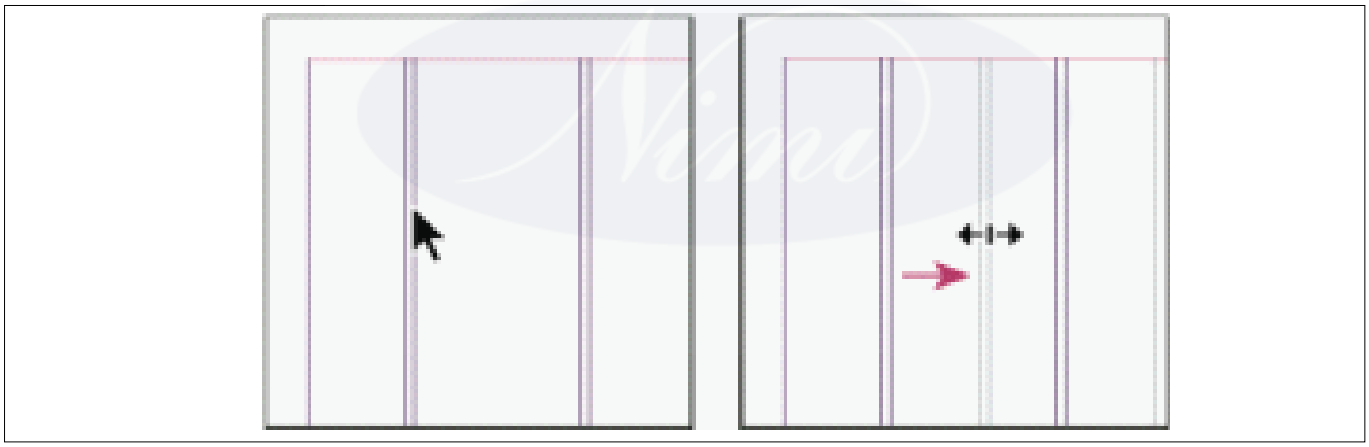
Select Horizontal or Vertical to specify the column direction. This also sets the writing direction of the document baseline grid.

Create unequal column widths

When you have more than one column on a page, the column guides in the middle appear in pairs. When you drag one column guide, the pair moves. The space between the column guides is the gutter value you specified; the pair moves together to maintain that value.

You cannot create unequal column widths for columns in a text frame. Instead, created threaded, side-by-side text frames with different column widths.

1. Go to the master or spread you want to change.
2. If column guides are locked, choose View > Grids& Guides > Lock Column Guides to deselect it.
3. Using the Selection tool, drag a column guide. You can't drag it past an adjacent column guide or beyond the edge of the page.



Dragging a column guide to create unequal column widths

To create columns with unequal gutters, create evenly spaced ruler guides and then drag individual guides to the desired location.

Identification and use of tools, rulers, guides and snap-to-guides

Objectives : At the end of this lesson you shall be able to
- **learn and use of tools, rulers, guides and snap-to guides**
- **learn and use of transformation, modification and navigation tools**
- **learn about layers, rulers guide and use of smart guides**
- **learn and use of grids adn snapping object to grids.**

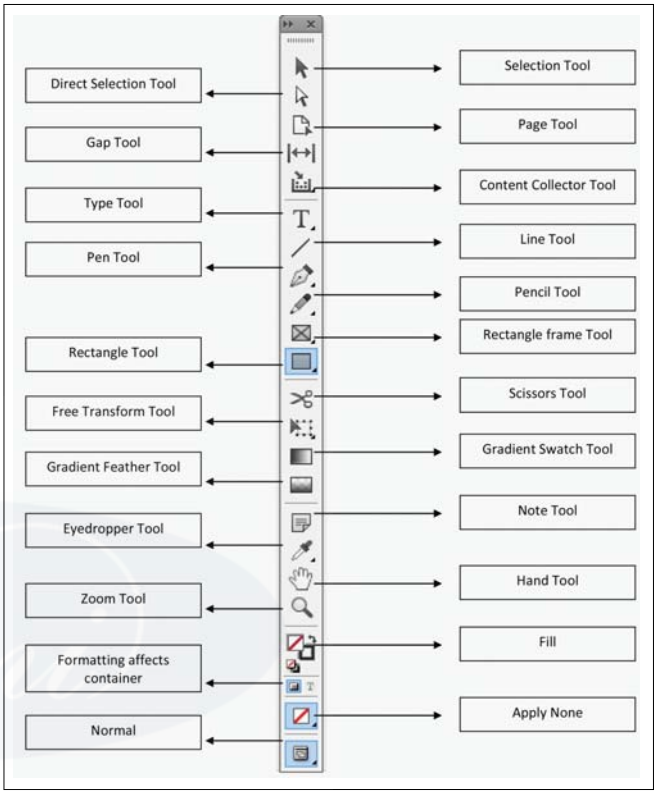
Toolbox overview

Some tools in the toolbox are for selecting, editing, and creating page elements. Other tools are for choosing type, shapes, lines, and gradients. You can change the overall layout of the toolbox to fit your preferred window and panel layout. By default, the toolbox appears as a single vertical column of tools. You can also set it up as a double vertical column or as one horizontal row. However, you can't rearrange the positions of individual tools in the toolbox. You can drag the top of the toolbox to move it.

Select a tool from the default toolbox by clicking it. The toolbox also contains several hidden tools related to the visible tools. Hidden tools are indicated by arrows to the right of the tool icons. Select a hidden tool by clicking and holding the current tool in the toolbox and then selecting the tool that you want.

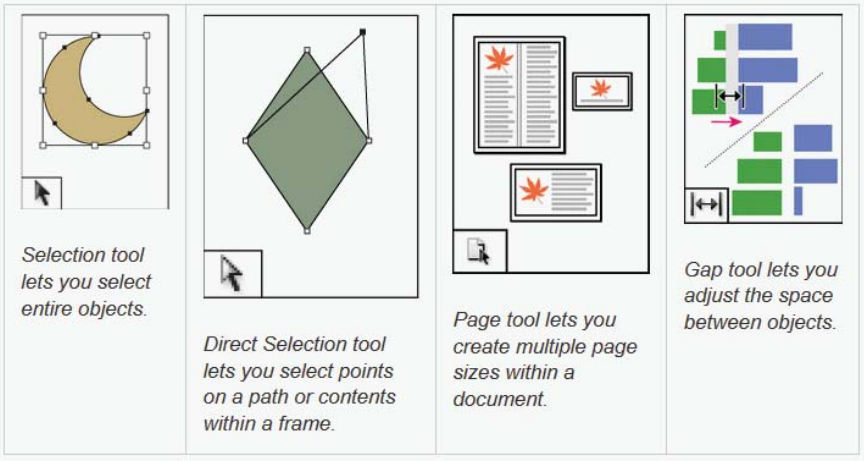
The name of the tool and its keyboard shortcut appear when you hold the pointer over the tool-this text is called the tool tip. You can turn off tool tips by choosing None from the Tool Tips menu in Interface preferences.

Open the Tool Hints panel (choose Window > Utilities > Tool Hints) to see which shortcut and modifier keys work with the selected tool.



Content Collector and Content Placer tools are not available in CS5.5 or earlier.

Gallery of selection tools



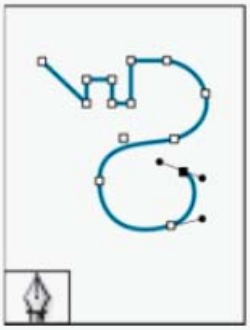
Selection tool lets you select entire objects.

Direct Selection tool lets you select points on a path or contents within a frame.

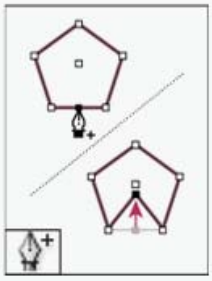
Page tool lets you create multiple page sizes within a document.

Gap tool lets you adjust the space between objects.

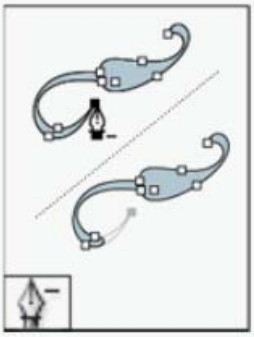
Gallery of drawing and type tools



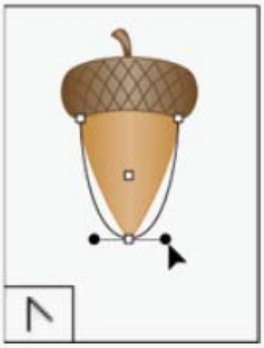
Pen tool lets you draw straight and curved paths.



Add Anchor Point tool lets you add anchor points to a path.

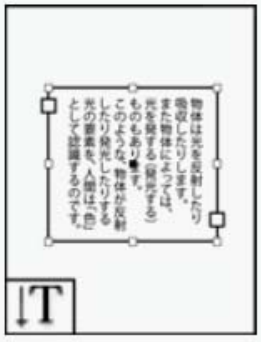


Delete Anchor Point tool lets you remove anchor points from a path.



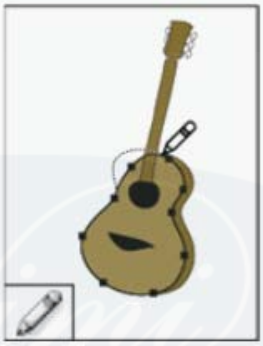
Convert Direction Point tool lets you convert corner points and smooth points.

Type tool lets you create text frames and select text.

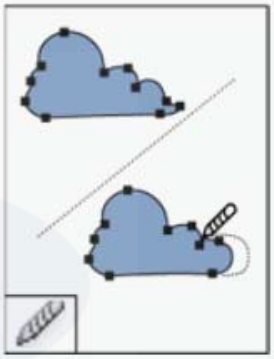


Vertical Type tools lets you create vertical text frames and select text.

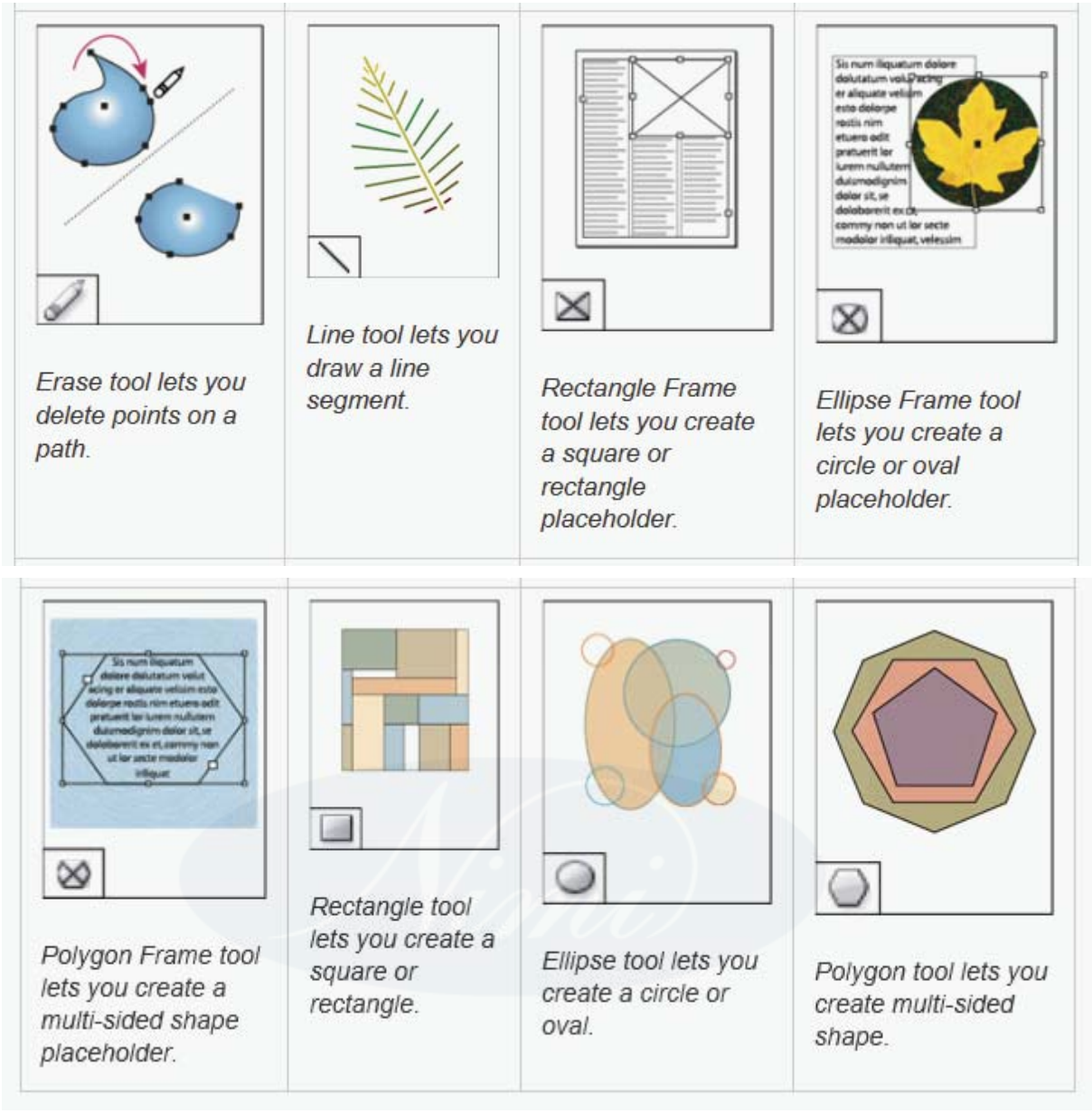
Type on a Path tool lets you create and edit type on paths.



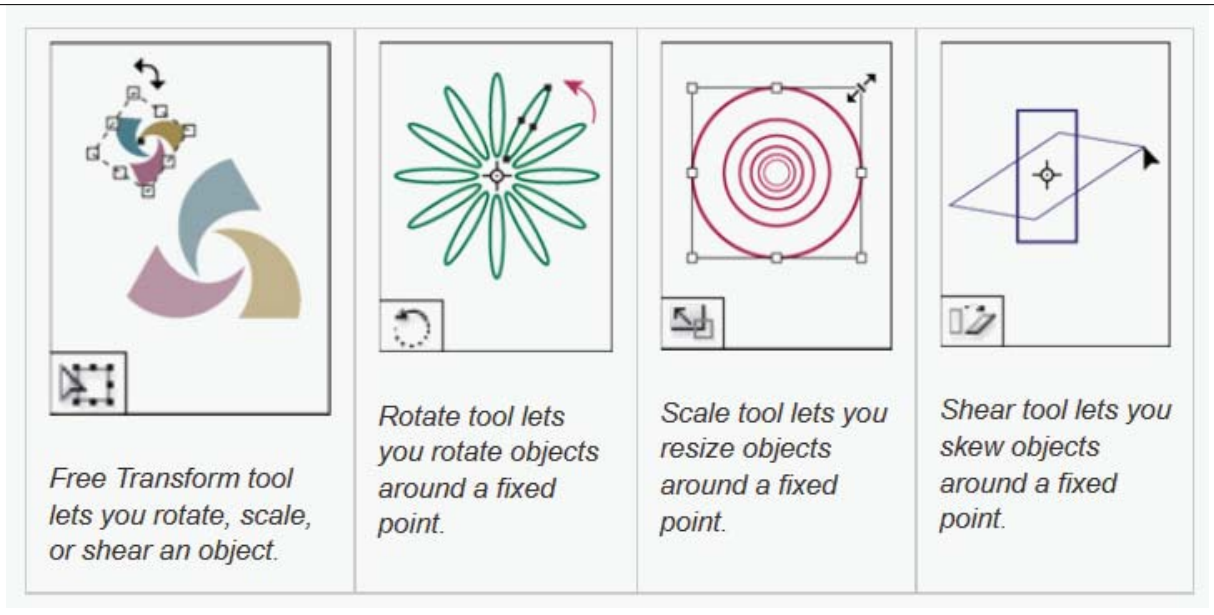
Pencil tool lets you draw a freeform path.



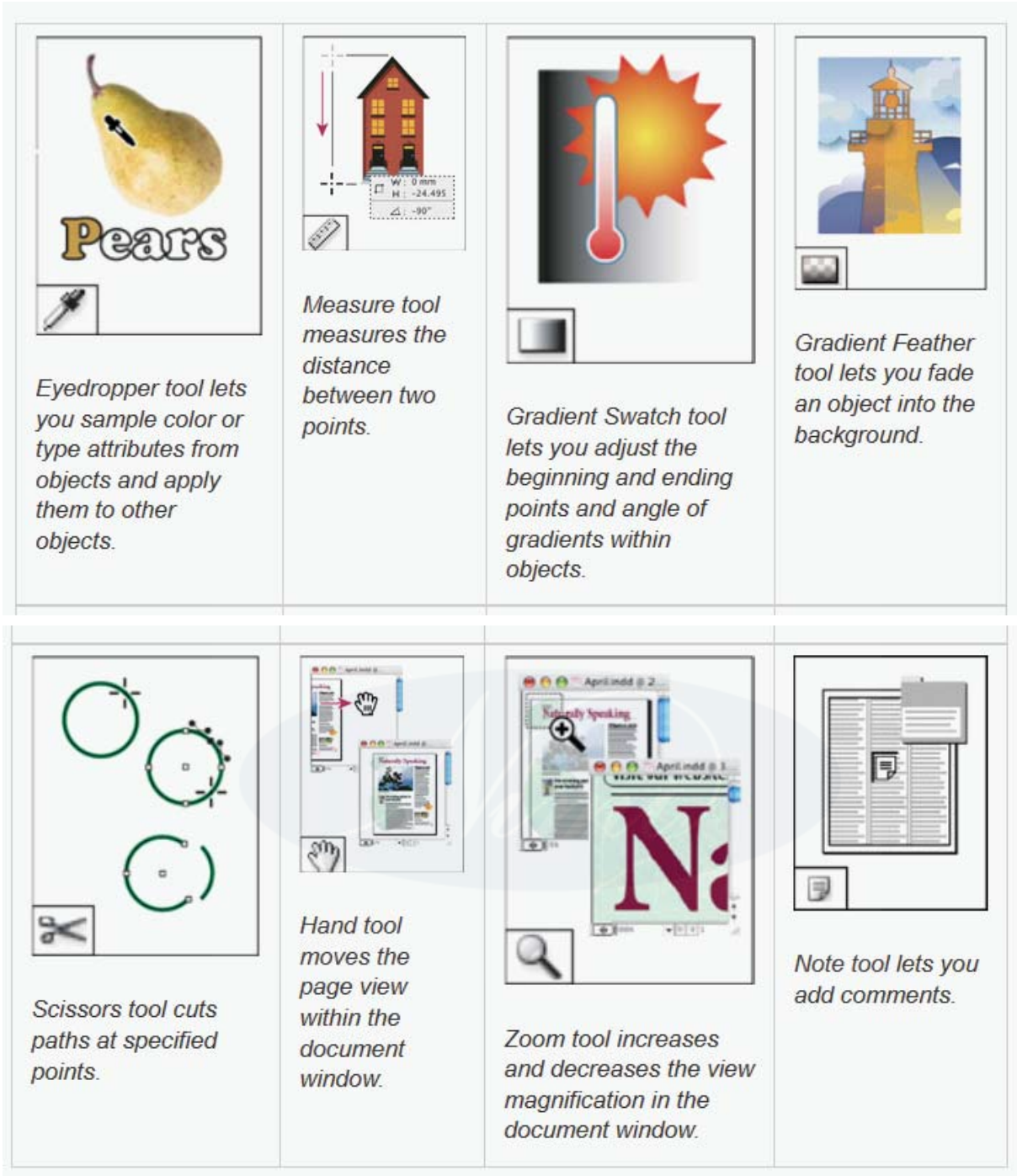
Smooth tool lets you remove excess angles from a path.



Gallery of transformation tools



Gallery of modification and navigation tools



About layers

Each document includes at least one named layer. By using multiple layers, you can create and edit specific areas or kinds of content in your document without affecting other areas or kinds of content. For example, if your document prints slowly because it contains many large graphics, you can use one layer for just the text in your document; then, when it's time to proofread the text, you can hide all other layers and quickly print the text layer only. You can also use layers to display alternate design ideas for the same layout, or versions of advertisements for different regions.

Create layers

You can add layers at any time using the New Layer command on the Layers panel menu or the New Layer button at the bottom of the Layers panel. The number of layers a document can have is limited only by the RAM available to InDesign.

Specify layer options

1. Choose New Layer in the Layers panel menu, or double-click an existing layer.
2. Specify the layer options, and then click OK.

Color

Assign a color to identify the objects on that layer.

Show Layer

Select this option to make a layer visible. Selecting this option is the same as making the eye icon visible in the Layers panel.

Show Guides

Select this option to make the guides on the layer visible. When this option is not selected for a layer, the guides cannot be made visible, even by selecting View > Show Guides for the document.

Lock Layer

Select this option to prevent changes to any objects on the layer. Selecting this option is the same as making the crossed-out pencil icon visible in the Layers panel.

Lock Guides

Select this option to prevent changes to all ruler guides on the layer.

Print Layer

Select this option to allow the layer to be prevented from printing. When printing or exporting to PDF, you can determine whether to print hidden and nonprinting layers.

Suppress Text Wrap When Layer Is Hidden

Select this option if you want text on other layers to flow normally when the layer is hidden and it contains objects with text wrap applied.

Assign a layer color

Assigning a color to a layer makes it easier to distinguish the layers of different selected objects. For each layer that contains a selected object, the Layers panel displays a dot in the layer's color. On the page, each object displays the color of its layer in its selection handles, bounding box, text ports, text wrap boundary (if used), frame edges (including the X displayed by an empty graphics frame), and hidden characters.

Merge layers in a document

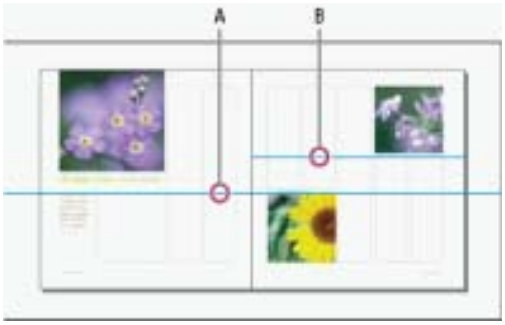
You can reduce the number of layers in a document without deleting any objects by merging layers. When you merge layers, objects from all selected layers are moved to the target layer. Of the layers you merge, only the target layer remains in the document; the other selected layers are deleted. You can also flatten a document by merging all layers.

If you merge layers containing a mix of page objects and master items, the master items move to the back of the resulting merged layer.

Create ruler guides

Ruler guides are different from grids in that they can be positioned freely on a page or on a pasteboard. You can create two kinds of ruler guides: page guides, which appear only on the page on which you create them, or spread guides, which span all pages and the pasteboard of a multiple-page spread. You can drag any ruler guide to the pasteboard. A ruler guide is displayed or hidden with the layer on which it was created.

New ruler guides always appear on the target spread. For example, if several spreads are visible in the document window and you drag a new guide into the window, the new guide becomes visible only on the target spread.



Guides in the document window

A. Spread guide **B.** Page guide

Work with ruler guides

You can change the attributes of individual ruler guides, and you can move, cut, copy, paste, or delete multiple ruler guides simultaneously. Cut or copied ruler guides can be pasted to other pages or documents, but not to other programs. To change attributes of specific guides, you must select the guides you want to change. When no guides are selected, the Ruler Guides command sets the defaults for new guides only.

Select ruler guides

Unselected ruler guides appear light blue by default. Selected ruler guides are highlighted in their layer color. When a guide is selected, the Reference Point icon in the Control panel changes to or , representing the selected guide.

To select a single ruler guide, use the Selection tool or the Direct Selection tool and click the guide to highlight it in its layer color.

If you can't select a ruler guide and the View > Grids & Guides > Lock Guides command is already deselected, the guide might be on that page's master, or on a layer where guides are locked.

To select multiple ruler guides, hold down Shift as you click guides using the Selection or Direct Selection tool. You can also drag over multiple guides, as long as the selection marquee doesn't touch or enclose any other object.

To select all ruler guides on the target spread, press Ctrl+Alt+G (Windows) or Command+Option+G (Mac OS).

Snap objects to guides and grids

To precisely align objects to guides, use the Snap To Guides and Snap To Document Grid commands. Object edges will snap to (be pulled toward) the nearest grid intersection or guide when you draw, move, or resize the objects.

The exact range within which an object snaps to guides is called the snap-to zone, which you can adjust. When you select both the Snap To Guides and the Snap To Document Grid commands, the grid takes precedence.

Keep the following guidelines in mind as you align objects to guides and grids:

- To snap an object to a guide, drag an object toward a guide until one or more of the object's edges is within the guide's snap-to zone.
- Guides must be visible for objects to snap to them. However, objects can snap to the document and baseline grids whether the grids are visible or not.
- Objects on one layer snap to ruler guides visible on any other layer. If you don't want objects to snap to guides on a certain layer, hide that layer's guides.
- To snap the text baseline to the baseline grid, choose Grid Alignment > Roman Baseline from the Control panel menu or Paragraph panel menu. Alternatively, set Grid Alignment to Roman Baseline from the column style Grid Settings.
- For the baselines of text to snap to the baseline grid, press the Align to Baseline Grid button ≣ for individual paragraphs or paragraph styles.

Use smart guides

The Smart Guides feature makes it easy to snap objects to items in your layout. As you drag or create an object, temporary guides appear, indicating that the object is aligned with an edge or center of the page or with another page item.

By default, the Smart Guides feature is selected. You can turn off smart guides, or you can turn off any of the smart guide categories:

Smart Object Alignment

Smart object alignment allows for easy snapping to page item centers or edges. In addition to snapping, smart guides dynamically draw to indicate which object is being snapped to.

Smart Dimensions

Smart dimension feedback appears when you're resizing, creating, or rotating page items. For example, if you rotate one object on your page 24 degrees, a rotation icon appears as you rotate another object close to 24 degrees. This hint lets you snap the object to the same rotation angle of the adjacent object. Similarly, as you resize an object next to another object, a line segment with arrows at each end lets you snap the object to the same width or height as the adjacent object.

Smart Spacing

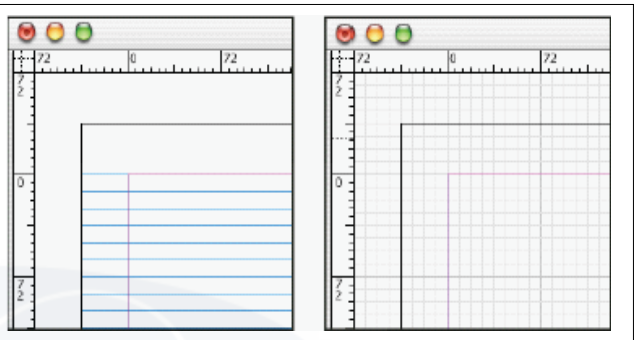
Smart spacing lets you quickly arrange page items with the help of temporary guides that indicate when the spacing between objects is even.

Smart Cursors

Smart cursor feedback appears in a gray box as X and Y values when you're moving or resizing object or as a measurement when you're rotating values. The Show Transformation Values option in Interface preferences lets you turn smart cursors on and off.

Use grids

Two kinds of nonprinting grids are available: a baseline grid for aligning columns of text, and a document grid for aligning objects. On the screen, a baseline grid resembles ruled notebook paper, and a document grid resembles graph paper. You can customize both kinds of grids.



Baseline grid (left) and document grid (right)

When a grid is visible, you can observe the following characteristics:

- The baseline grid covers entire spreads, but the document grid covers the entire pasteboard.
- Baseline grids and document grids appear on every spread and cannot be assigned to any master.
- The document grid can appear in front of or behind all guides, layers, and objects, but cannot be assigned to any layer.

Snapping objects to grids

When snapping is enabled, moving an object within the snap zone of a grid location will cause the object to snap to that location.

Formatting text and page

Objectives : At the end of this lesson you shall be able to
- **explain the text, text frame and formatting the text**
- **explain about add text to a document and formatting the paragraph**
- **define Tabs and Indents**
- **learn the thread text frame, flow text to the text frame**
- **define Master, and spread and format the pages.**

Create text frames

Text in InDesign resides inside containers called text frames. (A text frame is similar to a text box in QuarkXPress and a text block in Adobe PageMaker.)

There are two types of text frames: frame grids and plain text frames. Frame grids are the kind of text frames specific to Asian-language composition in which character emboxes and spacing are displayed as grids. Empty text frames in which no grid is displayed are plain text frames.

Like graphics frames, text frames can be moved, resized, and changed. The tool with which you select a text frame determines the kind of changes you can make:

- Use the Type tool to enter or edit text in a frame.
- Use the Selection tool for general layout tasks such as positioning and sizing a frame.
- Use the Direct Selection tool to alter a frame's shape.
- Use the Horizontal Grid tool or the Vertical Grid tool to create a frame grid.

Use the Type tool to create a plain text frame for horizontal text, and the Vertical Type tool to create a plain text frame for vertical text. Use the same tools to edit existing text in a frame.

Text frames can also be connected to other text frames so that the text in one frame can flow into another frame. Frames that are connected in this way are threaded. Text that flows through one or more threaded frames is called a story. When you place (import) a word-processing file, it comes into your document as a single story, regardless of the number of frames it may occupy.

Text frames can have multiple columns. Text frames can be based on, yet independent of, page columns. In other words, a two-column text frame can sit on a four-column page. Text frames can also be placed on master pages and still receive text on document pages.

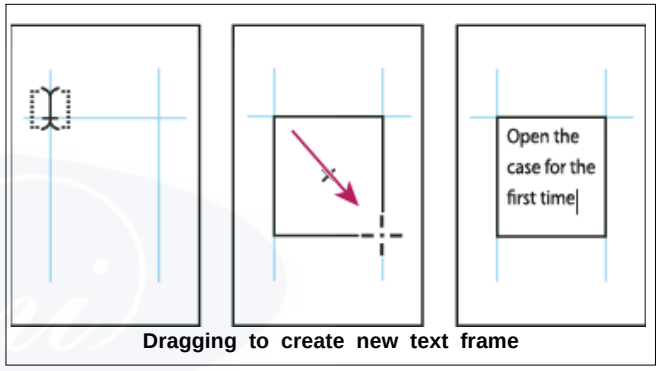
If you use the same type of text frame repeatedly, you can create an object style that includes text frame formatting such as stroke and fill colors, text frame options, and text wrap and transparency effects.

When you place or paste text, you don't need to create a text frame; InDesign automatically adds frames based on the page's column settings.

When text is pasted, a plain text frame is automatically created. You can also create an empty plain text frame manually and input text.

- Do any of the following:

Select the Type tool , and then drag to define the width and height of a new text frame. Hold down Shift as you drag to constrain the frame to a square. When you release the mouse button, a text insertion point appears in the frame.



Dragging to create new text frame

Using the Selection tool, click the in port or out port of another text frame, and then click or drag to create another frame.

Use the Place command to place a text file.

Using the Type tool , click inside any empty frame. If the Type Tool Converts Frames To Text Frames option is selected in Type preferences, the empty frame is converted to a text frame.

Using text frames on master pages

When you start a new document, you can select the Master Text Frame option so that an empty text frame is placed on the document's default master page. This frame has the column and margin attributes specified in the New Document dialog box.

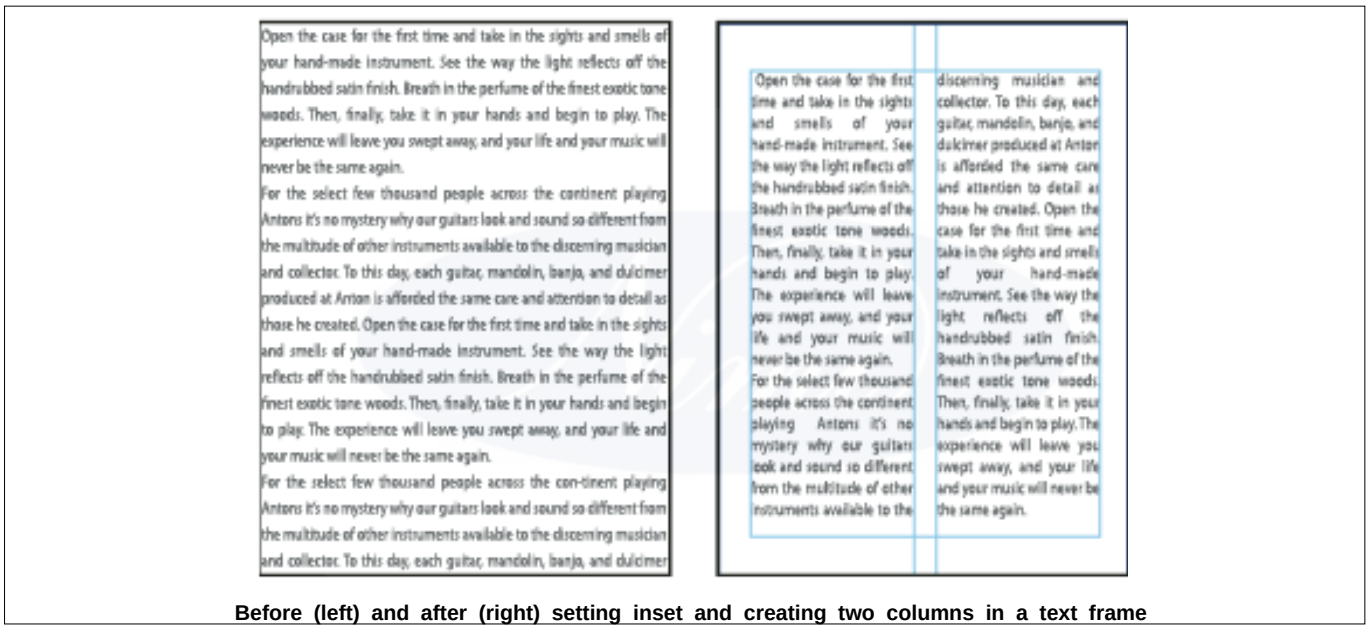
Follow these guidelines for using text frames on master pages:

- Set master text frames when you want each page in your document to contain a page-sized text frame into which you can flow or type your text. If your document requires more variation, such as pages with different numbers of frames or frames of different lengths, leave the Master Text Frame option deselected, and use the Type tool to create text frames on masters.

- Whether or not you select the Master Text Frame option, you can add text frames to a master page to act as placeholders. You can thread these empty place-holder frames together to establish a flow.
- Flow text into master text frames using the same procedures you would use with frames created on document pages.
- If you need to type text in a master text frame on a document page, hold down Ctrl+Shift as you click the text frame on the document page. Then click in the frame using the Type tool and begin typing.
- You can use Smart Text Reflow to add or remove pages automatically as you type and edit text. By default, when you type text at the end of a threaded text frame based on a master page, a new page is added, allowing you to continue typing in the new text frame. You can edit Smart Text Reflow settings.
- If you change the page margins, text frames adjust to the new margins only if the Enable Layout Adjustment option is selected.
- Selecting the Master Text Frame option does not affect whether new pages are added when you autoflow text.

Change text frame properties

Use Text Frame Options to change settings such as the number of columns in the frame, the vertical alignment of text within the frame, or the inset spacing, which is the distance of the margins between the text and the frame.



Before (left) and after (right) setting inset and creating two columns in a text frame

If you need to use the same text frame properties for multiple text frames, create an object style that you can apply to your text frames.

First baseline offset options

To change the first baseline options of a selected text frame, choose Object > Text Frame Options, and click the Baseline Options tab. The following options appear in the Offset menu under First Baseline:

Ascent

The height of the "d" character in the font falls below the top inset of the text frame.

Cap Height

The top of uppercase letters touch the top inset of the text frame.

Leading

Use the text's leading value as the distance between the baseline of the first line of text and the top inset of the frame.

X Height

The height of the "x" character in the font falls below the top inset of the frame.

Fixed

Specify the distance between the baseline of the first line of text and the top inset of the frame.

Min

Select a minimum value for the baseline offset. For example, if Leading is selected and you specify a minimum value of 1p, InDesign uses the leading value only when it's greater than 1 pica.

If you want to snap the top of the text frame to a grid, choose either Leading or Fixed so that you can control the location of the first baseline of text in text frames.

Add text to a document

Add text to a document by typing or by pasting or placing text from a word-processing application. If your word-processing application supports drag-and-drop, you can also drag text into InDesign frames. For large blocks of text, the Place command is an efficient, versatile way to add text to your document. InDesign supports a variety of word-processing, spreadsheet, and text file formats.

When you place or paste text, you do not need to create a text frame first; InDesign will create one for you automatically.

When you place text, you can select Show Import Options to determine whether the imported text maintains its styles and formatting. Before you paste text, you can select All Information or Text Only under Clipboard Handling Preferences to determine whether the pasted text includes additional information such as swatches and styles.

If the text you import into your document includes pink, green, or another color of highlighting, you likely have one or more composition preference options turned on. Open the Composition section of the Preferences dialog box, and notice which options are turned on under Highlight. For example, if the pasted text is formatted with fonts not available, the text is highlighted in pink.

Paste text

If the insertion point is not inside a text frame when you paste text into InDesign, a new plain text frame will be created. If the insertion point is inside a text frame, the text will be pasted inside that frame. If you have text selected when you paste, the pasted text will overwrite the selected text.

About import filters

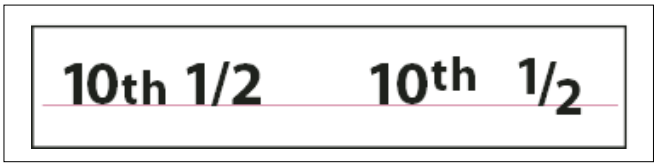
InDesign imports most character and paragraph formatting attributes from text files but ignores most page-layout information, such as margin and column settings (which you can set in InDesign). Note the following:

- InDesign generally imports all formatting information specified in the word-processing application, except information forward-processing features not available in InDesign.
- InDesign can add imported styles to its list of styles for the document. A disk icon appears next to imported styles.
- The import options appear when you select Show Import Options in the Place dialog box, or when you import an Excel file. If Show Import Options is deselected, InDesign uses the import options last used for a similar document type. The options you set remain in effect until you change them.
- If InDesign cannot find a filter that recognizes a file by either its file type or file extension, an alert message appears. For best results in Windows, use the standard extension (such as .doc, .docx, .txt, .rtf, .xls, or .xlsx) for the type of file you're importing. You may need to open the file in its original application and save it in a different format, such as RTF or text-only.

Formatting characters

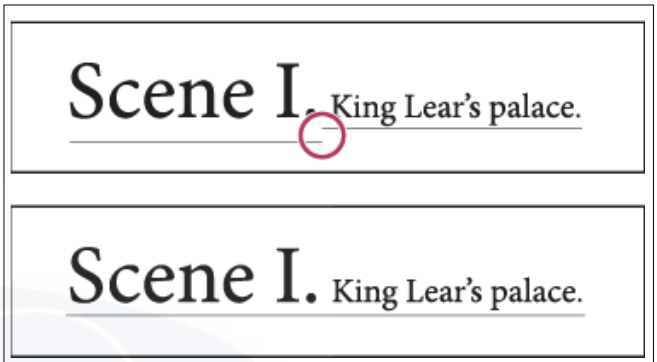
Apply baseline shift

Use Baseline Shift to move a selected character up or down relative to the baseline of the surrounding text. This option is especially useful when you're hand-setting fractions or adjusting the position of inline graphics.



Change underline or strikethrough options

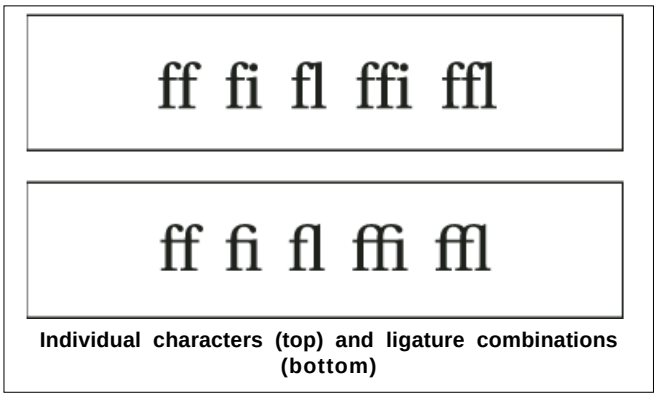
Creating custom underlining is especially useful when you want to create an even underline below characters of different sizes, or for creating special effects, such as background highlighting.



Before and after adjusting underlines

Apply ligatures to letter pairs

InDesign can automatically insert ligatures, which are typographic replacement characters for certain letter pairs, such as "fi" and "fl," when they are available in a given font. The characters that InDesign uses when the Ligature option is selected appear and print as ligatures, but are fully editable, and do not cause the spell checker to flag a word erroneously.



Individual characters (top) and ligature combinations (bottom)

With OpenType fonts, when you choose Ligatures from the Character panel menu or Control panel menu, InDesign produces any standard ligature defined in the font, as determined by the font designer. However, some fonts include more ornate, optional ligatures, which can be produced when you choose the Discretionary Ligatures command.

About kerning and tracking

Kerning is the process of adding or subtracting space between specific pairs of characters. Tracking is the process of loosening or tightening a block of text.

Values for kerning and tracking affect Japanese text but normally these options are used to adjust the aki between roman characters.

Types of kerning

You can automatically kern type using metrics kerning or optical kerning. Metrics kerning uses kern pairs, which are included with most fonts. Kern pairs contain information about the spacing of specific pairs of letters. Some of these are: LA, P., To, Tr, Ta, Tu, Te, Ty, Wa, WA, We, Wo, Ya, and Yo.

InDesign uses metrics kerning by default so that specific pairs are automatically kerned when you import or type text. To disable metrics kerning, select "0".

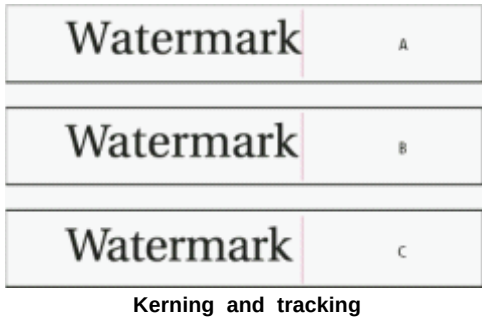
Optical kerning adjusts the spacing between adjacent characters based on their shapes. Some fonts include robust kern-pair specifications. However, when a font includes only minimal built-in kerning or none at all, or if you use two different typefaces or sizes in one or more words on a line, you may want to use the optical kerning option.

Optical kerning adjusts the spacing between adjacent characters based on their shapes, and is optimized for use with Roman glyphs. Some fonts include robust kern-pair specifications. However, when a font includes only minimal built-in kerning or none at all, or if you use two different typefaces or sizes in one or more words on a line, you may want to use the optical kerning option for the Roman text in your document.

Before applying the optical kerning option to the "W" and "a" pair (top), and after (bottom)

You can also use manual kerning, which is ideal for adjusting the space between two letters. Tracking and manual kerning are cumulative, so you can first adjust individual pairs of letters, and then tighten or loosen a block of text without affecting the relative kerning of the letter pairs.

Word kerning isn't the same as the Word Spacing option in the Justification dialog box; word kerning changes the kerning value only between a specific word's first character and the word space preceding that character.



Kerning and tracking

A. Original **B.** Kerning applied between "W" and "a" **C.** Tracking applied

How kerning and tracking are measured

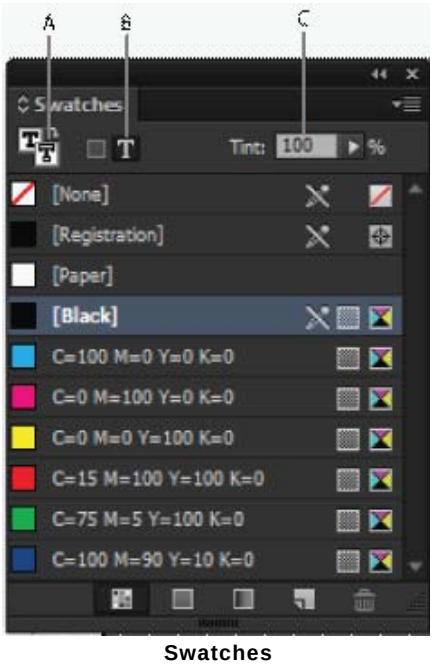
You can apply kerning, tracking, or both to selected text. Tracking and kerning are both measured in 1/1000 em, a unit of measure that is relative to the current type size. In a 6 point font, 1 em equals 6 points; in a 10 point font, 1 em equals 10 points. Kerning and tracking are strictly proportional to the current type size.

Tracking and manual kerning are cumulative, so you can first adjust individual pairs of letters, and then tighten or loosen a block of text without affecting the relative kerning of the letter pairs.

When you click to place the insertion point between two letters, InDesign displays kerning values in the Character panel and the Control panel. Metrics and optical kerning values (or defined kern pairs) appear in parentheses. Similarly, if you select a word or a range of text, InDesign displays the tracking values in the Character panel and Control panel.

Change the color, gradient, or stroke of text

You can apply colors, gradients, and strokes to characters and continue to edit the text. Use the Swatches panel and Stroke panel to apply colors, gradients, and strokes to text, or change Character Color settings when creating or editing a style.



Swatches

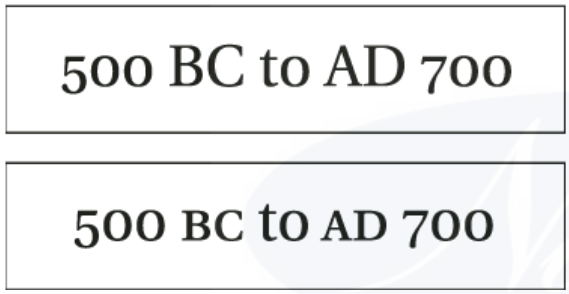
A. Swatch affects fill or stroke **B.** Swatch affects container or text **C.** Tint percentage

Change the case of type

The All Caps or Small Caps commands change the appearance of text, but not the text itself. Conversely, the Change Case command changes the case setting of selected text. This distinction is important when searching or spell-checking text. For example, suppose you type "spiders" in your document and apply All Caps to the word. Using Find/Change (with Case Sensitive selected) to search for "SPIDERS" will not find the instance of "spiders" to which All Caps was applied. To improve search and spell-check results, use the Change Case command rather than All Caps.

Change text to All Caps or Small Caps

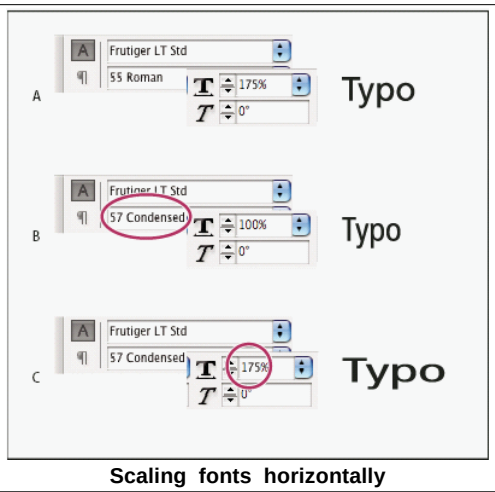
InDesign can automatically change the case of selected text. When you format text as small caps, InDesign automatically uses the small-cap characters designed as part of the font, if available. Otherwise, InDesign synthesizes the small caps using scaled-down versions of the regular capital letters. The size of synthesized small caps is set in the Type Preferences dialog box.



Before (top) and after (bottom) setting BC and AD in small caps to complement old-style numerals and surrounding text

Scale type

You can specify the proportion between the height and width of the type, relative to the original width and height of the characters. Unscaled characters have a value of 100%. Some type families include a true expanded font, which is designed with a larger horizontal spread than the plain type style. Scaling distorts the type, so it is generally preferable to use a font that is designed as condensed or expanded, if one is available.



Scaling fonts horizontally

A. Unscaled type **B.** Unscaled type in condensed font **C.** Scaled type in condensed font

Adjust paragraph spacing

You can control the amount of space between paragraphs. If a paragraph begins at the top of a column or frame, InDesign does not honor the Space Before value. In such a case, you can increase the leading of the first line of the paragraph or increase the top inset of the text frame in InDesign.

Use drop caps

You can add drop caps to one or more paragraphs at a time. The drop cap's baseline sits one or more lines below the baseline of the first line of a paragraph.

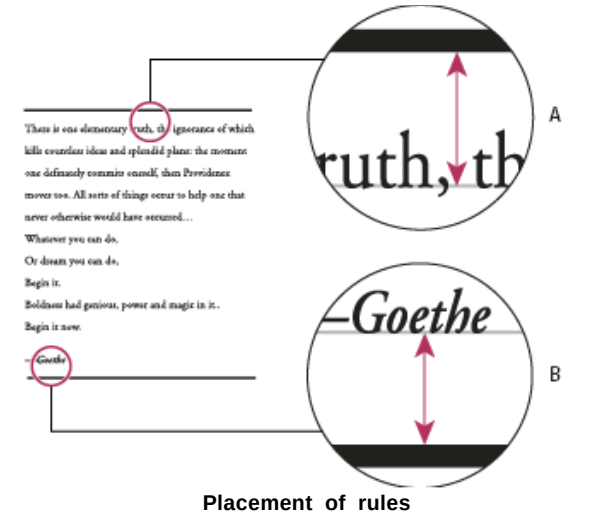
You can also create a character style that can be applied to the drop cap characters. For example, you can create a tall cap (also called a raised cap) by specifying a 1 line, 1 character drop cap and applying a character style that increases the size of the first letter.

One-character, three-line drop cap (left), and five-character, two-line drop cap (right)

Add rules (lines) above or below paragraphs

Rules are paragraph attributes that move and are resized along with the paragraph on the page. If you're using a rule with headings in your document, you may want to make the rule part of a paragraph style definition. The width of the rule is determined by the column width.

The offset for a rule above a paragraph is measured from the baseline of the top line of text to the bottom of the rule. The offset for a rule below a paragraph is measured from the baseline of the last line of text to the top of the rule.



Placement of rules

A. Rule above paragraph **B.** Rule below paragraph

Ways to control paragraph breaks

You can eliminate orphans and widows, words or single lines of text that become separated from the other lines in a paragraph. Orphans fall at the bottom of a column or page, and widows fall at the top of a column or page. Another typographic problem to avoid is a heading that stands alone on a page with the following paragraph on the next page. You have several options for fixing widows, orphans, short exit lines, and other paragraph break problems:

Discretionary hyphens

A discretionary hyphen (Type > Insert Special Character > Hyphens And Dashes > Discretionary Hyphen) appears only if the word breaks. This option prevents the common typographic problem of hyphenated words, such as "care-giver," appearing in the middle of a line after text reflows. Similarly, you can also add a discretionary line break character.

No Break

Choose No Break from the Character panel menu to prevent selected text from breaking across a line.

Nonbreaking spaces

Insert a nonbreaking space (Type > Insert White Space > [nonbreaking space]) between words you want to keep together.

Keep Options

Choose Keep Options from the Paragraph panel menu to specify how many lines in the following paragraph remain with the current paragraph.

Start Paragraph

Use Start Paragraph in the Keep Options dialog box to force a paragraph (usually a title or heading) to appear at the top of a page, column, or section. This option works especially well as part of a heading paragraph style.

Hyphenation Settings

Choose Hyphenation from the Paragraph panel menu to change hyphenation settings.

Edit text

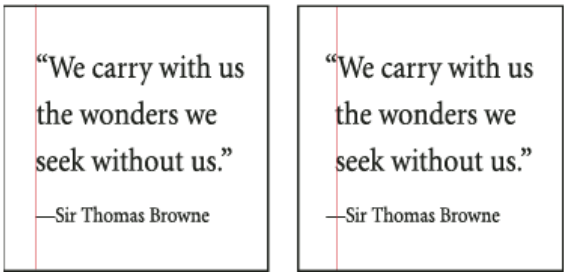
Editing text may not be an option depending on the kind of document you work with. If you have license to rewrite, then subtle rewording can often create a better line break.

Use a different composer

In general, use Adobe Paragraph Composer to let InDesign compose paragraphs automatically. If a paragraph isn't composed the way you'd like, choose Adobe Single-line Composer from the Paragraph panel menu or Control panel menu and adjust selected lines individually.

Create hanging punctuation

Punctuation marks and letters such as "W" can make the left or right edges of a column appear to be misaligned. Optical Margin Alignment controls whether punctuation marks (such as periods, commas, quotation marks, and dashes) and edges of letters (such as W and A) hang outside the text margins, so that the type looks aligned.



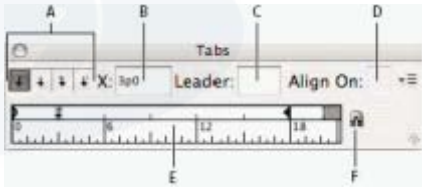
Before (left) and after (right) applying Optical Margin Alignment

Tabs dialog box overview

Tabs position text at specific horizontal locations in a frame. The default tab settings depend on the Horizontal ruler units setting in the Units & Increments preferences dialog box.

Tabs apply to an entire paragraph. The first tab you set deletes all default tab stops to its left. Subsequent tabs delete all default tabs between the tabs you set. You can set left, center, right, and decimal or special-character tabs.

You set tabs using the Tabs dialog box.



Tabs dialog box

A. Tab alignment buttons **B.** Tab position **C.** Tab Leader box **D.** Align On box **E.** Tab ruler **F.** Snap above frame

When you do this in a vertical text frame, the Tabs dialog box also becomes vertical. When the Tabs dialog box direction is not consistent with the text frame direction, click on the magnet icon to snap the rulers to the current text frame.

Add tab leaders

A tab leader is a repeated pattern of characters, such as a series of dots or dashes, between a tab and the following text.

1. In the Tabs panel, select a tab stop on the ruler.
2. Type a pattern of as many as eight characters in the Leader box, and then press Enter or Return. The characters you entered repeat across the width of the tab.
3. To change the font or other formatting of the tab leader, select the tab character in the text frame, and use the Character panel or Type menu to apply formatting.

Insert right indent tabs

In one step, you can add a right-aligned tab at the right indent, making it easier to prepare tabular text that spans an entire column. Right indent tabs are slightly different from regular tabs. A right indent tab:

- Aligns all subsequent text to the right edge of the text frame. If the same paragraph includes any tabs after the right indent tab, those tabs and their text are pushed to the next line.
- Is a special character located in the text, not in the Tabs dialog box. You add a right indent tab using a context menu, not the Tabs dialog box. As a result, a right indent tab can't be part of a paragraph style.
- Is different from the Right Indent value in the Paragraph panel. The Right Indent value keeps the entire right edge of the paragraph away from the right edge of the text frame.
- Can be used with a tab leader. Right indent tabs use the tab leader of the first tab stop past the right margin, or, if there isn't one, the last tab stop before the right margin.

Set indents

Indents move text inward from the right and left edges of the frame. In general, use first line indents, not spaces or tabs, to indent the first line of a paragraph.

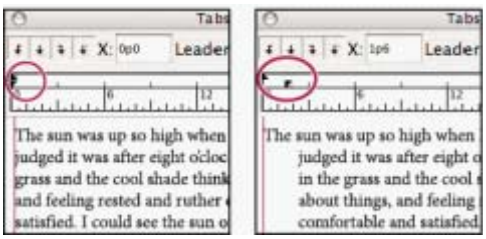
A first-line indent is positioned relative to the left-margin indent. For example, if a paragraph's left edge is indented one pica, setting the first-line indent to one pica indents the first line of the paragraph two picas from the left edge of the frame or inset.

You can set indents using the Tabs dialog box, the Paragraph panel, or the Control panel. You can also set indents when you create bulleted or numbered lists.

When setting CJK characters, you can use the mojikumi setting to specify the indent for the first line. However, for text in which the first line indent was specified in the Paragraph panel, if you specify indents in mojikumi settings, you can make the text indent the sum value of both indents.

Hanging indent

In a hanging indent, all the lines in a paragraph are indented except for the first line. Hanging indents are especially useful when you want to add inline graphics at the beginning of the paragraph.



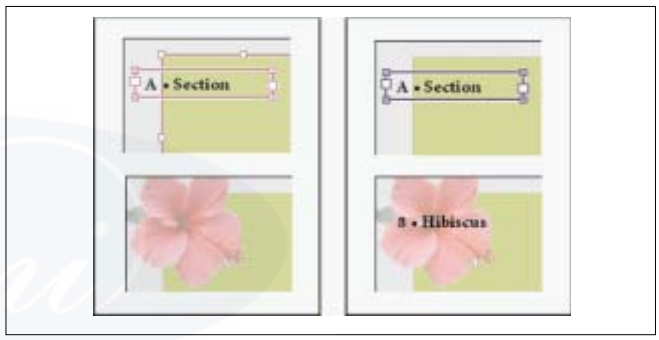
No indent (left) and hanging indent (right)

About masters, stacking order, and layers

A master is like a background that you can quickly apply to many pages. Objects on a master appear on all pages with that master applied. Master items that appear on document pages are surrounded by a dotted border. Changes you make to a master are automatically applied to associated pages. Masters commonly contain repeating logos, page numbers, headers, and footers. They can also contain empty text or graphic frames that serve as placeholders on document pages. A master item cannot be selected on a document page unless the master item is overridden.

Masters can have multiple layers, just like pages in your document. Objects on a single layer have their own stacking order within that layer. Objects on a master page layer appear behind objects assigned to the same layer in the document page.

If you want a master item to appear in front of objects on the document page, assign a higher layer to the object on the master. A master item on a higher layer appears in front of all objects on lower layers. Merging all layers will move master items behind document page objects.



Master items (top left) appear behind page objects on the same layer (bottom left); moving a master item to a higher layer (top right) moves it in front of all objects on lower layers (bottom right).

Create masters

By default, any document you create has a master page. You can create additional masters from scratch or from an existing master page or document page. After you apply master pages to other pages, any changes made to the source master carry forward to the masters and document pages that are based on it. With careful planning, this provides an easy way to make layout changes to multiple pages across your document.

Base one master on another

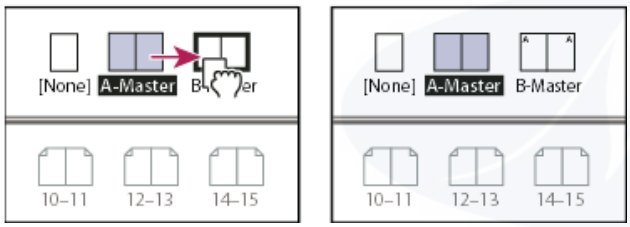
You can create a master variation that is based on and updates with another master (called the parent master) within the same document. The master spreads based on the parent master are called child masters. For example, if your document has ten chapters that use master spreads that vary only slightly, base all of them on a master spread that contains the layout and objects common to all ten. This way, a change to the basic design requires editing just the parent master instead of editing all ten separately. Vary the formatting on your child masters. You can override

parent master items on a child master to create variations on a master, just as you can override master items on document pages. This is a powerful way to keep a consistent yet varied design up to date.

Original parent and child masters (left); when the parent master is modified, the child masters are automatically updated (right)

To base one master on another, in the Masters section of the Pages panel, do either of the following:

- Select a master spread, and choose Master Options for [master spread name] in the Pages panel menu. For Based On Master, choose a different master, and click OK.
- Select the name of the master spread you want to use as the base and drag it onto the name of another master to apply it.



B-Master based on A-Master

Apply master pages

If your document contains custom spreads (such as a 3- or 4 page foldout in a magazine), any master you apply should contain the same number of pages.

If your master page has a different page size than the layout page, applying the master page changes the size of the layout page. If the layout page has a custom page size, you can specify whether to keep the custom layout page size or apply the size of the master page.

Master items on a document page have a dotted border. If you cannot view master items on a document page, the master item may be hidden on a lower layer or the master items may be hidden. Choose Show Master Items from the Pages panel menu.

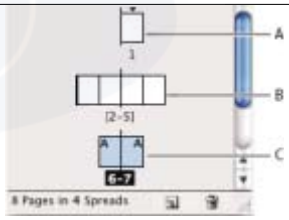
Move, duplicate, and delete pages and spreads

You can use the Pages panel to freely arrange, duplicate, and recombine pages and spreads. Keep the following guidelines in mind when adding, arranging, duplicating, or removing pages within a document:

- InDesign preserves the threads between text frames.
- InDesign redistributes pages according to how the Allow Document Pages To Shuffle command is set.
- An object that spans multiple pages stays with the page on which the object's bounding box covers the most area.

Control spread pagination

Most documents use two-page spreads exclusively. When you add or remove pages before a spread, the pages shuffle by default. However, you may want to keep certain pages in a spread together. For example, you can create gatefold or accordion foldouts by creating a multiple-page spread (also called an island spread) and adding pages to it. By not allowing pages to shuffle, you can ensure that pages are kept in the same spread.



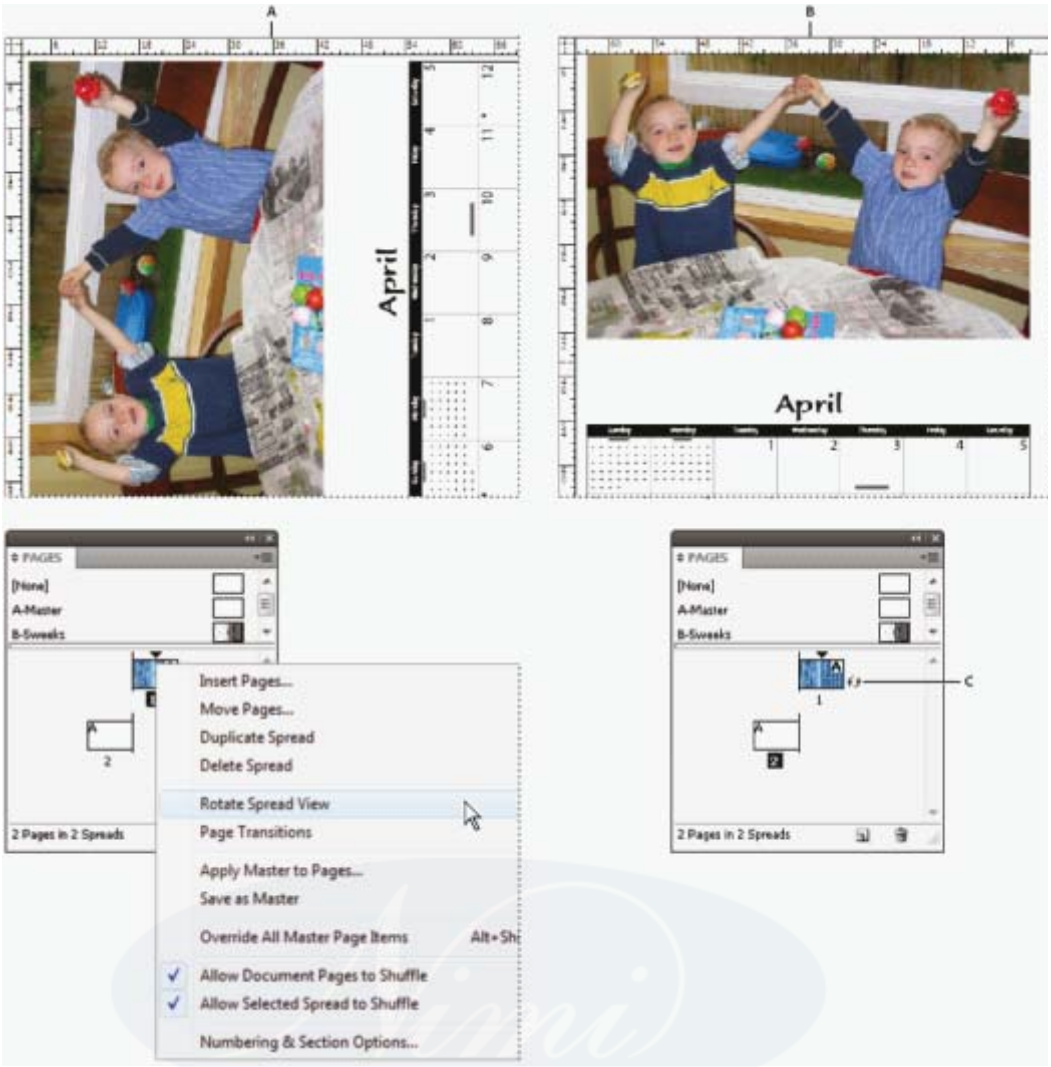
Pages panel

A. One-page spread **B.** Four-page spread, identified by brackets around page numbers **C.** Entire two-page spread selected

Rotate the spread view

In some instances, you need to edit rotated content. Instead of turning your head sideways to look at the rotated content, you can rotate the spread view. This option is especially useful for working on rotated calendars and tables.

Rotating the spread view does not affect printing or output.

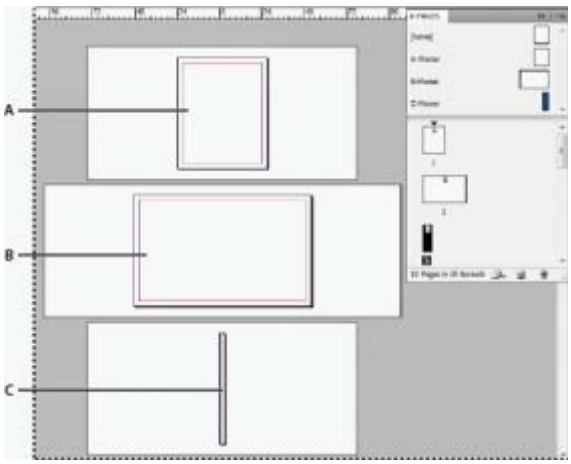


Rotating the spread

A. Before rotating spread **B.** Rotated spread view **C.** Rotate icon in Pages panel

Use multiple page sizes

You can define different page sizes for pages within a single document. This feature is especially useful when you want to manage related designs in one file. For example, you can include business card, postcard, letterhead, and envelope pages in the same document. Using multiple page sizes is also useful for creating gate-fold layouts in magazines.



Multiple page sizes in same document

A. Magazine page **B.** Gate-fold page **C.** Spine page

Placing and editing graphics

Objectives : At the end of this lesson you shall be able to
- **explain Place and control the graphics**
- **reusing graphics and text**
- **use Content Collector and Managing graphics links**
- **wrapping text around objects.**

Place (import) graphics

The Place command is the primary method used to insert graphics into InDesign because it provides the highest level of support for resolution, file formats, multipage PDF and INDD files, and color. To place graphics is also referred to as import images and insert pictures.

If you're creating a document in which those characteristics aren't critical, you can copy and paste to import graphics InDesign. Pasting, however, embeds a graphic in a document; the link to the original graphic file is broken and doesn't appear in the Links panel, and you can't update the graphic from the original file. However, pasting Illustrator graphics allows you to edit paths in InDesign

The options available to you when you place a graphics file depend on the type of graphic. These options appear when you select Show Import Options in the Place dialog box. If you don't select Show Import Options, InDesign applies the default settings or the last settings used in placing a graphics file of that type.

The names of graphics you've placed (imported) appear in the Links panel

If you place or drag a graphic from a removable media, such as a CD, the link will break when you remove that media from your system.

Import options for graphics

When you place an EPS graphic (or a file saved with Illustrator 8.0 or earlier) and select Show Import Options in the Place dialog box, you'll see a dialog box containing these options:

Read Embedded OPI Image Links - This option tells InDesign to read links from OPI comments for images included (or nested) in the graphic.

Deselect this option if you're using a proxy-based workflow and plan to have your service providers perform the image replacement using their OPI software. When this option is deselected, InDesign preserves the OPI links but does not read them. When you print or export, the proxy and the links are passed on to the output file. Select this option if you're using a proxy-based workflow and you want InDesign, instead of your service provider, to perform image replacement when you output the final file. When you select this option, the OPI links appear in the Links panel.

Also select this option when you import EPS files containing OPI comments that are not part of a proxy-based workflow. For example, if you import an EPS file containing OPI comments for an omitted TIFF or bitmap image, you'll want to select this option so that InDesign can access the TIFF information when you output the file.

Apply Photoshop Clipping Path - Regardless of whether this option is selected, a placed EPS file includes a clipping path in InDesign. However, deselecting this option may result in a different bounding box size.

Proxy Generation - This creates a low-resolution bitmap representation of an image when drawing the file to the screen. The following settings control how the proxy will be generated:

Use TIFF Or PICT Preview - Some EPS images contain an embedded preview. Select this option to generate the proxy image of the existing preview. If a preview does not exist, the proxy will be generated by rasterizing the EPS to an offscreen bitmap.

Rasterize The PostScript - Select this option to ignore the embedded preview. This option is typically slower but provides the highestquality results.

When you import more than one single file into the same document, all instances share the proxy setting of the first instance of the imported file.

Bitmap import options

You can apply color-management options to individual imported graphics when using color-management tools with a document. You can also import a clipping path or an alpha channel saved with an image created in Photoshop. Doing so lets you directly select an image and modify its path without changing the graphics frame.

When you place a PSD, TIFF, GIF, JPEG, or BMP file and select Show Import Options in the Place dialog box, you'll see a dialog box containing these options:

Apply Photoshop Clipping Path If this option isn't available, the image wasn't saved with a clipping path, or the file format doesn't support clipping paths. If the bitmap image doesn't have a clipping path, you can create one in InDesign.

Alpha channel Select an alpha channel to import the area of the image saved as an alpha channel in Photoshop.

InDesign uses the alphachannel to create a transparent mask on the image. This option is available only for images that contain at least one alpha channel.

Portable Network Graphics (.png) import options

When you place a PNG image and select Show Import Options in the Place dialog box, you'll see a dialog box with three sections of import settings. Two sections contain the same options available for other bitmap image formats. The other section, PNG Settings, contains the following settings:

Use Transparency Information This option is enabled by default when a PNG graphic includes transparency. If an imported PNG file contains transparency, the graphic interacts only where the background is transparent.

White Background If a PNG graphic does not contain a file-defined background color, this option will be selected by default. However, it is only enabled if Use Transparency Information is activated. If this option is selected, white is used as the background color when applying transparency information.

File Defined Background Color If a PNG graphic was saved with a non-white background color, and Use Transparency Information is selected, this option is selected by default. If you don't want to use the default background color, click White Background to import the graphic with a white background, or deselect Use Transparency Information to import the graphic without any transparency (displaying areas of the graphic that are currently transparent). Some image-editing programs can't specify a non-white background color for PNG graphics.

Apply Gamma Correction Select this option to adjust the gamma (midtone) values of a PNG graphic as you place it. This option lets you match image gamma to the gamma of the device you will use to print or display the graphic (such as a low-resolution or non-PostScript printer or computer monitor). Deselect this option to place the image without applying any gamma correction. By default, this option is selected if the PNG graphic was saved with a gamma value.

Gamma Value This option, available only if Apply Gamma Correction is selected, displays the gamma value that was saved with the graphic. To change the value, type a positive number from 0.01 to 3.0. When PNG files are imported, the settings in the Image Import Options dialog box are always based on the selected file, not on the default or lastused settings.

Acrobat (.pdf) and Illustrator (.ai) import options

The layout, graphics, and typography in a placed PDF are preserved. As with other placed graphics, you cannot edit a placed PDF page within InDesign. You can control the visibility of layers in a layered PDF. You can also place more than one page of a multipage PDF.

When you place a PDF that was saved with passwords, you'll be prompted to enter the required passwords. If the PDF file was saved with usage restrictions (for example, no editing or printing), but no passwords, you can place the file.

When you place a PDF (or a file saved with Illustrator 9.0 or later) and select Show Import Options in the Place dialog box, you'll see a dialog box containing the following options:

Show Preview Preview a page in the PDF before you place it. If you're placing a page from a PDF that contains multiple pages, click the arrows, or type a page number under the preview image to preview a specific page.

Pages Specify the pages you want to place: the page displayed in the preview, all pages, or a range of pages. For Illustrator files, you can specify which artboard to place.

If you specify multiple pages, hold down Alt (Windows) or Option (Mac OS) while placing the file to place them all at the same time, overlapping each other.

Crop To Specify how much of the PDF page to place:

Bounding Box Places the PDF page's bounding box, or the minimum area that encloses the objects on the page, including page marks. The Bounding Box (Visible Layers Only) option uses the bounding box only of the visible layers of the PDF file. The Bounding Box (All Layers) option places the bounding box of the entire layer area of the PDF file, even if layers are hidden.

Art Places the PDF only in the area defined by a rectangle that the author created as a placeable artwork (for example, clip art).

Crop Places the PDF only in the area that is displayed or printed by Adobe Acrobat.

Trim Identifies the place where the final produced page will be physically cut in the production process, if trim marks are present.

Bleed Places only the area that represents where all page content should be clipped, if a bleed area is present. This information is useful if the page is being output in a production environment. Note that the printed page may include page marks that fall outside the bleed area.

Media Places the area that represents the physical paper size of the original PDF document (for example, the dimensions of an A4 sheet of paper), including page marks.

Transparent Background Select this option to reveal text or graphics that fall beneath the PDF page in the InDesign layout. Deselect this option to place the PDF page with an opaque white background.

If you make the background transparent in a frame containing a PDF graphic, you can make it opaque later by adding a fill to the frame.

InDesign (.indd) import options

InDesign preserves the layout, graphics, and typography in a placed INDD file. However, the file is treated as an object, and you can't edit it, although you can control the visibility of layers and choose which pages of a multi-page INDD file to import.

When you place an InDesign file and select Show Import Options in the Place dialog box, you'll see a dialog box containing the following options:

Show preview Preview a page before you place it. You can type a page number or click the arrows to preview a page in a multi-page document.

Pages Specify the pages you want to place: the page displayed in the preview, all pages, or a range of pages.

Crop to Specify how much of the page or pages to place, the page itself or the bleed or slug areas on the pasteboard.

Control layer visibility in imported images

When you import Photoshop PSD files, layered PDFs, and INDD files, you can control the visibility of top-level layers. Adjusting layer visibility in InDesign lets you vary an illustration depending on context. For example, in a multilanguage publication, you can create a single illustration that includes one text layer for each language.

You can adjust layer visibility either when you place a file or by using the Object Layer Options dialog box. In addition, if the Photoshop file contains layer comps, you can display the desired comp.

Paste or drag graphics

When you copy and paste or drag a graphic into an InDesign document, some attributes of the original object may be lost, depending on the limitations of the operating system and the range of data types the other application makes available for transfer, and the InDesign Clipboard preferences. Pasting or dragging Illustrator graphics lets you select and edit paths within the graphic.

Copying and pasting or dragging between two InDesign documents, or within a single document, however, preserves all of the graphics attributes that were imported or applied. For example, if you copy a graphic from one InDesign document and paste it into another, the new copy will be an exact duplicate of the original, even including the original's link information, so that you can update the graphic when the file on disk changes.

Copy and paste graphics

When copying and pasting a graphic from another document into an InDesign document, InDesign does not create a link to the graphic in the Links panel. The graphic may be converted by the system clipboard during the transfer, so both image quality and print quality may be lower in InDesign than in the graphic's original application.

Drag and drop graphics

The drag-and-drop method works like the Place command, with images appearing in the Links panel after they're imported. You cannot set import options for the files you drag and drop; however, you can drag and drop multiple files at once (the files are loaded in the graphics icon when you drag and drop more than one).

Select a graphic from Adobe Illustrator, Adobe Bridge, Explorer (Windows), the Finder (Mac OS), or your desktop, and drag it into InDesign. The image must be in a format that InDesign can import.

After dragging and dropping a file from any location other than Illustrator, it appears in the Links panel in InDesign. Using the Links panel, you can control versions and update as necessary.

Pasting Illustrator graphics into InDesign

When you paste a graphic from Illustrator 8.0 or later into an InDesign document, the artwork appears in InDesign as a grouped collection of editable objects. For example, if you paste an Illustrator drawing of a soccer ball with individually created patches into InDesign, the patches are pasted as a group, which can be ungrouped and edited using tools in InDesign. You cannot change the visibility of layers within the illustration.

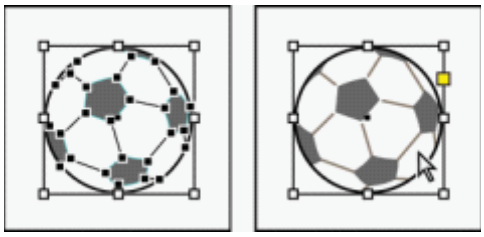


Illustration of soccer ball in Illustrator (left) and same illustration pasted into InDesign (right)

Before pasting a graphic, make sure that Illustrator is configured to copy as AICB (see Illustrator Help). In InDesign, make sure that Prefer PDF When Pasting isn't selected in the Clipboard Handling preferences. If these options aren't set properly, the Illustrator graphic cannot be edited in InDesign.

Issues you may encounter when pasting or dragging art from Illustrator to InDesign

Color

Illustrator supports the Grayscale, RGB, HSB, CMYK, and Web Safe RGB color models. InDesign supports LAB, CMYK and RGB. When you paste or drag artwork from Illustrator into InDesign, RGB and CMYK colors convert in the expected color model. Grayscale colors are converted to the appropriate K value in a CMYK color in InDesign. HSB and Web Safe RGB objects are converted to RGB color in InDesign. Colors in smooth shades and gradients can be edited in InDesign.

Gradients

Linear or radial gradients created in Illustrator can be modified using the Gradient tool or Gradient panel in InDesign. Gradients with multiple spot colors or complex patterns may appear as non editable items in InDesign. If your illustration contains complex gradients, import it using the Place command instead.

Transparency

Transparency is flattened when Illustrator art is pasted or dragged into InDesign.

Graphic styles

Illustrator Graphic Styles don't become InDesign Object Styles when art is pasted or dragged into InDesign.

Patterns

Illustrator objects filled or stroked with patterns become embedded EPS images when pasted or dragged into InDesign.

Text

If you drag text from Illustrator into InDesign, it's converted to outlines and isn't editable with the Text tool. If you select text using the Text tool in Illustrator, and then copy it into a text frame in InDesign, the text loses its formatting but is editable. If you drag the text into InDesign without a frame selected, the text loses all formatting and isn't editable.

When you paste text from Illustrator, the text is imported as one or more objects that can be transformed and colorized in InDesign, but not edited. For example, if you create text on a path in Illustrator and paste it into InDesign, the text can be colorized, rotated, and scaled, but it cannot be edited using the Type tool. If you want to edit the text, use the Type tool and paste it into a text frame.

Artwork

Artwork copied from Illustrator and pasted into InDesign is embedded in the InDesign document. No link to the original Illustrator file is created.

Importing Adobe Photoshop (.PSD) files

You can place graphics created in Adobe Photoshop 4.0 and later directly into an InDesign layout.

Layers and layer comps

You can adjust the visibility of the top-level layers in InDesign, as well as view different layer comps. Changing layer visibility or layer comps in InDesign does not alter the original Photoshop file.

Paths, masks, or alpha channels

If you save paths, masks, or alpha channels in a Photoshop file, InDesign can use them to remove backgrounds, or to wrap text around graphics. Graphics that contain paths, masks, or alpha channels act as transparent objects when imported.

ICC color management profile

If you place a Photoshop image with an embedded ICC color management profile, InDesign reads the embedded profile, provided that color management is active. You can override the embedded profile for the image using the Import Options dialog box or assign a different color profile to the graphic in InDesign. Overriding the color profile in InDesign will not remove or alter the profile embedded in the Photoshop image.

Spot-color channels

Spot-color channels in Adobe Photoshop PSD or TIFF files appear in InDesign as spot colors in the Swatches panel. If the image uses a spot color that InDesign does not recognize, the spot color may appear gray in the InDesign document and print incorrectly as a composite. (The image will print correctly on color separations, however.) To simulate the graphic as a composite, you can create a spot color with the correct color values, and then alias the PSD color to this new spot color. The graphic will then print correctly as composite and display correctly on screen when Overprint Previewis turned on (choose View > Overprint Preview). Be sure to remove the alias before printing separations, so that the image prints on the plate you expect.

Importing PDF pages

Using the Place command, you can specify which pages you want to import from a multipage PDF or an Illustrator file with multiple artboards. You can place a single page, a range of pages, or all pages. Multipage PDF files let designers combine illustrations for a publication into a single file.

The page range options appear when you select Show Import Optionsin the Place dialog box. The dialog box includes a preview, so you can view a thumbnail of the pages before you place them. If you place multiple pages, InDesign reloads the graphics icon with the next page, letting you place the pages one after the next. InDesign doesn't import movies, sound, links, or buttons when you place a PDF file.

Importing InDesign (.indd) pages

Using the Place command, you can import pages from one InDesign document into another. You can import a page, a page range, or all of the pages in the document. The pages are imported as objects (much the same way that PDFs are imported).

Add pages in your document to hold the pages you want to import. After you choose File > Place and select an INDD file, you can choose Show Import Options and then choose which pages to import, which layers to make visible, and how to crop the imported pages. You can scroll in the Preview window to examine the thumbnail pages closely. The page or pages you select are loaded in the graphics icon. If you place multiple pages, InDesign loads the graphics icon with the following page so you can import pages one after the other.

The Links panel lists the names of each page you imported. If a page you imported contains a graphic or other item that was imported into it, this item is listed as well in the Links panel. The names of these secondary imported items are listed under a disclosure triangle in the Links panel to distinguish them from imported pages.

Importing other graphics formats

InDesign supports a variety of graphics formats, including bitmap formats such as TIFF, GIF, JPEG, and BMP, and vector formats such as EPS. Other supported formats include DCS, PICT, WMF, EMF, PCX, PNG, and Scitex CT (.sct). You can import an SWF file as a movie file.

TIFF (.tif) files

TIFF is a flexible bitmap image format supported by virtually all painting, image-editing, and page-layout applications. Also, virtually all desktop scanners can produce TIFF images.

The TIFF format supports CMYK, RGB, grayscale, Lab, indexed-color, and bitmap files with alpha and spot-color channels. You can select an alpha channel when you place a TIFF file. Spot-color channels appear in InDesign as spot colors in the Swatches panel.

You can use an image-editing program such as Photoshop to create a clipping path to create a transparent background for a TIFF image. InDesign supports clipping paths in TIFF images and recognizes encoded OPI comments.

Graphics Interchange Format (.gif) files

Graphics Interchange Format (GIF) is a standard for displaying graphics on the World Wide Web and other online services. Because it compresses image data without losing detail, its compression method is called lossless. Such compression works well with graphics that use a limited number of solid colors such as logos and charts; however, GIF cannot display more than 256 colors. For this reason it is less effective for displaying photographs online (use JPEG instead) and is not recommended for commercial printing. If an imported GIF file contains transparency, the graphic interacts only where the background is transparent.

JPEG (.jpg) files

The Joint Photographic Experts Group (JPEG) format is commonly used to display photographs and other continuous-tone images in HTML files over the web and in other online media. The JPEG format supports CMYK, RGB, and grayscale color modes. Unlike GIF, JPEG retains all of the color information in an RGB image.

JPEG uses an adjustable, lossy compression scheme that effectively reduces file size by identifying and discarding extra data not essential to the display of the image. A higher level of compression results in lower image quality; a lower level of compression results in better image quality, but a larger file size. In most cases, compressing an image using the Maximum quality option produces a result that is indistinguishable from the original. Opening a JPEG image automatically decompresses it.

JPEG encoding, which can be performed on an EPS or DCS file in an image-editing application such as Photoshop, does not create a JPEG file. Instead, it compresses the file using the JPEG compression scheme explained above.

JPEG works well for photographs, but solid-color JPEG images (images that contain large expanses of one color) tend to lose sharpness. InDesign recognizes and supports clipping paths in JPEG files created in Photoshop. JPEG can be used for both online and commercially printed documents; work with your prepress service provider to preserve JPEG quality in printing.

Bitmap (.bmp) files

BMP is the standard Windows bitmap image format on DOS and Windows-compatible computers. However, BMP does not support CMYK, and its color support is limited to 1, 4, 8, or 24 bits. It is less than ideal for commercially printed or online documents, and it is not supported by some web browsers. BMP graphics can provide acceptable quality when printed on low-resolution or non-PostScript printers.

Encapsulated PostScript (.eps) files

The Encapsulated PostScript (EPS) file format is used to transfer PostScript language artwork between applications, and is supported by most illustration and page-layout programs. Typically, EPS files represent single illustrations or tables that are placed into your layout, but an EPS file can also represent a complete page.

Because they are based on the PostScript language, EPS files can contain text, vector, and bitmap graphics. Since PostScript cannot normally be displayed on screen, InDesign creates a bitmap preview for an EPS file for on screen display. InDesign recognizes clipping paths in Photoshop-created EPS files.

When you import an EPS file, any spot colors it contains are added to the Swatches panel in InDesign. EPS allows for prepress-quality resolution, precision, and color. This format includes all of the color and image data required to color-separate DCS images embedded in the EPS graphic. EPS isn't ideal for online publishing in HTML, but it works well for online publishing in PDF.

EPS files can contain Open Prepress Interface (OPI) comments, which let you use fast, low resolution versions (proxies) of images for positioning on a page. For final output, either InDesign or your prepress service provider can automatically replace the proxies with high-resolution versions.

Desktop Color Separations (.dcs) files

Desktop Color Separations (DCS), developed by Quark, is a version of the standard EPS format. The DCS 2.0 format supports multichannel CMYK files with multiple spot channels. (These spot channels appear as spot colors in the Swatches panel in InDesign.) The DCS 1.0 format supports CMYK files without spot channels. InDesign recognizes clipping paths in Photoshop-created DCS 1.0 and DCS 2.0 files.

DCS files are intended to be used in a preseparated, host-based workflow. In most cases, color separations files associated with a DCS image are excluded when you export or print a composite to a PDF, EPS, or PostScript file. (The sole exception is made for 8 bit DCS files that were created in Photoshop and that do not contain vector graphics)

InDesign can rebuild a composite image from DCS 2.0 or 1.0 separations files, if the files were created in Photoshop. For best results, do not include DCS 1.0 files or DCS 2.0 files created in programs other than Photoshop when you are creating high-resolution color composite proofs or separating a document in RIP or from a composite file.

Macintosh PICT (.pict) files

The Macintosh PICT (or Picture) format is used for Mac OS graphics and page-layout applications, and for transferring files between applications. The PICT format compresses images that contain large areas of solid color. InDesign can

import PICT files created from Mac OS screenshots and a variety of other applications, including clip art collections. However, PICT files are not recommended for high-resolution commercial printing.

InDesign supports RGB PICT images with variable resolutions and embedded QuickTime images. PICT graphics do not support color separations, are device-dependent, and are not recommended for high-resolution commercial printing. The PICT format can provide acceptable quality only when printed on low-resolution or non-PostScript printers.

Windows Metafile Format (.wmf) and Enhanced Metafile Format (.emf) files

Windows Metafile Format (WMF) and Windows Enhanced Metafile Format (EMF) are native Windows formats used primarily for vector graphics, such as clip art, shared between Windows applications. Metafiles may contain raster image information; InDesign recognizes the vector information and provides limited support for raster operations. Color support is limited to 16 bit RGB, and neither format supports color separations. As a general rule, avoid using Metafile formats for commercially printed documents.

PCX (.pcx) files

The PCX format is commonly used in Windows systems. Most Windows software supports version 5 of the PCX format.

The PCX format supports RGB, indexed-color, grayscale, and bitmap color modes, as well as the RLE compression method, which is lossless. It does not support alpha channels. Images can have a bit depth of 1, 4, 8, or 24 bits. However, PCX is not ideal for commercially printed or online documents. PCX graphics can provide acceptable quality only when printed on low-resolution or non-PostScript printers.

Portable Network Graphics (.png) files

The Portable Network Graphics (PNG) format uses adjustable, lossless compression to display 24 bit photographs or solid-color images on the World Wide Web and in other online media. PNG was developed as a patent-free alternative to the GIF file format. It supports transparency in an alpha channel or a designated color. PNG is best used for online documents. Color PNG graphics placed in an InDesign document are RGB bitmap images.

Scitex CT (.sct) files

The Scitex Continuous Tone (CT) format is used for high-end image processing on Scitex computers. Scitex CT files often come from Scitex scanners, which produce high-quality scans for commercial printing. The Scitex CT format supports CMYK, RGB, and grayscale files, but does not support alpha channels. Contact Scitex to obtain utilities for transferring files saved in the Scitex CT format to a Scitex system.

Fixing low-resolution images

Graphics you place in your document may appear pixelated or fuzzy or grainy. In most cases, it's because InDesign displays images in low resolution by default to improve performance.

Check the display settings

To display graphics in high resolution, choose View Display Performance High Quality Display. For more details on changing these display performance settings, see Control graphics' display performance.

Use Place instead of Paste

The image may still be low resolution even though you changed the display performance settings. For these images, make sure that you use the Place command to insert the image into InDesign. In some instances, pasting an image from another application may result in the preview image being inserted instead of the original file.

Check your print settings

If your image appears in low resolution in print, check your print settings to make sure graphics are printing properly. In the Graphics section of the Print dialog box, choose Send Data All.

Avoid transformations in images of borderline quality

In addition, scaling or rotating an image could reduce its quality. You may want to choose Clear Transformations from the Control panel menu.

Improve the image resolution

In some cases, such as with an image copied from a web page, you may need to replace a low-resolution image with a high-resolution image.

Control graphics' display performance

You can control the resolution of graphics placed in your document. You can change the display settings for the entire document or for individual graphics. You can also change a setting that either allows or overrides the display settings for individual documents.

Change a document's display performance

A document always opens using the default Display Performance preferences. You can change the display performance of a document while it is open, but the setting won't be saved with the document.

If you've set the display performance of any images separately, you can override the settings so all objects use the same settings.

1. Choose View > Display Performance, and select an option from the submenu.
2. To force objects that you have set individually to display using the document setting, deselect View > Display Performance > Allow Object-Level Display Settings. (A check mark indicates it is selected)

Ways to reuse graphics and text

InDesign offers several different ways to repurpose graphics and text.

Snippets A snippet is a file that contains objects and describes their location relative to one another on a page or spread.

Object libraries An object library provides a convenient place to store items such as logos, sidebars, pull-quotes, and other repeating items.

Templates A template is a document that includes placeholder text and graphics.

Use snippets

A snippet is a file that holds objects and describes their location relative to one another on a page or page spread. Use snippets to conveniently reuse and position page objects. Create a snippet by saving objects in a snippet file, which has the .IDMS extension. (Previous InDesign versions use the .INDS extension.) When you place the snippet file in InDesign, you can determine whether the objects land in their original positions or where you click. You can store snippets in the Object library and in Adobe Bridge as well as on your hard disk.

Snippets contents retain their layer associations when you place them. When a snippet contains resource definitions and these definitions are also present in the document to which it is copied, the snippet uses the resource definitions in the document.

Snippets you create in InDesign CS5 can be opened in InDesign CS4 but not in any other previous version of InDesign.

Choose how to place snippets

Rather than place snippet objects according to where you click on a page, you can place them in their original locations. For example, a text frame that appeared in the middle of a page when it was made part of a snippet can appear in the same location when you place it as a snippet.

In File Handling preferences, choose Original Location from the Position At menu to preserve objects' original locations in snippets. Choose Cursor Location from the Position At menu to place snippets according to where you click a page.

You can press Alt (Windows) or Option (Mac) to override the Position setting you selected for handling snippets. For example, if you selected Position at Cursor Location but you want to place snippet objects in their original locations, hold down the Alt/Option key when you click the loaded snippet cursor on the page.

Use object libraries

Object libraries help you organize the graphics, text, and pages you use most often. You can also add ruler guides, grids, drawn shapes, and grouped images to a library. You can create as many libraries as you need-for example, you can create different object libraries for varied projects or clients.

During a work session, you can open as many libraries as system memory will allow. Object libraries can be shared across servers, and across platforms, but only one person can have the library open at a time. If an object library includes text files, make sure that the file's fonts are available and active on all systems that will access the library.

When you add a page element, such as a graphic, to an object library, InDesign preserves all attributes that were imported or applied. For example, if you add a graphic from an InDesign document to a library, the library copy will duplicate the original, including the original's link information, so that you can update the graphic when the file on disk changes.

If you delete the object from the InDesign document, the object's thumbnail will still appear in the Library panel, and all of the link information will remain intact. If you move or delete the original object, a missing link icon will appear next to the object's name in the Links panel the next time you place it in your document from the Library panel.

Within each object library, you can identify and search for an item by title, by the date it was added to the library, or by keywords. You can also simplify the view of an object library by sorting the library items and displaying their subsets. For example, you can hide all items except EPS files.

Linked Content

Replicating content across various pages is no easy task; copy-pasting can be cumbersome and time consuming. Use linked content features to manage multiple versions of content. You can place and link content within the same document or even across different documents. Linked content makes it easier to support emerging workflows, where for example, you design for vertical and horizontal layouts. Linked content also works well for traditional print and publishing workflows, where you synchronize boilerplate text on different pages or documents.

Linked content behaves similar to traditional links. You can designate an object as parent, and then place it at other places as child objects. Whenever you update the parent object, the child objects are flagged and you can update them to synchronize with the parent.

You can place and link objects using either the Content Collector tools, or choose Edit Place and Link menu command.

The icon displays on the upper-left corner of linked object. The item is displayed as linked object in the Links panel.

Content Collector tools

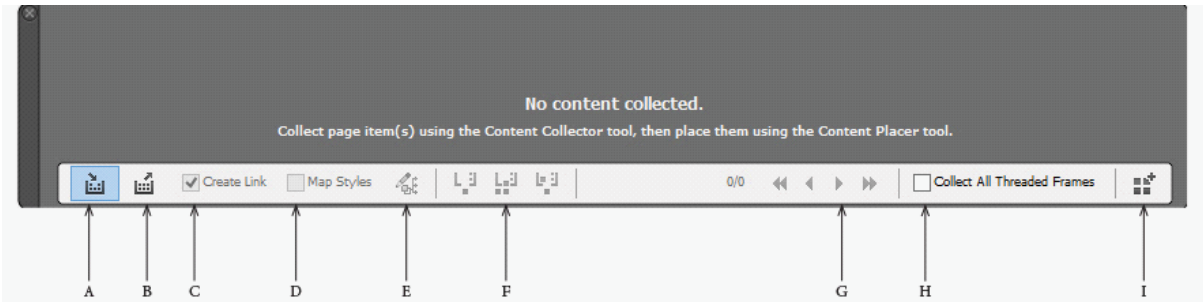
Content Collector and Placer tools let you duplicate page items and place them on open InDesign documents. As content is collected, it is displayed in the Content Conveyor. Use Content Conveyor to easily and quickly place and link multiple page items within and across open documents.

Click in the toolbox to open the Content Conveyor.

Use Content Collector tool to select an object and add it to the conveyor

Use Content Placer to place page object on a page

Press B to toggle between Content Collector and Content Placer tool.



A. Content Collector tool B. Content placer tool C. Create link D. Map styles E. Edit Custom Style Mapping F. Place options G. Browse H. Collect All Threaded Frames I. Load Conveyor

Content Collector

Use the Content Collector to add page items to the Content Conveyor.

Content Placer

Use the Content Placer to place the items from the Content Conveyor to the document. When you select this tool, the current item is added to the place gun.

Create Link

Enable Create Link to link the placed item to the original location of the collected item. You can manage the links using the Links panel.

Map Styles

Map paragraph, character, table, or cell styles, between the original and placed items. By default, style names are used for mapping

Edit Custom Style Mapping

Define custom style mapping between the original and placed items. Map the styles to automatically replace original styles in the placed item.

Place Options

Specify the Conveyor options while placing items.

Remove items from the conveyor after you place them

Place the current item multiple times. The item remains loaded in the place gun.

Place the item and move to the next item. The item is however kept in the conveyor

Browse

Navigate through the items in the Content Conveyor.

Collect All Threaded Frames

Enable this option to collect all threaded frames. The story and all frames are collected. If this option is disabled, the story is collected in a single frame.

Load Conveyor

Use to load the conveyor with items.

Selection: Use this option to load all selected items

Pages: Use this option to load all items on the specified pages

All: Use this option to load items from all pages and pasteboard

Enable Create Single set to group all the items in a single set.

You can collect individual page items, or collect related items as "sets." In some cases InDesign automatically creates sets to preserve the relational integrity of the page items.

The following are a few method of collecting items as sets, some manual and some automatic:

Marquee select a number of items Use the Load Conveyor option and then select range of pages or all document content or selected items and items will be accordingly collected in a set.

Collect an item that has related content such as a part of an interactive button that has other items and states associated with it, it will collect all related items in a set (this set will always drop in one gesture)

Collect a text box with threaded text spanning into other objects and 'collect All Threaded Text Frames' checkbox is checked on the conveyor, it will pick all threaded text boxes into a set.

Link options

Preserve Local Edits while Updating Object Links Select from the available categories to preserve local edits while updating links.

Appearance

Object style attributes such as Stroke, Fill, Effects. This excludes any text or text frame related attributes, such as overprinting, non-printing settings etc

Size and Shape

Height, width, transforms, text frame attributes, and other column size attributes

Interactivity

Animation, object States, button actions

Frame Content

Image, video, content placed or pasted into frames, and effects and settings applied directly to such objects.

Others

Attributes excluded from other categories, such as text wrap on frames, object export options; text frame attributes such as , baseline options, auto-size options, vertical justification and so on.

About links and embedded graphics

When you place a graphic, you see a screen-resolution version of the file in the layout so that you can view and position it. However, the actual graphic file may be either linked or embedded.

Linked artwork is connected to, but remains independent of, the document, resulting in a smaller document. You can modify linked artwork using transformation tools and effects; however, you cannot select and edit individual components in the artwork. You can use the linked graphic many times without significantly increasing the size of the document; you can also update all links at once. When you export or print, the original graphic is retrieved, creating the final output from the full resolution of the originals.

Embedded artwork is copied into the document at full resolution, resulting in a larger document. You can control versions and update the file whenever you like; as long as the artwork is embedded, your document is self-sufficient.

To determine if artwork is linked or embedded, or change its status from one to the other, use the Links panel.

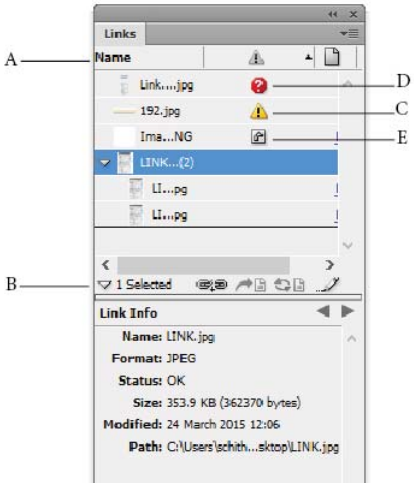
If the bitmap image you place is 48K or smaller, InDesign automatically embeds the full resolution image instead of the screen-resolution version in your layout. InDesign displays these images in the Links panel, so that you can control versions and update the file whenever you like; however, the link is not necessary for optimal output.

If you move a document to another folder or disk (for example, if you take it to a service provider), be sure that you also move the linked graphics files; they are not stored inside the document. You can copy all related files automatically, using the Preflight and Package

Links panel overview

All files placed in a document are listed in the Links panel. These include both local (on disk) files and assets that are managed on a server. However, files that are pasted from a website in Internet Explorer do not display in this panel.

In InCopy, the Links panel also displays linked stories. When you select a linked story in the Links panel, the Link Info section displays information such as the number of notes, the managed status, and the status of tracked changes.



Links panel

A. Category columns **B.** Show/Hide Link Information **C.** Modified icon **D.** Missing-link icon **E.** Embedded-link icon

When the same graphic appears several times in the document, the links are combined under a disclosure triangle in the Links panel. When a linked EPS graphic or InDesign document contains links, the links are also combined under a disclosure triangle.

A linked file can appear in the Links panel in any of the following ways:

Up to Date

An up-to-date file is blank in the Status column.

Modified

This icon means that the version of the file on disk is more recent than the version in your document. For example, this icon appears if you import a Photoshop graphic into InDesign, and then you or someone else edits and saves the original graphic in Photoshop.

A slightly different version of the Modified icon appears when a graphic is modified and one or more instances are updated while others are not.

Missing

The graphic is no longer in the location from which it was imported, although it may still exist somewhere. Missing links can happen if someone deletes the original file or moves it to a different folder or server after it's been imported. You can't know whether a missing file is up to date until its original is located. If you print or export a document when this icon is displayed, the file may not print or export at full resolution.

Embedded

Embedding the contents of a linked file suspends management operations for that link. If the selected link is currently in an "edit in place" operation, this option is not enabled. Unembedding the file restores management operations to the link.

If a linked object does not appear on a specific document page, the following codes indicate where the object appears: PB (pasteboard), MP (master page), OV (overset text), and HT (hidden text).

Update, restore, and replace links

Use the Links panel to check the status of any link, or to replace files with updated or alternate files.

When you update or reestablish (relink) a link to a file, any transformations performed in InDesign are preserved (if you choose Relink Preserved Dimensions in the File Handling preferences). For example, if you import a square graphic and rotate it 30°, and then you relink it to an unrotated graphic, InDesign rotates it 30° to match the layout of the graphic it's replacing.

Placed EPS files may contain OPI links, which appear in the Links panel. Don't relink OPI links to files other than those originally intended by the creator of the EPS file; doing so can cause problems with font downloading and color separations

Relink to a different folder

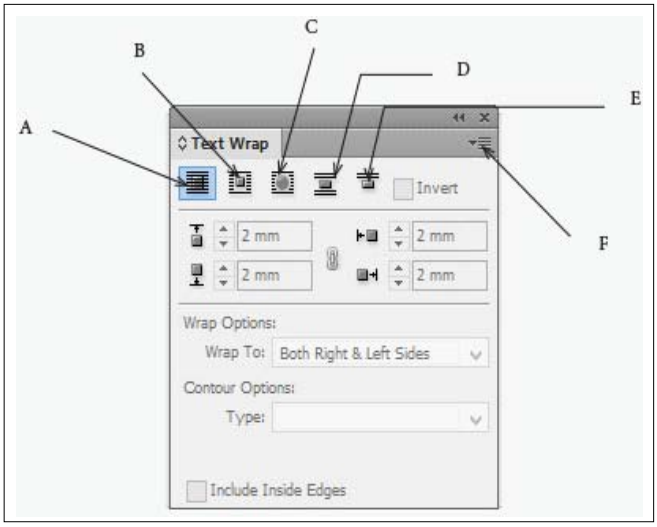
When you use the Relink To Folder command, you can point to a folder that contains files with the same names as your out-of-date links. For example, if your current links point to low-resolution images, you can specify a different folder that contains high-resolution images.

Edit original artwork

The Edit Original command lets you open most graphics in the application in which you created them so that you can modify them as necessary. Once you save the original file, the document in which you linked it is updated with the new version.

In InDesign, if you check out and select a managed graphics frame (one that has been exported to InCopy), rather than the graphic itself, the graphic opens in InCopy.

Wrap text around objects



A. No text wrap **B.** Wrap around bounding box **C.** Wrap around object shape **D.** Jump object **E.** Jump to next column **F.** Panel menu

You can wrap text around any object, including text frames, imported images, and objects you draw in InDesign. When you apply a text wrap to an object, InDesign creates a boundary around the object that repels text. The object that text wraps around is called the wrap object. Text wrap is also referred to as runaround text.

Keep in mind that text wrap options apply to the object being wrapped, not the text itself. Any change to the wrap boundary will remain if you move the wrap object near a different text frame.

Wrap Around Bounding Box

Creates a rectangular wrap whose width and height are determined by the bounding box of the selected object, including any offset distances you specify.

Wrap Around Object Shape

Also known as contour wrapping, creates a text wrap boundary that is the same shape as the frame you've selected (plus or minus any offset distances you specify).

Jump Object

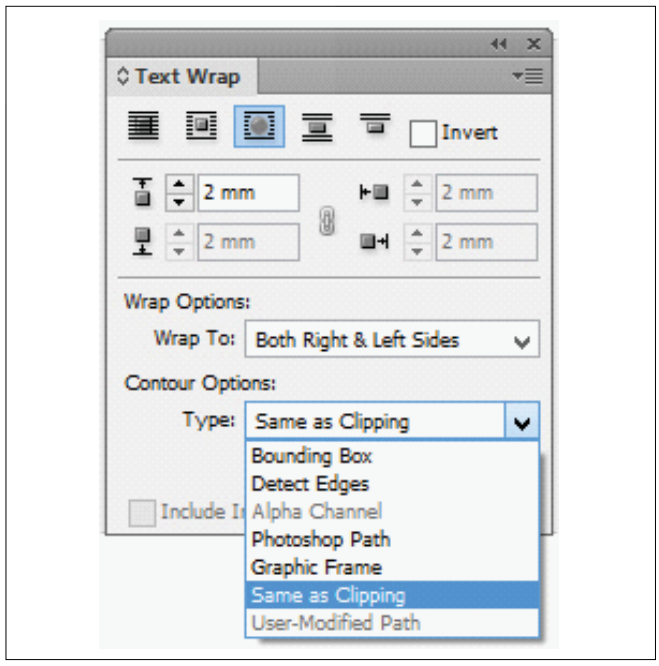
Keeps text from appearing in any available space to the right or left of the frame.

Jump To Next Column

Forces the surrounding paragraph to the top of the next column or text frame

Wrap text around imported images

To wrap text around an imported image, save the clipping path in the application where you created the image, if possible. When you place the image in InDesign, select the Apply Photoshop Clipping Path option in the Image Import Options dialog box.



Bounding Box

Wraps text to the rectangle formed by the image's height and width.

Detect Edges

Generates the boundary using automatic edge detection. (To adjust edge detection, select the object and choose Object Clipping Path Options.)

Alpha Channel

Generates the boundary from an alpha channel saved with the image. If this option isn't available, no alpha channels were saved with the image. InDesign recognizes the default transparency in Adobe Photoshop (the checkerboard pattern) as an alpha channel; you must otherwise use Photoshop to delete the background or create and save one or more alpha channels with the image.

Photoshop Path

Generates the boundary from a path saved with the image. Choose Photoshop Path, and then choose a path from the Path menu. If the Photoshop Path option isn't available, no named paths were saved with the image.

Graphic Frame

Generates the boundary from the container frame.

Same As Clipping

Generates the boundary from the imported image's clipping path.

Apply text wrap on master page items

If the Apply To Master Page Only option is selected, you must override a master page item on a document page to wrap text around it. If this option is deselected, text on both master pages and document pages can wrap around the master page items without the master page items being overridden.

1. Select the object on the master page.
2. From the Text Wrap panel menu, select or deselect Apply To Master Page Only.

This option is available only when an object on a master page is selected and has a wrap applied to it.

Wrapping text around anchored objects

If you apply text wrap to an anchored object, the wrap affects the lines of text in the story that follow the anchor marker. However, the wrap doesn't affect the line of text that includes the anchor marker or any lines before it. When you paste an object as an inline object, its text wrap boundaries are preserved.

Suppress text wrap on hidden layers

When you hide a layer that contains a wrap object, the text frames on other layers wrap around the object, unless you select the Suppress Text Wrap When Layer Is Hidden option in the Layer Options dialog box. If this option is selected, hiding a layer can cause text on other layers to be recomposed.

1. In the Layers panel, double-click the layer that contains the wrap object.
2. Select Suppress Text Wrap When Layer Is Hidden.

Justify text next to wrap objects

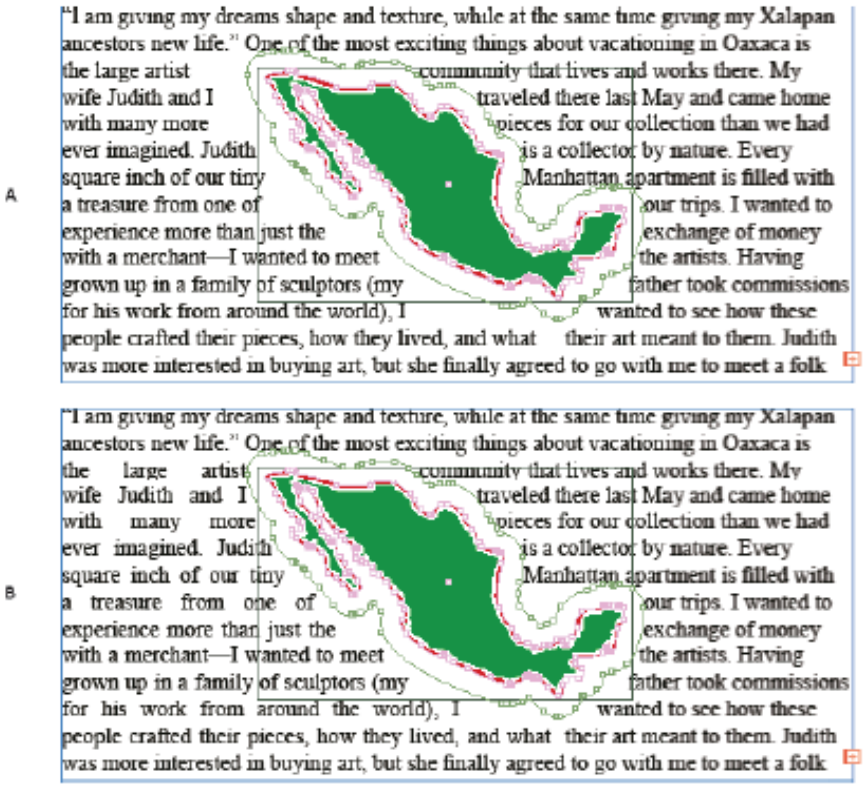
When you specify how text is justified next to wrap objects, the change applies to the entire document.

1. Choose Edit→Preferences→Composition.
2. Select one of the following options, and click OK:

Justify Text Next To An Object

Justifies text next to wrap objects that separate a column of text. This setting takes effect only when the text wrap completely interrupts lines of text so that each line is divided into two or more parts.

Text adjacent to an object is aligned to the left or top of the object when set to Align Left, to the right or bottom of the object when set to Align Right, or evenly aligned to both edges when set to Full Justify.



Justify Text Next To An Object

Skip By Leading

Moves wrapped text to the next available leading increment below a text-wrapped object. If this option isn't selected, lines of text may jump below an object in a way that prevents text from lining up with text in neighboring columns or text frames. Selecting this option is especially useful when you want to make sure that the text aligns to the baseline grid.

Text Wrap only Affects Text Beneath

Text stacked above the wrapped object isn't affected by the text wrap. Stacking order is determined by layer position in the Layers panel and by the stacking order of objects on a layer.

Drawing and painting objects

Objectives : At the end of this lesson you shall be able to
- **understanding paths and shapes**
- **explain drawing with the line or shape tools**
- **understand about to Drawing with the Pencil tool**
- **drawing with the Pen tool**
- **editing paths**
- **applying line (stroke) settings**
- **change corner appearance**
- **compound paths and shapes.**

Types of paths and shapes

You can create paths and combine them in a variety of ways in InDesign. InDesign creates the following types of paths and shapes:

Simple paths

Simple paths are the basic building blocks of compound paths and shapes. They consist of one open or closed path, which may be self-intersecting.

Compound paths and shapes

Types of paths and shapes

You can create paths and combine them in a variety of ways in InDesign. InDesign creates the following types of paths and shapes:

Simple paths

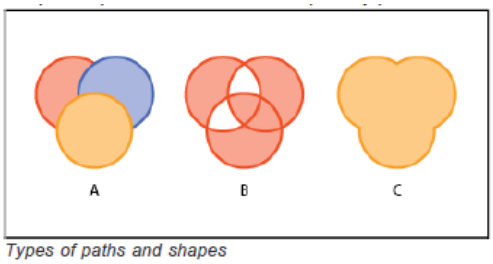
Simple paths are the basic building blocks of compound paths and shapes. They consist of one open or closed path, which may be self-intersecting.

Compound paths

Compound paths consist of two or more simple paths that interact with or intercept each other. They are more basic than compound shapes and are recognized by all PostScript-compliant applications. Paths combined in a compound path act as one object and share attributes (such as colors or stroke styles).

Compound shapes

Compound shapes consist of two or more paths, compound paths, groups, blends, text outlines, text frames, or other shapes that interact with and intercept one another to create new, editable shapes. Some compound shapes appear as compound paths, but their component paths can be edited on a path-by-path basis and do not need to share attributes.

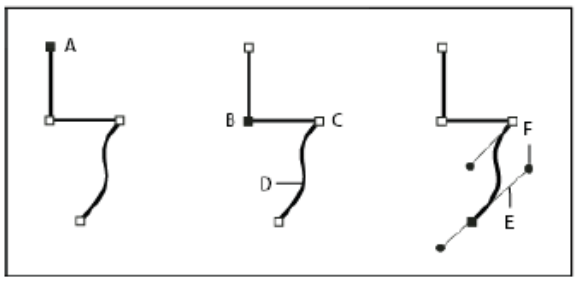


Types of paths and shapes
A. Three simple paths B. Compound path C. Compound shape

About paths

As you draw, you create a line called a path. A path is made up of one or more straight or curved segments. The beginning and end of each segment are marked by anchor points, which work like pins holding a wire in place. A path can be closed (for example, a circle), or open, with distinct endpoints (for example, a wavy line).

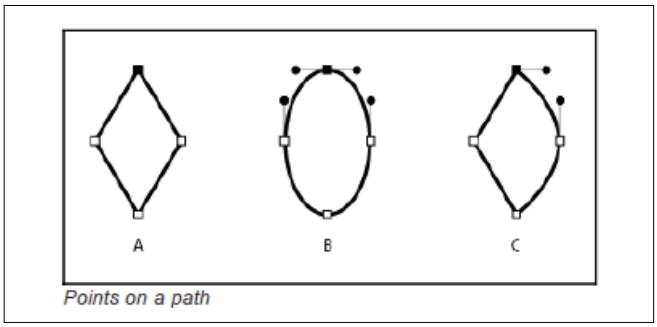
You change the shape of a path by dragging its anchor points, the direction points at the end of direction lines that appear at anchor points, or the path segment itself.



Components of a path

A. Selected (solid) endpoint **B.** Selected anchor point **C.** Unselected anchor point **D.** Curved path segment **E.** Direction line **F.** Direction point

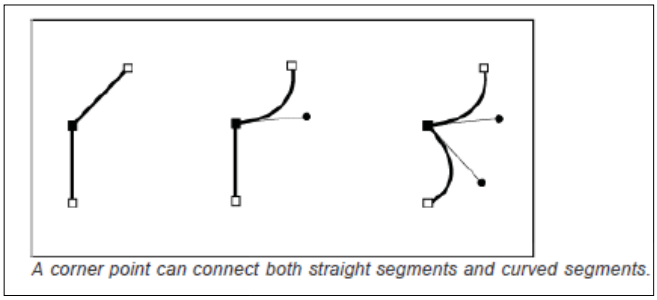
Paths can have two kinds of anchor points: corner points and smooth points. At a corner point, a path abruptly changes direction. At a smooth point, path segments are connected as a continuous curve. You can draw a path using any combination of corner and smooth points. If you draw the wrong kind of point, you can always change it.



Points on a path

A. Four corner points **B.** Four smooth points **C.** Combination of corner and smooth points

A corner point can connect any two straight or curved segments, while a smooth point always connects two curved segments.


A corner point can connect both straight segments and curved segments.

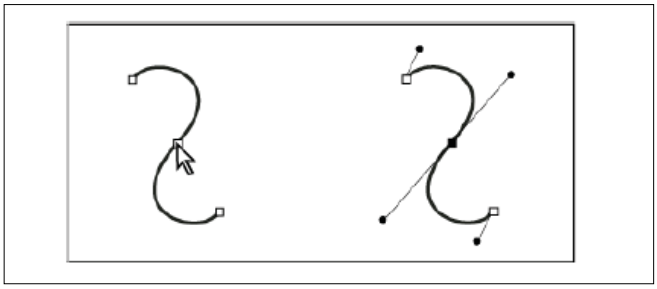
Don't confuse corner and smooth points with straight and curved segments.

A path's outline is called a stroke. A color or gradient applied to an open or closed path's interior area is called a fill. A stroke can have weight (thickness), color, and a dash pattern (Illustrator and InDesign) or a stylized line pattern (InDesign). After you create a path or shape, you can change the characteristics of its stroke and fill.

In InDesign, each path also displays a center point, which marks the center of the shape but is not part of the actual path. You can use this point to drag the path, to align the path with other elements, or to select all anchor points on the path. The center point is always visible; it can't be hidden or deleted.

About direction lines and direction points

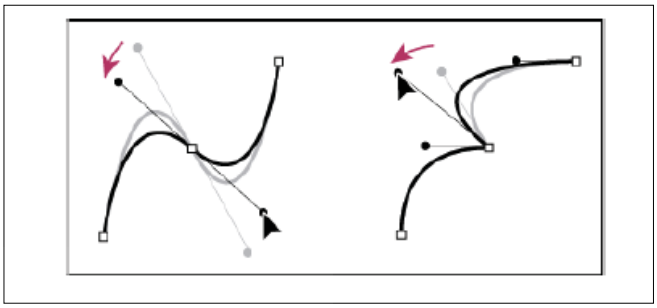
When you select an anchor point that connects curved segments (or select the segment itself), the anchor points of the connecting segments display direction handles, which consist of direction lines that end in direction points. The angle and length of the direction lines determine the shape and size of the curved segments. Moving the direction points reshapes the curves. Direction lines don't appear in the final output.



After selecting an anchor point (left), direction lines appear on any curved segments connected by the anchor point (right).

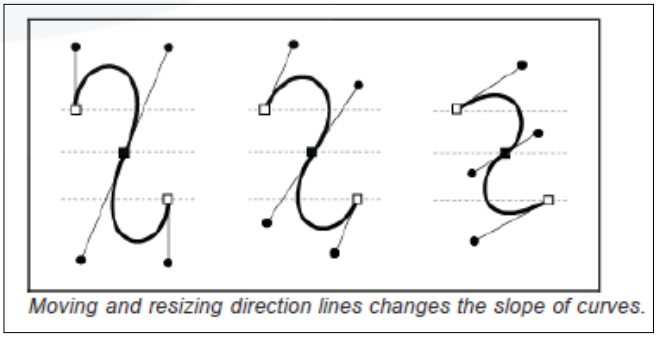
A smooth point always has two direction lines, which move together as a single, straight unit. When you move a direction line on a smooth point, the curved segments on both sides of the point are adjusted simultaneously, maintaining a continuous curve at that anchor point.

In comparison, a corner point can have two, one, or no direction lines, depending on whether it joins two, one, or no curved segments, respectively. Corner point direction lines maintain the corner by using different angles. When you move a direction line on a corner point, only the curve on the same side of the point as that direction line is adjusted.



Adjusting direction lines on a smooth point (left) and a corner point (right)

Direction lines are always tangent to (perpendicular to the radius of) the curve at the anchor points. The angle of each direction line determines the slope of the curve, and the length of each direction line determines the height, or depth, of the curve.


Moving and resizing direction lines changes the slope of curves.

In Illustrator, you can show or hide anchor points, direction lines, and direction points by choosing View > Show Edges or View > Hide Edges.

Draw with the Pencil tool

The Pencil tool works primarily the same way in Adobe Illustrator and InDesign. It lets you draw open and closed paths as if you were drawing with a pencil on paper. It is most useful for fast sketching or creating a hand-drawn look. Once you draw a path, you can immediately change it if needed.

Anchor points are set down as you draw with the Pencil tool; you do not determine where they are positioned. However, you can adjust them once the path is complete.

The number of anchor points set down is determined by the length and complexity of the path and by tolerance settings in the Pencil Tool Preferences dialog box. These settings control how sensitive the Pencil tool is to the movement of your mouse or graphics-tablet stylus.

Pencil tool options

Double-click the Pencil tool to set any of the following options:

Fidelity

Controls how far you have to move your mouse or stylus before a new anchor point is added to the path. The higher the value, the smoother and less complex the path. The lower the value, the more the curves will match the pointer's movement, resulting in sharper angles. Fidelity can range from 0.5 to 20 pixels.

Smoothness

Controls the amount of smoothing applied when you use the tool. Smoothness can range from 0% to 100%. The higher the value, the smoother the path. The lower the value, the more anchor points are created, and the more the line's irregularities are preserved.

Fill New Pencil Strokes

(Illustrator only) Applies a fill to pencil strokes you draw after selecting this option, but not to existing pencil strokes. Remember to select a fill before you draw the pencil strokes.

Keep Selected

Determines whether to keep the path selected after you draw it. This option is selected by default.

Edit Selected Paths

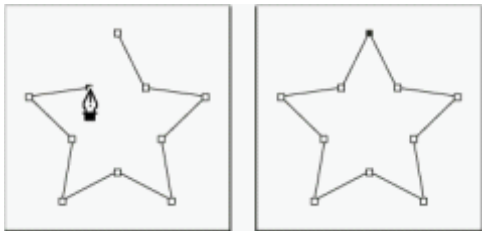
Determines whether or not you can change or merge a selected path when you are within a certain distance of it (specified with the next option).

Within: _ pixels

Determines how close your mouse or stylus must be to an existing path in order to edit the path with the Pencil tool. This option is only available when the Edit Selected Paths option is selected.

Draw straight line segments with the Pen tool

The simplest path you can draw with the Pen tool is a straight line, made by clicking the Pen tool to create two anchor points. By continuing to click, you create a path made of straight line segments connected by corner points.



Clicking Pen tool creates straight segments

Draw curves with the Pen tool

You create a curve by adding an anchor point where a curve changes direction, and dragging the direction lines that shape the curve. The length and slope of the direction lines determine the shape of the curve.

Curves are easier to edit and your system can display and print them faster if you draw them using as few anchor points as possible. Using too many points can also introduce unwanted bumps in a curve. Instead, draw widely spaced anchor points, and practice shaping curves by adjusting the length and angles of the direction lines.

Editing paths

Select paths, segments, and anchor points

Before you can reshape or edit a path, you need to select the path's anchor points, segments, or a combination of both.

Select anchor points

If you can see the points, you can click them with the Direct Selection tool to select them. Shift-click to select multiple points.

Select the Direct Selection tool and drag a boundary around the anchor points. Shift-drag around additional anchor points to select them.

You can select anchor points from selected or unselected paths. Move the Direct Selection tool over the anchor point until the pointer displays a hollow square for unselected and filled square for selected paths in a magnified state, and then click the anchor point. Shift-click additional anchor points to select them.

(Illustrator only) Select the Lasso tool, and drag around the anchor points. Shift-drag around additional anchor points to select them.

Adjust path segments

You can edit a path segment at any time, but editing existing segments is slightly different from drawing them. Keep the following tips in mind when editing segments:

If an anchor point connects two segments, moving that anchor point always s changes both segments.

When drawing with the Pen tool, you can temporarily activate the Direct Selection tool (InDesign and Photoshop) so that you can adjust segments you've already drawn; press Ctrl (Windows) or Command (Mac OS) while drawing. In Illustrator, pressing Ctrl or Command while drawing activates the last-used selection tool.

When you initially draw a smooth point with the Pen tool, dragging the direction point changes the length of the direction line on both sides of the point. However, when you edit an existing smooth point with the Direct Selection tool, you change the length of the direction line only on the side you're dragging.

Add or delete anchor points

Adding anchor points can give you more control over a path or it can extend an open path. However, it's a good idea not

to add more points than necessary. A path with fewer points is easier to edit, display, and print. You can reduce the complexity of a path by deleting unnecessary points.

The toolbox contains three tools for adding or deleting points: the Pen tool , the Add Anchor Point tool , and the Delete Anchor Point tool .

By default, the Pen tool changes to the Add Anchor Point tool as you position it over a selected path, or to the Delete Anchor Point tool as you position it over an anchor point. (In Photoshop, you must select Auto Add/Delete in the options bar to enable the Pen tool to automatically change to the Add Anchor Point or Delete Anchor Point tool.)

You can select and edit multiple paths simultaneously in Photoshop and InDesign; however, you can add or delete points to only one path at a time in Illustrator. In Photoshop and InDesign, you can reshape a path while adding anchor points by clicking and dragging as you add.

Don't use the Delete, Backspace, and Clear keys or the Edit > Cut or Edit > Clear commands to delete anchor points: these keys and commands delete the point and the line segments that connect to that point.

Convert between smooth points and corner points

Paths can have two kinds of anchor points-corner points and smooth points. At a corner point, a path abruptly changes direction. At a smooth point, path segments are connected as a continuous curve. The Convert Direction Point tool . lets you change an anchor point from a corner point to a smooth point or visa versa.

Split a path

You can split a path, graphics frame, or empty text frame at any anchor point or along any segment. When you split a path, keep the following in mind:

If you want to split a closed path into two open paths, you must slice in two places along the path. If you slice a closed path only once, you get a single path with a gap in it.

Any paths resulting from a split inherit the path settings of the original path, such as stroke weight and fill color. You may need to reset stroke alignment from inside to outside.

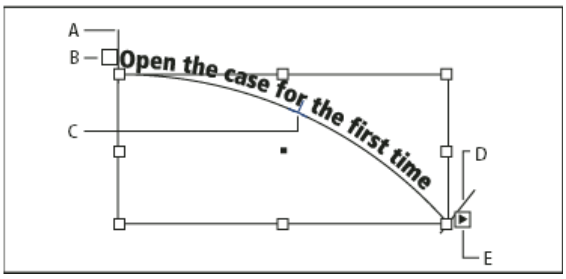
Set strokes

You can apply strokes, or line settings, to paths, shapes, text frames, and text outlines. The Stroke panel provides control over the weight and appearance of the stroke, including how segments join, start and end shapes, and options for corners. You can also select stroke settings in the Control panel when a path or frame is selected.

Create type on a path

You can format text to flow along the edge of an open or closed path of any shape. Apply options and effects to type on a path: Slide it along the path, flip it over to the other side of the path, or use the shape of the path to distort the characters. Type on a path has an in port and an out port just like other text frames, so you can thread text to and from it.

You can include only one line of type on a path, so any type that won't fit on the path will be overset (hidden), unless you've threaded it to another path or text frame. You can add inline or above line anchored objects to type on a path. You can't create type on a path using compound paths, such as those that result from using the Create Outlines command.



Type on a path

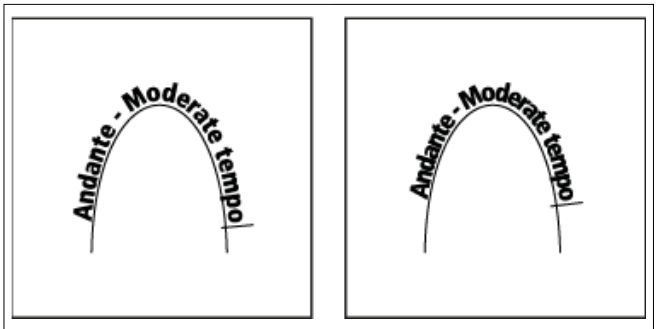
A. Start bracket **B.** In port **C.** Center bracket **D.** End bracket **E.** Out port indicating threaded text

Edit or delete type on a path

You can apply character and paragraph options to type on a path. However, paragraph rules and paragraph spacing options have no effect on type on a path. The alignment setting in the Paragraph panel controls the alignment of type on a path.

Tighten character spacing around sharp turns and acute angles

1. Using the Selection tool or the Type tool, select the type on a path.
2. Choose Type > Type on a Path > Options, or double-click the Type On A Path tool.
3. For Spacing, type a value in points. Higher values remove the extra space from between characters positioned on sharp curves or angles.



Type on a path before (left) and after (right) applying spacing adjustment

The Spacing value compensates for the way characters fan out around a curve or sharp angle. It has no effect on characters positioned on straight segments. To change spacing of characters anywhere along the path, select them, and then apply kerning or tracking.

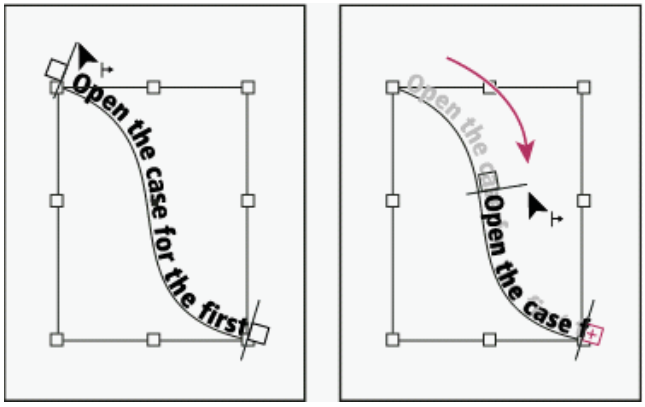
Adjust the type on a path position

You can change the start or end position of type on a path, slide type, and change the path position in other ways.

Change the start or end position of type on a path

1. Using the Selection tool , select the type on a path.
2. Position the pointer over the path type's start or end bracket until a small icon appears next to the pointer . Do not position it over the bracket's in port or out port.

   Zoom in on the path to more easily select the bracket.
3. Drag the start or end bracket along the path.

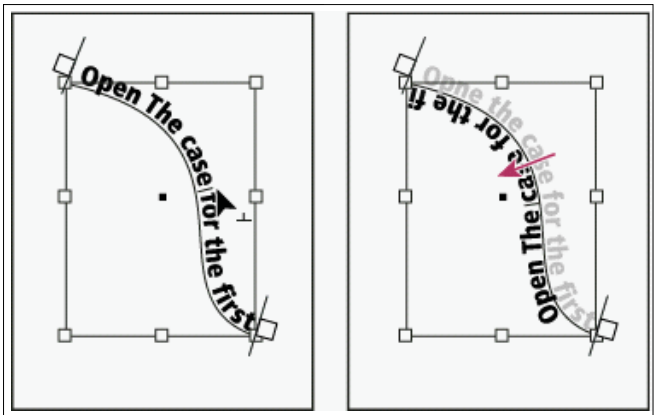


Position the pointer on start or end bracket, and then drag to reposition boundary of type on a path.

If you apply a paragraph indent value, it's measured from the start and end brackets.

Flip type on a path

1. Click the Selection tool , and select the type on a path.
2. Position the pointer over the type's center bracket until a center bracket icon appears next to the pointer .
3. Drag the center bracket across the path.



Position pointer on center bracket, and then drag across path to flip type.

You can also flip type on a path using a dialog box. Using the Selection tool or the Type tool, select the type on a path. Choose Type > Type on a Path > Options. Select the Flip option, and then click OK.

Apply an effect to type on a path

1. Using the Selection tool or the Type tool, select the type on a path.
2. Choose Type > Type on a Path > Options, or double-click the Type On A Path tool.
3. Choose one of the following in the Effect menu, and then click OK.
   - To keep the center of each character's baseline parallel to the path's tangent, choose Rainbow. This is the default setting.

Type on a path effects

A. Rainbow effect **B.** Skew effect **C.** 3D Ribbon effect **D.** Stair Step effect **E.** Gravity effect

- To keep characters' vertical edges perfectly vertical regardless of the path shape, while letting characters' horizontal edges follow the path, choose Skew. The resulting horizontal distortion is useful for text that appears to follow waves or go around a cylinder, as on a beverage can label.
- To keep characters' horizontal edges perfectly horizontal regardless of the path shape, while keeping each character's vertical edge perpendicular to the path, choose 3D Ribbon.
- To keep the left edge of each character's baseline on the path without rotating any characters, choose Stair Step.
- To keep the center of each character's baseline on the path while keeping each vertical edge in line with the path's center point, choose Gravity. You can control this option's perspective effect by adjusting the arc of the text's path.

Stroke panel options

Miter Limit

Specifies the limit of point length to stroke width before a mitered join becomes a beveled square join. For example, a value of 9 requires the point length to be 9 times the stroke width before the point becomes beveled. Type a value (between 1 and 500) and press Enter or Return. The Miter Limit does not apply to a round join.

You can include miter limit and stroke alignment settings in a paragraph or character style. Click the Character Color section, and then click the stroke icon to make the options available.

Cap

Select a cap style to specify the appearance of both ends of an open path:

Butt cap

Creates squared ends that abut (stop at) the endpoints.

Round cap

Creates semicircular ends that extend half the stroke width beyond the endpoints.

Projecting cap

Creates squared ends that extend half the stroke width beyond the endpoints. This option makes the stroke weight extend evenly in all directions around the path.

You can specify a cap option for a closed path, but the cap will not be visible unless the path is opened (for example, by cutting with the Scissors tool). Also, cap styles are easier to see at thicker stroke weights.

Join

Specify the appearance of the stroke at corner points:

Miter join

Creates pointed corners that extend beyond the endpoint when the miter's length is within the miter limit.

Round join

Creates rounded corners that extend half the stroke width beyond the endpoints.

Bevel join

Creates squared corners that abut the endpoints.

You can specify miter options for a path that doesn't use corner points, but the miter options will not apply until you create corner points by adding them or by converting smooth points. Also, miters are easier to see at thicker stroke weights.

Align Stroke

Click an icon to specify the position of the stroke relative to its path.

Type

Choose a stroke type in the menu. If you choose Dashed, a new set of options appears.

Start

Choose for the beginning of the path.

End

Choose for the end of the path.

Gap Color

Specify a color to appear in the space between dashes, dots, or multiple lines in a patterned stroke.

Gap Tint

Specify a tint (when a gap color is specified).

Although you can define dashed strokes in the Stroke panel, it's easier to create a dashed stroke using a custom stroke style.

Add start and end shapes

Keep the following guidelines in mind as you work with start and end shapes:

You can't edit the available start and end shapes, but if you've obtained plug in software that adds more options, the Start and End menus in the Stroke panel can include additional shapes.

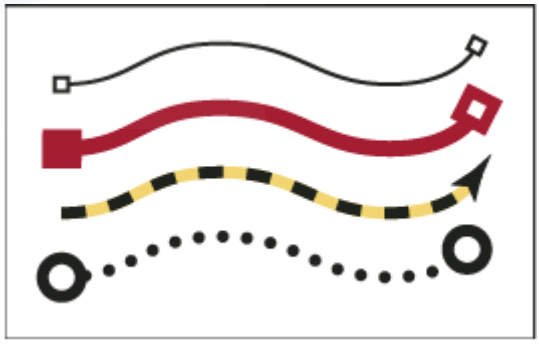
Start and end shapes are sized in proportion to the stroke weight. However, adding a start or end shape does not change the length of the path.

Start and end shapes automatically rotate to match the angle of an endpoint's direction line.

Start and end shapes appear at endpoints of open paths only; they won't appear on individual dashes of a dashed stroke.

If you apply start and end shapes to a compound path that includes open subpaths, each open subpath will use the same start and end shapes.

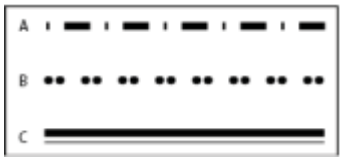
You can apply start and end shapes to a closed path, but they won't be visible unless you open the path.



Sample start and end shapes

Define custom stroke styles

You can create a custom stroke style using the Stroke panel. A custom stroke style can be dashed, dotted, or striped; in the style, you can define the stroke's pattern, cap, and corner attributes. You specify other stroke attributes, such as weight, gap color, and start and end shapes, after the custom stroke style has been applied to an object.

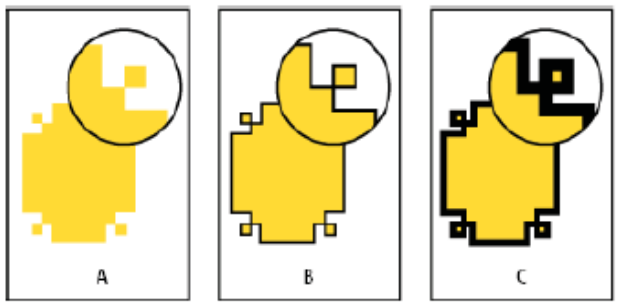


Custom stroke styles

A. Dashed **B.** Dotted **C.** Striped

Change corner appearance

You can use the Corner Options command to quickly apply corner effects to any path. Available corner effects range from simple, rounded corners to fancy ornamentation.



Effects of different line weights on corner shapes

A. Fancy corner effect with no stroke **B.** Same effect with 1-point stroke **C.** Same effect with 4- point stroke

Compound paths and shapes

About compound paths

You can combine several paths into a single object, called a compound path. Create a compound path when you want to do any of the following:

Add transparent holes to a path.

Preserve the transparent holes within some text characters, such as o and e, when you convert characters to editable letterforms using the Create Outlines command. Using the Create Outlines command always results in the creation of compound paths.

Apply a gradient, or add contents that span multiple paths. Although you can also apply a gradient across multiple objects using the Gradient tool, applying a gradient to a compound path is often a better method because you can later edit the entire gradient by selecting any of the subpaths. With the Gradient tool, later editing requires selecting all of the paths you originally selected.

Best practices for editing compound paths

Keep the following guidelines in mind as you edit compound paths:

Changes to path attributes (such as stroke and fill) always alter all subpaths in a composite path-it doesn't matter which selection tool you use, or how many subpaths you select. To preserve the individual stroke and fill attributes of the paths you want to combine, group them instead.

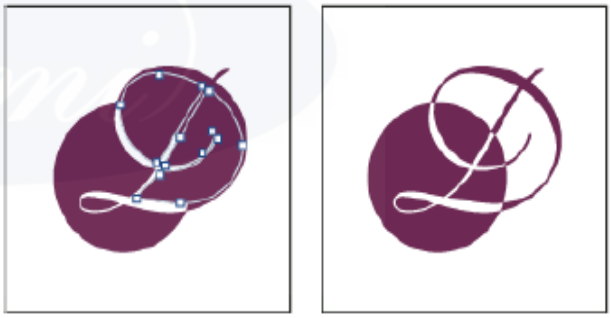
In a compound path, any effect that is positioned relative to a path's bounding box-such as a gradient, or an image pasted inside-is actually positioned relative to the bounding box of the entire compound path (that is, the path that encloses all of the subpaths).

Create compound shapes

If you make a compound path, then change its properties and release it, using the Release command, the released paths inherit the compound path's properties; they don't regain their original properties.

If your document contains compound paths with many smooth points, some output devices may have problems printing them. If so, simplify or eliminate the compound paths, or convert them to bitmap images using a program such as Adobe Photoshop.

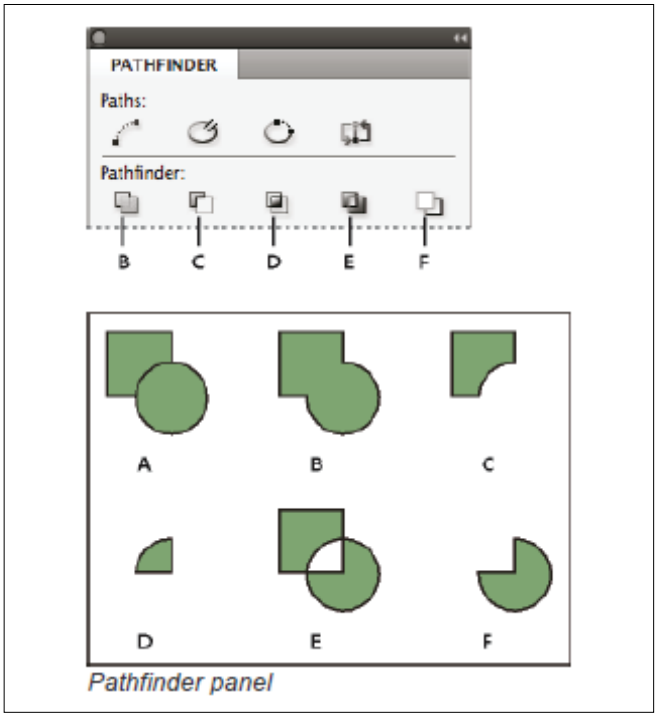
If you apply a fill to a compound path, holes sometimes don't appear where you expect them to. For a simple path like a rectangle, the inside, or the area you can fill, is easy to see-it's the area within the enclosed path. However, with a compound path, InDesign must determine whether the intersections created by a compound path's subpaths are inside (filled areas) or outside (holes). The direction of each subpath-the order in which its points were created-determines whether the area it defines is inside or outside. If a subpath is filled when you want it to be a hole, or vice versa, click Reverse Path in the Pathfinder panel to reverse the direction of that subpath.



Compound path containing two subpaths with same path directions (left) and opposite path directions (right)

Create compound shapes

You create compound shapes using the Pathfinder panel (Window > Object & Layout > Pathfinder). Compound shapes can be made up of simple or compound paths, text frames, text outlines, or other shapes. The appearance of the compound shape depends on which Pathfinder button you choose.



Pathfinder panel

A. Original objects **B.** Add **C.** Subtract **D.** Intersect **E.** Exclude Overlap F. Minus Back

Add Traces the outline of all objects to create a single shape.

Subtract Objects in the front "punch holes" in the backmost object.

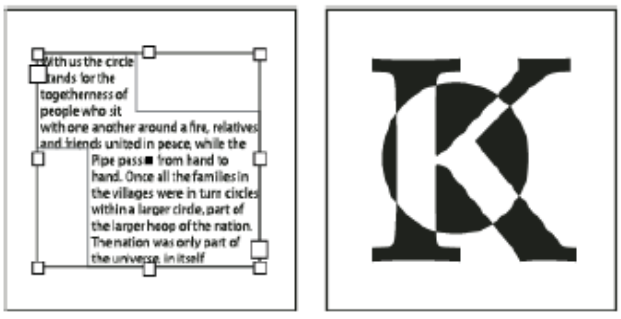
Intersect Creates a shape from overlapping areas.

Exclude Overlap Creates a shape from areas that do not overlap.

Minus Back Objects in the back "punch holes" in the frontmost object.

In most cases, the resulting shape adopts the attributes (fill, stroke, transparency, layer, and so on) of the frontmost object. When you subtract shapes, however, objects in the front are deleted. The resulting shape takes on the attributes of the backmost object instead.

When you include a text frame in a compound shape, the shape of the text frame changes, but the text itself stays the same. To alter the text itself, create a compound path using text outlines.



Compound shape used as a text frame (left) compared to one created from a text outline (right)

Create paths from text outlines

Use the Create Outlines command to convert selected text characters into a set of compound paths that you can edit and manipulate as you would any other path. The Create Outlines command is useful for creating effects in large display type, but it is rarely useful for body text or other smaller-size type.

If you simply want to apply a color stroke, or a gradient fill or stroke to text characters, you don't need to convert the text to outlines. You can use the toolbox and the Swatches, Color, or Gradient panels to apply colors and gradients directly to the strokes or fills of selected characters.

The Create Outlines command gets its font outline information from the actual Type 1, TrueType, or OpenType files. When you create outlines, characters are converted in their current positions, retaining all graphics formatting, such as stroke and fill.

Some font manufacturers block the information needed to create outlines. If you select such a protected font and choose Type > Create Outlines, a message will explain that the font cannot be converted

When you convert type to outlines, the type loses its hints-instructions built into outline fonts for adjusting their shapes, so that your system displays or prints them optimally at small sizes. Therefore, type converted to outlines may not display as well when rendered in small sizes or at low resolutions.

After converting type to outlines, you can do any of the following:

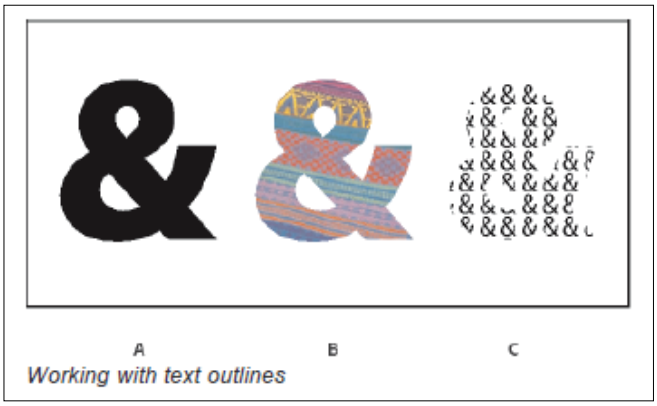
Alter the letterforms by dragging individual anchor points using the Direct Selection tool.

Copy the outlines and use the Edit > Paste Into command to mask an image by pasting it into the converted outlines.

Use the converted outlines as text frames, so that you can type or place text in them.

Change the stroke attributes of letterforms.

Use text outlines to create compound shapes.



Working with text outlines

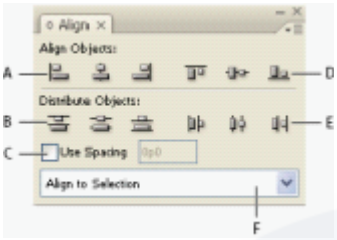
A. Type character before conversion to text outline **B.** Text outline with image pasted into it **C.** Text outline used as a text frame

Because converted text outlines become sets of compound paths, you can edit individual subpaths of converted outlines by using the Direct Selection tool. You can also break the character outlines into independent paths by releasing them from the compound path.

Align panel overview

You use the Align panel (Window > Object & Layout > Align) to align or distribute objects horizontally or vertically along the selection, margins, page, or spread. Consider the following when working with the Align panel:

- The Align panel doesn't affect objects to which you've applied the Lock Position command, and doesn't change the alignment of text paragraphs within their frames.
- Text alignment is not affected by the Align Objects optionsYou can use the Keyboard Shortcuts dialog box (Edit > Keyboard Shortcuts) to create custom align and distribute shortcuts. (Under Product Area, select Object Editing.)

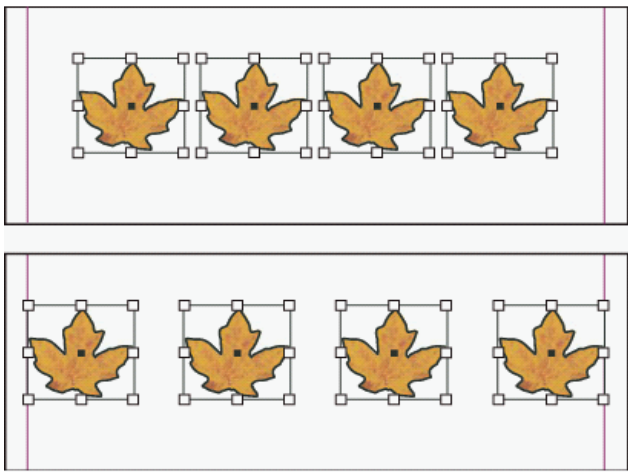


Align panel

A. Vertical alignment buttons **B.** Vertical distribution buttons **C.** Use Spacing distribution **D.** Horizontal alignment buttons **E.** Horizontal distribution buttons **F.** Alignment location options

Align or distribute objects

You can use the Align panel to align or space selected objects horizontally or vertically to the selection, margins, page, or spread.

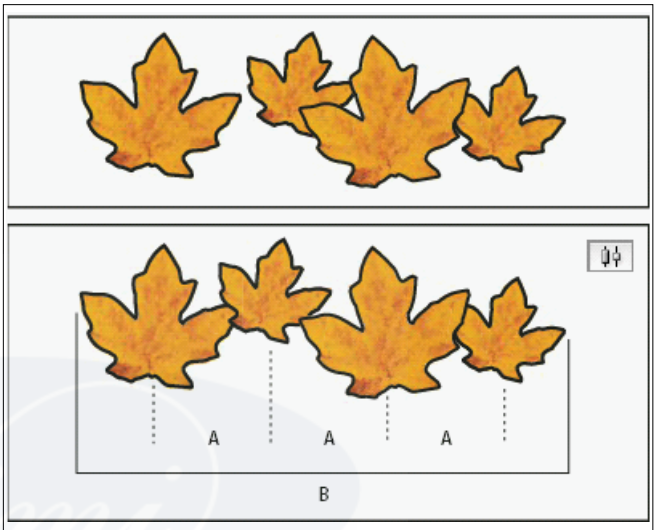


Objects distributed horizontally to selection (top) and to margins (bottom)

1. Select the objects to align or distribute.
2. Choose Window > Object & Layout > Align to display the Align panel.

To show or hide additional panel options, choose Show Options or Hide Options from the panel menu.

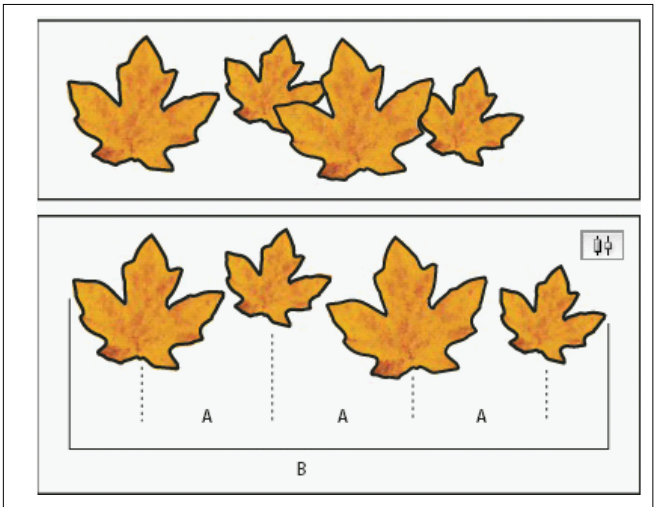
3. From the menu at the bottom of the panel, specify whether you want to align or distribute objects based on the selection, margins, page, or spread.
4. Do one of the following:
   - To align objects, click the button for the type of alignment you want.
   - To distribute objects, click the button for the type of distribution you want. For example, if you click the Distribute Left Edges button when Align To Selection is turned on, InDesign makes sure that there is an equal amount of space from left edge to left edge of each selected object.



Using the Distribute Horizontal Centers option for even spacing

A. Creates even spacing between the centers of each object **B.** Keeps the overall width the same as before the transformation

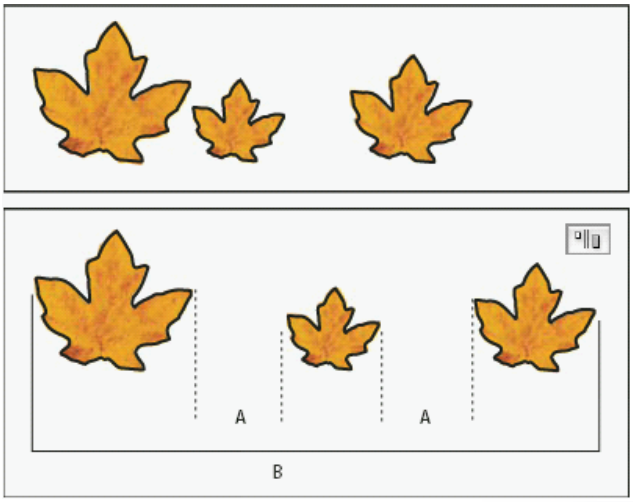
- To set the space between objects, either center to center or edge to matching edge, select Use Spacing under Distribute Objects, and then type the amount of space you want to apply. Click a button to distribute the selected objects along their horizontal or vertical axis.



Using the Distribute Horizontal Centers option and adding a value for Use Spacing

A. Spaces the objects evenly from their centers by a specified value **B.** Changes the overall width of the objects as a whole

- To set the space between objects (facing edge to facing edge), under Distribute Spacing, select Use Spacing and type the amount of space you want between the objects. (If Distribute Spacing is not visible, choose Show Options in the Align Panel menu.) Then, click the Distribute Spacing button to distribute the objects along their horizontal or vertical axis.



Using the Distribute Horizontal Space option and adding a value for Use Spacing

A. Creates spaces of a specified value between each object **B.** Changes the overall width of the objects as a whole

When you use spacing with vertical distribution, selected objects are spaced from top to bottom, starting with the top-most object. When you use spacing with horizontal distribution, selected objects are spaced from left to right, starting from the left-most object.

You can also use the Smart Spacing feature to align or distribute objects while moving them. For example, if two vertical objects are 12 points apart, moving a third object 12 points below the second object causes temporary guides to appear, allowing you to snap the object into alignment.

Align objects using the Gap tool

The Gap tool provides a quick way to adjust the size of a gap between two or more objects. It also lets you resize several objects that have commonly aligned edges simultaneously, while keeping the gaps between them fixed. It's a one-step way to adjust your layout by directly manipulating the space between objects.

The Gap tool ignores locked objects and master page items.

1 Select the Gap tool |↔|.

2 Move the pointer between two objects, and do any of the following actions:

- Drag to move the gap and resize all objects aligned along the gap.
- Shift-drag to move the gap between only the two nearest objects.
- Ctrl-drag (Windows) or Command-drag (Mac OS) to resize the gap instead of moving it. Adding the Shift key resizes the gap between only the two nearest objects.
- Alt-drag (Windows) or Option-drag (Mac OS) to move the gap and objects in the same direction. Adding the Shift key moves only the two nearest objects.
- Ctrl+Alt-drag (Windows) or Command+Option-drag (Mac OS) to resize the gap and move the objects. Adding the Shift key to resize the gap and move only the two nearest objects.

To view hints on using the Gap tool, select the Gap tool and open the Tool Hints panel (Window > Utilities > Tool Hints).

Creating and formatting tables

Objectives : At the end of this exercise you shall be able to
- **create and edit the table**
- **select and Edit tables**
- **formatting the tables**
- **tables strokes and fills**
- **table and cell styles.**

Creating tables

A table consists of rows and columns of cells. A cell is like a text frame in which you can add text, anchored frames, or other tables. Create tables in Adobe InDesign CS5 or export them from other applications.

Create tables

A table consists of rows and columns of cells. A cell is like a text frame in which you can add text, inline graphics, or other tables. You can create tables from scratch or by converting them from existing text. You can also embed a table within a table.

When you create a table, the new table fills the width of the container text frame. A table is inserted on the same line when the insertion point is at the beginning of the line, or on the next line, when the insertion point is in the middle of a line.

Tables flow with surrounding text just as inline graphics do. For example, a table moves through threaded frames when the text above it changes in point size or when text is added or deleted. However, a table cannot appear on a text-on-path frame.

Importing tables from other applications

When you use the Place command to import a Microsoft Word document that includes tables, or a Microsoft Excel spreadsheet, imported data is an editable table. You can use the Import Options dialog box to control the formatting.

You can also paste data from an Excel spreadsheet or a Word table into an InDesign or InCopy document. The Clipboard Handling preference settings determine how text pasted from another application is formatted. If Text Only is selected, the information appears as unformatted tabbed text, which you can then convert to a table. If All Information is selected, the pasted text appears in a formatted table.

If you're pasting text from another application into an existing table, insert enough rows and columns to accommodate the pasted text, select the Text Only option in Clipboard Handling preferences, and make sure that at least one cell is selected (unless you want to embed the pasted table into a cell).

If you want more control over formatting the imported table, or if you want to maintain spreadsheet formatting, use the Place command to import the table. If you want to maintain a link to the spreadsheet, select the Create Links When Placing Text And Spreadsheet Files option in File Handling preference settings.

You can also copy and paste tabbed text across a selection of table cells. This technique is a great way to replace content while preserving formatting. For example, suppose you want to update the content of a formatting table in a monthly magazine. One possibility is to link to an Excel spreadsheet. However, if your content comes from a different source, you can copy the tabbed text containing the new content, select the range of cells in the formatted InDesign table, and paste.

Add text to a table

You can add text, anchored objects, XML tags, and other tables to table cells. The height of a table row expands to accommodate additional lines of text, unless you set a fixed row height. You cannot add footnotes to tables.

Using the Type tool T, do any of the following:

Position the insertion point in a cell, and type text. Press Enter or Return to create a new paragraph in the same cell. Press Tab to move forward through cells (pressing Tab in the last cell inserts a new row). Press Shift+Tab to move backwards through cells.

Copy text, position the insertion point in a cell, and then choose Edit > Paste.

Position the insertion point in a cell where you want to add text, choose File > Place, and then double-click a text file.

Add graphics to a table

Do any of the following:

Position the insertion point where you want the graphic, choose File > Place, and then double-click the graphic's filename.

Position the insertion point where you want the graphic, choose Object > Anchored Object > Insert, and then specify settings. You can later add a graphic to the anchored object.

Copy a graphic or a frame, position the insertion point, and then choose Edit > Paste.

When you add a graphic that is larger than the cell, the cell height expands to accommodate the graphic, but the width of the cell doesn't change-the graphic may extend beyond the right side of the cell. If the row in which the graphic is placed is set to a fixed height, a graphic that is taller than

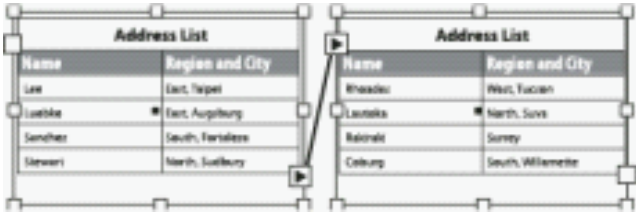
the row height causes the cell to be overset.

To avoid an overset cell, place the image outside the table, resize the image, and then paste it into the table cell.

Add table headers and footers

When you create a long table, the table can span more than one column, frame, or page. You can use headers or footers to repeat the information at the top or bottom of each divided portion of the table.

You can add header and footer rows when you create the table. You can also use the Table Options dialog box to add header and footer rows and change how they appear in the table. You can convert body rows to header or footer rows.



Header rows repeated once per frame

To number tables sequentially, such as Table 1A, Table 1B, add a variable to the table header or footer.

Select table cells, rows, and columns

When you select part or all of the text in a cell, that selection has the same appearance as would text selected outside a table. However, if the selection spans more than one cell, the cells and their contents are both selected.

If a table spans more than one frame, holding the mouse pointer over any header or footer row that is not the first header or footer row causes a lock icon to appear, indicating that you cannot select text or cells in that row. To select cells in a header or footer row, go to the beginning of the table.

Insert a row or column by dragging

When adding columns, if you drag more than one and one-half times the width of the column being dragged, new columns are added that have the same width as the original column. If you drag to insert only one column, that column can have a narrower or wider width than the column from where you dragged. The same behavior is true of rows, unless the Row Height for the row being dragged is set to At Least. In this case, if you drag to create only one row, InDesign will resize the new row, if necessary, so that it's tall enough to contain text.

Formatting tables

Use the Control panel or Character panel to format text within a table-just like formatting text outside a table. In addition, two main dialog boxes help you format the table itself: Table Options and Cell Options. Use these dialog boxes to change the number of rows and columns, to change the appearance of the table border and fill, to determine the spacing above and below the table, to edit header and footer rows, and to add other table formatting.

Use the Table panel, the Control panel, or the context menu to format the table structure. Select one or more cells and then right-click (Windows) or Control-click (Mac OS) to display a context menu with table options.

Resize the entire table

Using the Type tool T, position the pointer over the lower-right corner of the table so that the pointer becomes an arrow shape ↖↘, and then drag to increase or decrease the table size. Hold down Shift to maintain the table's height and width proportions.

If the table spans more than one frame in a story, you cannot use the pointer to resize the entire table.

Break tables across frames

Use Keep options to determine how many rows should remain together, or to specify where a row breaks, such as at the top of a column or frame.

When you create a table that is taller than the frame in which it resides, the frame is overset. If you thread the frame to another frame, the table continues in that frame. Rows move into threaded frames one at a time-you can't break a single row across multiple frames. Specify header or footer rows to repeat information in the new frame.

Add text before a table

A table is anchored to the paragraphs that immediately precede and follow it. If you insert a table at the beginning of the text frame, you can't click above the table to place an insertion point. Instead, use the arrow keys to move the insertion point before the table.

Work with overset cells

In most cases, a table cell will expand vertically to accommodate new text and graphics being added. However, if you set a fixed row height and add text or graphics that are too large for the cell, a small red dot appears in the lower-right corner of the cell, indicating that the cell is overset.

You cannot flow overset text into another cell. Instead, edit or resize the contents, or expand the cell or the text frame in which the table appears.

In the case of inline graphics or text with fixed leading, it is possible for the cell contents to extend beyond cell edges. You can select the Clip Contents To Cell option, so that any text or inline graphics that otherwise extend beyond any cell edge are clipped to the cell boundary. However, when inline graphics are overset to extend beyond cell bottom edges (Horizontal), this does not apply.

Display the contents of an overset cell

Do one of the following:

Increase the size of the cell.

Change the text formatting. To select the cell's contents, click in the overset cell, press Esc, and then use the Control panel to format the text.

About table strokes and fills

You can add strokes and fills to your tables in a number of ways. Use the Table Options dialog box to change the stroke of the table border, and to add alternating strokes and fills to columns and rows. To change the strokes and fills of individual cells or header/footer cells, use the Cell Options dialog box, or use the Swatches, Stroke, and Color panels.

By default, the formatting you select using the Table Options dialog box overrides any corresponding formatting previously applied to table cells. However, if you select the Preserve Local Formatting option in the Table Options dialog box, the strokes and fills applied to individual cells are not overridden.

If you use the same formatting repeatedly for tables or cells, create and apply table styles or cell styles.

Add stroke and fill using Cell Options

You can determine which cell lines are formatted with a stroke or fill by selecting or deselecting lines in the Preview proxy. If you want to change the appearance of all rows or columns in the table, use an alternating stroke or fill pattern in which the second pattern is set to 0.

Table stroke and fill options

When selecting strokes and fills for the table or cells, use the following options:

Weight

Specifies the line thickness for the table or cell border.

Type

Specifies the line style, such as Thick - Thin.

Color

Specifies the color of the table or cell border. The choices listed are those available in the Swatches panel.

Tint

Specifies the percentage of ink of the specified color to be applied to the stroke or fill.

Gap Color

Applies a color to the areas between the dashes, dots, or lines. This option is not available if Solid is selected for Type.

Gap Tint

Applies tint to the areas between the dashes, dots, or lines. This option is not available if Solid is selected for Type.

Overprint

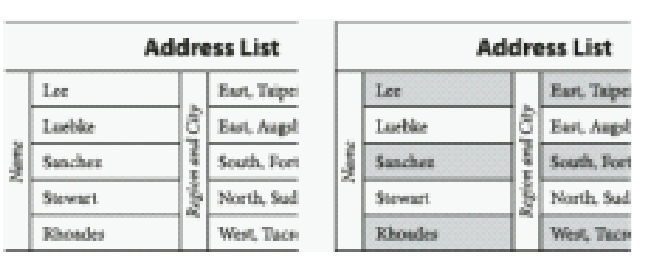
When selected, causes the ink specified in the Color drop-down list to be applied over any underlying colors, rather than knocking out those inks.

Alternate strokes and fills in a table

You can alternate strokes and fills to enhance readability or improve the appearance of your table. Alternating strokes and fills in table rows does not affect header and footer rows. However, alternating strokes and fills in columns does affect header and footer rows.

Alternating stroke and fill settings override cell stroke formatting, unless you select the Preserve Local Formatting option in the Table Options dialog box.

If you want to apply a fill or stroke to every body cell in the table, and not just alternating patterns, you can still use the alternating stroke and fill settings to create such non-alternating patterns. To create such an effect, specify 0 for Next in the second pattern.



Before (left) and after (right) alternating fills in a table

About table and cell styles

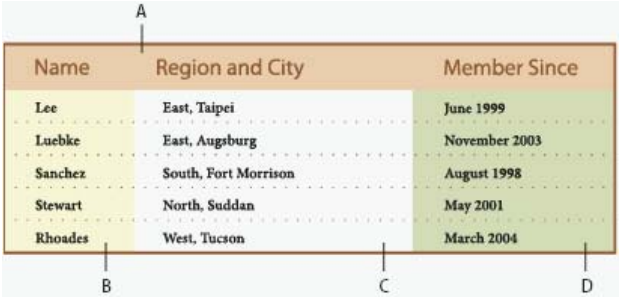
Just as you use text styles to format text, you can use table and cell styles to format tables. A table style is a collection of table formatting attributes, such as table borders and row and column strokes, that can be applied in a single step. A cell style includes formatting such as cell insets, paragraph styles, and strokes and fills. When you edit a style, all tables or cells to which the style is applied are updated automatically.

Basic [Table] and [None] styles

By default, each new document contains a [Basic Table] style that can be applied to tables you create and a [None] style that can be used to remove cell styles applied to cells. You can edit the [Basic Table] style, but you can't rename or delete either [Basic Table] or [None].

Using cell styles in table styles

When you create a table style, you can specify which cell styles are applied to different regions of the table: header and footer rows, left and right columns, and body rows. For example, for the header row, you can assign a cell style that applies a paragraph style, and for the left and right columns, you can assign different cell styles that apply shaded backgrounds.



Cell styles applied to regions in table style

A. Header row formatted with cell style that includes paragraph style **B.** Left column **C.** Body cells **D.** Right column

Cell style attributes

Cell styles do not necessarily include all the formatting attributes of a selected cell. When you create a cell style, you can determine which attributes are included. That way, applying the cell style changes only the desired attributes, such as cell fill color, and ignores all other cell attributes.

Formatting precedence in styles

If a conflict occurs in formatting applied to a table cell, the following order of precedence determines which formatting is used:

Cell style precedence

1. Header/Footer 2. Left column/Right column 3. Body rows. For example, if a cell appears in both the header and the left column, the formatting from the header cell style is used.

Table style precedence

1. Cell overrides 2. Cell style 3. Cell styles applied from a table style 4. Table overrides 5. Table styles. For example, if you apply one fill using the Cell Options dialog box and another fill using the cell style, the fill from the Cell Options dialog box is used.

Table/Cell Styles panels overview

Use the Table Styles panel (Window > Styles >Table Styles) to create and name table styles, and to apply the styles to existing tables or tables you create or import. Use the Cell Styles panel (Window > Styles > Cell Styles) to create and name cell styles, and to apply the styles to table cells. Styles are saved with a document and appear in the panel each time you open that document. You can save table and cell styles in groups for easier management.

When you position the insertion point in a cell or table, any style that is applied is highlighted in either of the panels. The name of any cell style that is applied through a table style appears in the lower left corner of the Cell Styles area. If you select a range of cells that contains multiple styles, no style is highlighted and the Cell Styles panel displays "(Mixed)."

Open the Table Styles or Cell Styles panel

Choose Window > Styles, and choose Table Styles or Cell Styles.

Change how styles are listed in the panel

Select Small Panel Rows to display a condensed version of the styles.

Drag the style to a different position. You can also drag styles to groups that you create.

Choose Sort By Name from the panel menu to list the styles alphabetically.

Load (import) table styles from other documents

You can import table and cell styles from another InDesign document into the active document. During import, you can determine which styles are loaded and what should occur if a loaded style has the same name as a style in the current document. You can also import styles from an InCopy document.

Apply table and cell styles

Unlike paragraph and character styles, table and cell styles do not share attributes, so applying a table style does not override cell formatting, and applying a cell style does not override table formatting. By default, applying a cell style removes formatting applied by any previous cell style, but does not remove local cell formatting. Similarly, applying a table style removes formatting applied by any previous table style, but does not remove overrides made using the Table Options dialog box.

In the Styles panel, a plus sign (+) appears next to the current cell or table style if the selected cell or table has additional formatting that isn't part of the applied style. Such additional formatting is called an override.

Using the color, color libraries and color separation

Objectives : At the end of this lesson you shall be able to
- **about spot and process colors**
- **applying the color**
- **blending colors**
- **working with swatches**
- **managing color**
- **preparing to print color separation.**

About spot and process colors

You can designate colors as either spot or process color types, which correspond to the two main ink types used in commercial printing. In the Swatches panel, you can identify the color type of a color using icons that appear next to the name of the color. When applying color to paths and frames, keep in mind the final medium in which the artwork will be published, so that you apply color using the most appropriate color mode.

About spot colors

A spot color is a special premixed ink that is used instead of, or in addition to, process inks, and that requires its own printing plate on a printing press. Use spot color when few colors are specified and color accuracy is critical. Spot color inks can accurately reproduce colors that are outside the gamut of process colors. However, the exact appearance of the printed spot color is determined by the combination of the ink as mixed by the commercial printer and the paper it's printed on, not by color values you specify or by color management. When you specify spot color values, you're describing the simulated appearance of the color for your monitor and composite printer only (subject to the gamut limitations of those devices).

Keep the following guidelines in mind when specifying a spot color:

For best results in printed documents, specify a spot color from a color-matching system supported by your commercial printer. Several color-matching system libraries are included with the software.

Minimize the number of spot colors you use. Each spot color you create will generate an additional spot color printing plate for a printing press, increasing your printing costs. If you think you might require more than four colors, consider printing your document using process colors.

If an object contains spot colors and overlaps another object containing transparency, undesirable results may occur whenexporting to EPS format, when converting spot colors to process colors using the Print dialog box, or when creating color separations in an application other than Illustrator or InDesign. For best results, use the Flattener Preview or the Separations Preview to soft proof the effects of flattening transparency before printing. In addition, you can convert the spot colors to process colors by using the Ink Manager in InDesign before printing or exporting.

You can use a spot color printing plate to apply a varnish over areas of a process color job. In this case, your print job would use a total of five inks-four process inks and one spot varnish.

About process colors

A process color is printed using a combination of the four standard process inks: cyan, magenta, yellow, and black (CMYK). Use process colors when a job requires so many colors that using individual spot inks would be expensive or impractical, as when printing color photographs.

Keep the following guidelines in mind when specifying a process color:

For best results in a high-quality printed document, specify process colors using CMYK values printed in process color reference charts, such as those available from a commercial printer.

The final color values of a process color are its values in CMYK, so if you specify a process color using RGB (or LAB, in InDesign), those color values will be converted to CMYK when you print color separations. These conversions differ based on your color-management settings and document profile.

Don't specify a process color based on how it looks on your monitor, unless you are sure you have set up a color-management system properly, and you understand its limitations for previewing color.

Avoid using process colors in documents intended for online viewing only, because CMYK has a smaller color gamut than that of a typical monitor.

Illustrator and InDesign let you specify a process color as either global or non-global. In Illustrator, global process colors remain linked to a swatch in the Swatches panel, so that if you modify the swatch of a global process color, all objects using that color are updated. Non-global process colors do not automatically update throughout the document when the color is edited. Process colors are non-global by default. In InDesign, when you apply a swatch to objects, the swatch is automatically applied as a global process color. Non-global swatches are unnamed colors, which you can edit in the Color panel.

Global and non-global process colors only affect how a particular color is applied to objects, never how colors separate or behave when you move them between applications.

Using spot and process colors together

Sometimes it's practical to use process and spot inks in the same job. For example, you might use one spot ink to print the exact color of a company logo on the same pages of an annual report where photographs are reproduced using process color. You can also use a spot color printing plate to apply a varnish over areas of a process color job. In both cases, your print job would use a total of five inks-four process inks and one spot ink or varnish.

In InDesign, you can mix process and spot colors together to create mixed ink colors.

Blending mode options

The blending modes control how the base color, the underlying color in the artwork, interacts with the blend color, the color of the selected object or group of objects. The resulting color is the color resulting from the blend.

Normal

Colors the selection with the blend color, without interaction with the base color. This is the default mode.

Multiply

Multiplies the base color by the blend color. The resulting color is always a darker color. Multiplying any color with black produces black. Multiplying any color with white leaves the color unchanged. The effect is similar to drawing on a page with multiple magic markers.

Screen

Multiplies the inverse of the blend and base colors. The resulting color is always a lighter color. Screening with black leaves the color unchanged. Screening with white produces white. The effect is similar to projecting multiple slide images on top of each other.

Overlay

Multiplies or screens the colors, depending on the base color. Patterns or colors overlay the existing artwork, preserving the highlights and shadows of the base color while mixing in the blend color to reflect the lightness or darkness of the original color.

Soft Light

Darkens or lightens the colors, depending on the blend color. The effect is similar to shining a diffused spotlight on the artwork.

If the blend color (light source) is lighter than 50% gray, the artwork is lightened, as if it were dodged. If the blend color is darker than 50% gray, the artwork is darkened, as if it were burned in. Painting with pure black or white produces a distinctly darker or lighter area, but does not result in pure black or white.

Hard Light

Multiplies or screens the colors, depending on the blend color. The effect is similar to shining a harsh spotlight on the artwork.

If the blend color (light source) is lighter than 50% gray, the artwork is lightened, as if it were screened. This is useful for adding highlights to artwork. If the blend color is darker than 50% gray, the artwork is darkened, as if it were multiplied. This is useful for adding shadows to artwork. Painting with pure black or white results in pure black or white.

Color Dodge

Brightens the base color to reflect the blend color. Blending with black produces no change.

Color Burn

Darkens the base color to reflect the blend color. Blending with white produces no change.

Darken

Selects the base or blend color-whichever is darker-as the resulting color. Areas lighter than the blend color are replaced, and areas darker than the blend color do not change.

Lighten

Selects the base or blend color-whichever is lighter-as the resulting color. Areas darker than the blend color are replaced, and areas lighter than the blend color do not change.

Difference

Subtracts either the blend color from the base color or the base color from the blend color, depending on which has the greater brightness value. Blending with white inverts the base color values; blending with black produces no change.

Exclusion

Creates an effect similar to, but lower in contrast than, the Difference mode. Blending with white inverts the base color components. Blending with black produces no change.

Hue

Creates a color with the luminance and saturation of the base color and the hue of the blend color.

Saturation

Creates a color with the luminance and hue of the base color and the saturation of the blend color. Painting with this mode in an area with no saturation (gray) produces no change.

Color

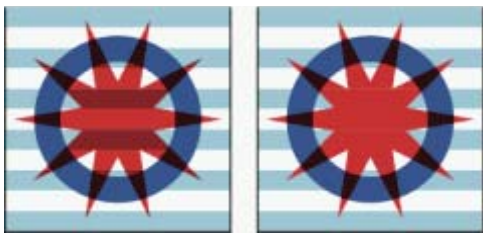
Creates a color with the luminance of the base color and the hue and saturation of the blend color. This preserves the gray levels in the artwork, and is useful for coloring monochrome artwork and for tinting color artwork.

Luminosity

Creates a color with the hue and saturation of the base color and the luminance of the blend color. This mode creates an inverse effect from that of the Color mode.

Isolate blending modes

When you apply a blending mode to an object, its colors blend with all objects beneath it. If you want to limit the blending to specific objects, you can group those objects and then apply the Isolate Blending option to the group. The Isolate Blending option confines the blending to within the group, preventing objects beneath the group from being affected. (It is useful for objects that have a blending mode other than Normal applied to them.)



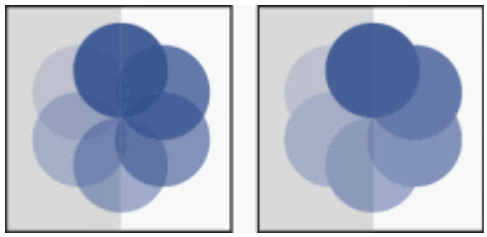
Group (star and circle) with Isolate Blending option deselected (left) compared to selected (right)

It is important to understand that you apply the blending modes to the individual objects, but apply the Isolate Blending option to the group. The option isolates blending interactions within the group. It doesn't affect blending modes applied directly to the group itself.

Knock out objects within a group

You use the Knockout Group option in the Effects panel to make the opacity and blending attributes of every object in the selected group knock out-that is, visually block out-underlying objects in the group. Only objects within the selected group are knocked out. Objects beneath the selected group are still affected by the blending or opacity that you apply to objects within the group.

It is important to understand that you apply the blending modes and opacity to the individual objects, but apply the Knockout Group option to the group.



Group with Knockout Group option deselected (left) compared to selected (right)

Specify a color space for blending transparent objects

To blend the colors of transparent objects on a spread, InDesign converts the colors of all objects to a common color space using either the CMYK or RGB color profile for the document. This blending space enables objects of multiple color spaces to blend when interacting transparently. To avoid color mismatches between different areas of the objects on screen and in print, the blending space is applied for screen and in the flattener.

The blending space is applied only to those spreads that contain transparency.

Choose Edit > Transparency Blend Space, and then choose one of the document's color spaces.

For a typical print workflow, choose the Document CMYK color space.

Swatches panel overview

The Swatches panel (Window > Color > Swatches) lets you create and name colors, gradients, or tints, and quickly apply them to your document. Swatches are similar to paragraph and character styles; any change you make to a swatch affects all objects to which the swatch is applied. Swatches make it easier to modify color schemes without having to locate and adjust each individual object.

When the fill or stroke of selected text or an object contains a color or gradient applied from the Swatches panel, the applied swatch is highlighted in the Swatches panel. Swatches you create are associated only with the current document. Each document can have a different set of swatches stored in its Swatches panel.

When working with a prepress service provider, swatches let you clearly identify spot colors. You can also specify color settings in a preflight profile to determine which color settings work with your printer.

Six CMYK-defined colors appear in the default Swatches panel: cyan, magenta, yellow, red, green, and blue.

Swatch types

The Swatches panel stores the following types of swatches:

Colors

Icons on the Swatches panel identify the spot and process color types, and LAB, RGB, CMYK, and Mixed Ink color modes.

Tints

A percentage value next to a swatch in the Swatches panel indicates a tint of a spot or process color.

Gradients

An icon on the Swatches panel indicates whether a gradient is radial or linear.

None

The None swatch removes the stroke or fill from an object. You can't edit or remove this swatch.

Paper

Paper is a built in swatch that simulates the paper color on which you're printing. Objects behind a paper-colored object won't print where the paper-colored object overlaps them. Instead, the color of the paper on which you print shows through. You can edit the Paper color to match your paper stock by double-clicking it in the Swatches panel. Use the Paper color for previewing only-it will not be printed on a composite printer or in color separations. You can't

remove this swatch. Do not apply the Paper swatch to remove color from an object. Use the None swatch instead.

If the Paper color is not working as described, and you are printing to a non-PostScript printer, try switching your printer driver to Raster Graphics mode

Black

Black is a built in, 100% process color black defined using the CMYK color model. You can't edit or remove this swatch. By default, all occurrences of Black overprint (print on top of) underlying inks, including text characters at any size. You can disable this behavior.

Registration

Registration is a built in swatch that causes objects to print on every separation from a PostScript printer. For example, registration marks use the Registration color, so that printing plates can be aligned precisely on a press. You cannot edit or remove this swatch.

You can also add colors from any color library to the Swatches panel so that they are saved with your document.

Create color swatches

Swatches can include spot or process colors, mixed inks (process colors mixed with one or more spot colors), RGB or Lab colors, gradients, or tints.

When you place an image that contains spot colors, the colors are automatically added as swatches to the Swatches panel. You can apply these swatches to objects in your document, but you cannot redefine or delete the swatches.

Before you create swatches, learn which settings are appropriate for your printer service provider. You can specify color settings in a preflight profile to highlight color settings that don't work with your printer.

Add unnamed colors to the Swatches panel

While you can create colors using the Color panel or Color Picker, unnamed colors are more difficult to edit later and to use consistently. Use the Add Unnamed Colors option to search for unnamed colors applied to objects within the document, and then add them to the Swatches panel. Colors are automatically named according to their CMYK, RGB, or Lab components.

In the Swatches panel, choose Add Unnamed Colors.

Manage swatches

You can edit, duplicate, and delete swatches in the Swatches panel.

Edit the default colors in the Swatches panel

You can change the swatches that appear by default in new documents.

1. Close all open documents.
2. Edit the swatches you want to change in the Swatches panel.

Duplicate a swatch

Duplicating swatches can be useful when you want to create a warmer or cooler variation of an existing color. Note that duplicating a spot color will result in an additional spot color printing plate.

Do one of the following:

Select a swatch, and choose Duplicate Swatch in the Swatches panel menu.

Select a swatch, and click the New Swatch button at the bottom of the panel.

Drag a swatch to the New Swatch button at the bottom of the panel.

Control swatch names

By default, the name of a process color swatch is derived from the values of the color's components. For example, if you create a red process color using 10% cyan, 75% magenta, 100% yellow, and 0% black, its swatch will be named C=10 M=75 Y=100 K=0 by default. This makes it easier to identify the composition of process colors.

By default, the name of a process color swatch automatically updates when you change its CMYK values; you can switch this option off or on for individual swatches as needed. As with any swatch you define, you can change the name of a process color swatch at any time.

1. Double-click a process color in the Swatches panel.
2. Do one of the following, and click OK:

To let InDesign rename the swatch when you adjust its CMYK percentages, make sure that the Name With Color Value option is selected.

To rename a swatch when you adjust its CMYK values, make sure that the Name With Color Value option is deselected.

The new swatch is automatically renamed New ColorSwatch (this has a number following it if more than one New ColorSwatch exists) when this option is deselected. You can change this name manually.

Import swatches

You can import colors and gradients from other documents, adding either all or some of the swatches to the Swatches panel. You can load swatches from InDesign files (.indd), InDesign templates (.indt), Illustrator files (.ai or .eps), and Adobe Swatch Exchange files (.ase) created by InDesign, Illustrator, or Photoshop. Adobe Swatch Exchange files contain swatches saved in the Adobe Swatch Exchange format.

InDesign also includes color libraries from other color systems, such as the PANTONE Process Color System®.

Spot colors used by imported EPS, PDF, TIFF, and Adobe Photoshop (PSD) files are also added to the Swatches panel.

Copy swatches between InDesign documents

You can copy or drag a swatch (or objects with a swatch applied) from one document to another. When you do so, the swatch is added to the destination document's Swatches panel. If you want to copy the swatch's tints and gradients as well, you need to copy the original object, not just the swatch.

Do one of the following:

Copy an object into the current document using drag-and-drop or copy-and-paste.

Select the swatches you want to copy and drag them from the Swatches panel to the document window of another InDesign document.

If you drag a swatch that has an identical name as an existing swatch (including capitalization) but has different color values, InDesign re-names the swatch "[original swatch name] 2."

Color libraries installed with InDesign

InDesign installs color libraries for the color matching systems described below. You can install additional color libraries and load swatches from them in InDesign.

ANPA Color

Consists of 300 colors selected by ANPA (American Newspaper Publishers Association). Colors in this library are primarily used as spot colors in newspapers.

DIC Color

Provides 1280 CMYK spot colors from the DIC Process Color Note. Colors may be matched against the DIC Color Guide, published by Dainippon Ink & Chemicals, Inc. For more information, contact Dainippon Ink & Chemicals, Inc., in Tokyo, Japan.

Focoltone

Consists of 763 CMYK colors. You can use Focoltone colors to help avoid prepress trapping and registration problems by viewing the Focoltone charts that show the overprints that make up the colors.

A swatch book with specifications for process and spot colors, overprint charts, and a chip book for marking up layouts are available from Focoltone. For more information, contact Focoltone International, Ltd., in Stafford, United Kingdom.

HKS

Use when your job specifies colors from the HKS color system, which is used in Europe.

PANTONE®

PANTONE® Colors are the worldwide standards for spot color reproduction. In 2000, a major revision was made to the PANTONE MATCHING SYSTEM® Color guides. 147 new solid colors and seven additional metallic colors have been added to the System to now include a total of 1,114 colors. PANTONE Color guides and chip books are now printed on coated, uncoated, and matte paper stocks to ensure accurate visualization of the printed result and better on-press control.

You can print a solid PANTONE Color in CMYK. To compare a solid PANTONE Color to its closest process color match, use the PANTONE solid to process guide. The CMYK screen tint percentages are printed under each color. The guide is now printed on a brighter coated stock and includes comparisons of the 147 new solid colors to CMYK.

PANTONE process guides let you choose from over 3,000 process combinations now printed on coated and un-coated stocks. Displayed in chromatic order in fan-guide format, it's easy to select colors and specify CMYK screen values.

System (Windows)

Includes 256 colors of the Windows default 8 bit panel, which is based on a uniform sampling of RGB colors.

System (Mac OS)

Includes 256 colors of the Mac OS default 8 bit panel, which is based on a uniform sampling of RGB colors.

Toyo Color Finder

Includes 1050 colors based on the most common printing inks used in Japan. You can use the Toyo 94 Color Finder or the newer Toyo Color Finder. Consult the color guide that illustrates printed samples of Toyo Ink. This color guide is available at print publishers and graphic arts supply stores. For more information, contact Toyo Ink Manufacturing Co., Ltd., in Tokyo, Japan.

Trumatch

Provides predictable CMYK color matching with over 2000 achievable, computer-generated colors. Trumatch colors cover the visible spectrum of the CMYK gamut in even steps. The Trumatch Color Finder displays up to 40 tints and shades of each hue, each originally created in four-color process and each reproducible in four colors on electronic imagesetters. In addition, four-color grays using different hues are included. For more information, contact Trumatch Inc., in New York, New York, U.S.A.

Web

Includes the 216 RGB web safe colors most often used by web browsers to display 8 bit images. This library helps you create artwork for the web using colors that display consistently across Windows and Macintosh systems.

Use color management when printing

When you print a color-managed document, you can specify additional color management options to keep color consistent in the printer output. For example, suppose that your document currently contains a profile tailored for prepress output, but you want to proof the document colors on a desktop printer. In the Print dialog box, you can convert the document's colors to the color space of the desktop printer; the printer profile will be used instead of the current document profile. If you select the Proof color space and target an RGB printer, InDesign converts color data to RGB values using the selected color profiles.

When printing to a PostScript printer, you also have the option of using PostScript color management. In this instance, InDesign sends the document's color data in a calibrated version of its original color space, along with the document profile, directly to the PostScript printer and lets the printer convert the document to the printer color space. The printer's color space is stored at the device as a color rendering dictionary (CRD); this makes device-independent output possible. CRDs are PostScript equivalents of color profiles. The exact results of the color conversion can vary among printers. To use PostScript color management, you must have a printer that uses PostScript Level 2 or higher; it is not necessary to install an ICC profile for the printer on your system.

While working on a color-managed document, you can use the Preflight panel to make sure that your colors conform to the guidelines you specify.

Color output options for composites

In the Output area of the Print dialog box, you can determine how composite color in the document is sent to the printer. When color management is enabled (the default), the Color setting defaults result in calibrated color output. Spot color information is preserved during color conversion; only the process color equivalents convert to the designated color space. If you're not sure which color choice to use, consult your prepress service provider.

Composite modes only affect rasterized images and objects created using InDesign; placed graphics (such as EPS and Adobe PDF files) are not affected unless they overlap transparent objects.

Note: The options available for non-PostScript printing depend on the color model the printer uses, which is usually RGB.

When you print as composite, automatic trapping is disabled; however, you can select the Simulate Overprint option to proof overprinting for text, strokes, or fills.

The Output area in the Print dialog box includes the following Color options. Additional options may also be available, depending on your printer.

Composite Leave Unchanged

Sends a full-color version of specified pages to the printer, preserving all color values in the original document. When this option is selected, Simulate Overprint is disabled.

Composite Gray

Sends grayscale versions of specified pages to the printer when, for example, you are printing to a monochrome printer without making separations.

Composite RGB

Sends a full-color version of specified pages to the printer when, for example, you are printing to an RGB color printer without making separations.

Composite CMYK

Sends a full-color version of specified pages to the printer when, for example, you are printing to a CMYK color printer without making separations. (This option is available only for PostScript printers.)

Separations

Creates PostScript information for each of the separations required for the document, and sends that information to the output device. (This option is available only for PostScript printers.)

In-RIP Separations

Sends separation information to the output device's RIP. (This option is available only for PostScript printers.)

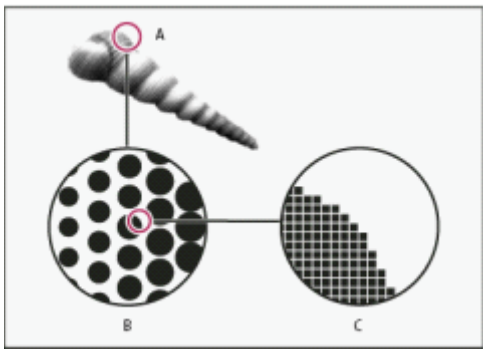
Text As Black

Select this option to print all text created in InDesign in black, unless it has the color None or Paper or a color value that equals white. This option is useful when you're creating content for both print and PDF distribution. For example, if hyperlinks were blue in the PDF version, they would print black on a grayscale printer, rather than in halftone patterns that would be difficult to read.

About halftone dots and printer dots

Most printers simulate gray by using halftone dots printed on a grid; the grid cells are called halftone cells, and the grid rows are called lines or line screens. Each halftone dot is made up of printer dots. As the halftone cell fills up with printer dots, the halftone dot gets larger, resulting in a darker shade of gray.

Printer resolution determines the number of dots available to create the halftone dot. A printer with smaller dots can produce a wider variety of halftone dot sizes, allowing more shades of gray. Screen frequency also plays a role: As screen frequency increases, the halftone cell gets smaller, and so can hold fewer printer dots, resulting in fewer possible shades of gray. As a result, there is a trade-off between the number of possible gray levels and image coarseness.



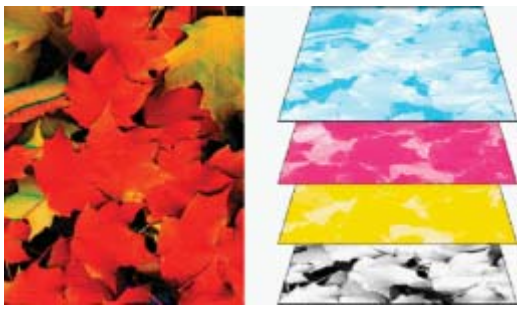
Simulating continuous tone with printer dots

A. Continuous tone simulated by line screen **B.** Line screen consisting of halftone dots in rows **C.** Halftone dots consisting of printer dots

Creating separations

To reproduce color and continuous-tone images, printers usually separate artwork into four plates-one plate for each of the cyan (C), yellow (Y), magenta (M), and black (K) portions of the image. When inked with the appropriate

color and printed in register with one another, these colors combine to reproduce the original artwork. The process of dividing the image into two or more colors is called color separating, and the films from which the plates are created are called the separations.



Composite (left) and separations (right)

Separation workflows

Adobe InDesign CS4 supports two common PostScript workflows; the main difference is where separations are created-at the host computer (the system using InDesign and the printer driver), or at the output device's RIP (raster image processor). Another alternative is a PDF workflow.

Host-based separations

In the traditional host-based, preseparated workflow, InDesign creates PostScript information for each of the separations required for the document, and sends that information to the output device.

In RIP separations

In the newer RIP-based workflow, a new generation of PostScript RIPs performs color separations, trapping, and even color management at the RIP, leaving the host computer free to perform other tasks. This approach takes less time for InDesign to generate the file, and minimizes the amount of data transmitted for any given print job. For example, instead of sending PostScript information for four or more pages to print host-based color separations, InDesign sends the PostScript information for a single composite PostScript file for processing in the RIP.

Outputting spot colors

You can use custom inks, called spot colors, in addition to, or in place of, process colors. For example, instead of using the four process colors to reproduce artwork consisting of black text and bluish-green line drawings, you could use two spot colors-one of black, and one representing the exact shade of green. You can also use spot color inks to produce colors not reproducible by CMYK inks, such as varnishes or fluorescent and metallic colors. In addition, you can mix two or more spot colors together or mix spot colors with process colors to create mixed inks.

You can color artwork with process colors, spot colors, or a combination of both. When printing separations, you can convert spot colors to their process color equivalents so that they will be printed on the CMYK plates.

Print an object on all color plates

If you want an object to print on all plates in the printing process, including spot color plates, you can apply registration color to the object. Registration color is used for crop marks and trim marks. For composite output, objects with registration color applied will print as C 100, M 100, Y 100, and K 100. For separations, these objects will print as 100% on each plate.

1. Select the objects to which you want to apply registration color.
2. Choose Window > Swatches.
3. In the Swatches panel, click the Registration color swatch .

Printing gradients as separations

Consider the following when producing separations for documents with gradients:

A gradient created in InDesign that contains a combination of spot and process colors will be separated onto both the process and spot plates.

A gradient that contains process colors will be separated onto the process plates.

A gradient that contains two tints of the same spot color will be separated onto a single spot color plate.

To create a gradient that separates on one piece of film between a spot color and white, create a gradient fill between the spot color and the Paper swatch in the Swatches panel.

If you create a gradient between two spot colors, you should assign different screen angles to those spot colors. If two spot colors have the same screen angle, they will overprint each other. If you're not sure what the angles should be, consult with your prepress service provider.

Printing a composite

You can print a color or grayscale composite proof to check colors in your document. A composite image can help you design and proof your layout before you print final (and costly) separations.

When InDesign prints a composite, it prints all of the colors used in the file on one plate, regardless of whether any individual colors are selected.

Consider the following issues when printing composites:

While no proof will give you an exact representation of your final output, you can greatly improve its accuracy by calibrating all the devices you use to create a document (such as scanners, monitors, and printers). If the devices are calibrated, the color management system can help you get predictable and consistent color.

Any overprinting options that you've selected in the document will print correctly on a printer that supports overprinting. Since most desktop printers don't support overprinting, you can simulate the effects of overprinting by selecting Simulate Overprint in the Output section of the Print dialog box.

Selecting Simulate Overprint will convert spot colors to process colors for printing. If you intend to use a file for separations on a RIP, or for final output, do not select this option.

When you print to a black-and-white printer, InDesign produces a grayscale composite version of the pages. If the document contains color, InDesign prints visually correct grays to simulate that color. For example, the gray that simulates a 20% tint of yellow is lighter than a 20% tint of black, since yellow is visually lighter than black.

When you print a book with chapters containing conflicting spot inks or trap styles, you can instruct InDesign to synchronize settings with the master document.

If you're using color management with the Book feature, make sure that each document in the book uses the same color management settings in the Color Settings dialog box.

Remember that, like monitors, color printers vary greatly in color reproduction quality; thus, proofs from your service provider are the best way to verify how the finished piece will look.

Preview color separations

You can preview color separations, ink coverage limits, and overprinting using the Separations Preview panel. Previewing separations on your monitor lets you check the following:

Varnishes and other coatings

Since varnishes are transparent, they can be difficult to preview on screen. When you preview a varnish separation by itself, the varnished areas appear in black.

Rich black

Previewing separations lets you identify areas that will print as rich black, or process black (K) ink mixed with color inks for increased opacity and richer color.

Ink coverage

Too much ink on the paper can cause drying problems. Ask your commercial printer for the maximum ink coverage of the press you will be printing on. You can then preview the document to identify areas where ink coverage exceeds the press's limit.

Overprinting

You can preview how blending, transparency, and overprinting will appear in color-separated output.

You can also see overprinting effects when you output to a composite printing device. This is useful for proofing color separations.

While previewing separations on your monitor can help you detect problems without the expense of printing separations, it does not let you preview trapping, emulsion options, printer's marks, and halftone screens and resolution. Work with your commercial printer to verify these settings using integral or overlay proofs.

Objects on hidden layers are not included in an on screen preview.

Creating books with styles & layers

Objectives : At the end of this lesson you shall be able to
- **understanding about character, paragraph styles, drop cap and nested styles, and object styles**
- **learning about Table of content of a book**
- **learning about an Index of a book**
- **learning about numbering pages, chapters and sections.**

About character and paragraph styles

A character style is a collection of character formatting attributes that can be applied to text in a single step. A paragraph style includes both character and paragraph formatting attributes, and can be applied to a paragraph or range of paragraphs. Paragraph styles and character styles are found on separate panels. Paragraph and characters styles are sometimes called text styles.

A named grid format can be applied to a frame grid in the Frame Grid format settings. (See Named Grids panel overview.) You can also use create an object style with grid characteristics.

When you change the formatting of a style, all text to which the style has been applied will be updated with the new format.

You can create, edit, and delete styles in stand-alone Adobe InCopy documents or in InCopy content that is linked to an Adobe InDesign CS4 document. When the contents are updated in InDesign, new styles are added to the InDesign document, but any style modifications made in InCopy will be overridden by the InDesign style. For linked content, it is usually best to manage your styles in InDesign.

[Basic Paragraph] styles

By default, each new document contains a [Basic Paragraph] style that is applied to text you type. You can edit this style, but you can't rename or delete it. You can rename and delete styles that you create. You can also select a different default style to apply to text.

Character style attributes

Unlike paragraph styles, character styles do not include all the formatting attributes of selected text. Instead, when you create a character style, InDesign makes only those attributes that are different from the formatting of the selected text part of the style. That way, you can create a character style that, when applied to text, changes only some attributes, such as the font family and size, ignoring all other character attributes. If you want other attributes to be part of the style, add them when editing the style.

Next Style

You can automatically apply styles as you type text. If, for example, your document's design calls for the style "body text" to follow a heading style named "heading 1," you can set the Next Style option for "heading 1" to "body text." After you've typed a paragraph styled with "heading 1," pressing Enter or Return starts a new paragraph styled with "body text."

If you use the context menu when applying a style to two or more paragraphs, you can cause the parent style to be applied to the first paragraph and the Next Style to be applied to the additional paragraphs.

Styles panel overview

Use the Character Styles panel to create, name, and apply character styles to text within a paragraph; use the Paragraph Styles panel to create, name, and apply paragraph styles to entire paragraphs. Styles are saved with a document and display in the panel each time you open that document.

When you select text or position the insertion point, any style that has been applied to that text is highlighted in either of the Styles panels, unless the style is in a collapsed style group. If you select a range of text that contains multiple styles, no style is highlighted in the Styles panel. If you select a range of text to which multiple styles are applied, the Styles panel displays "(Mixed)."

Add paragraph and character styles

If the styles you want already exist in another InDesign, InCopy, or word-processing document, you can import those styles for use in your current document. If you are working with a stand-alone story, you can also define character and paragraph styles in InCopy.

Base one paragraph or character style on another

Many document designs feature hierarchies of styles sharing certain attributes. The headings and subheads, for example, often use the same font. You can easily create links between similar styles by creating a base, or parent, style. When you edit the parent style, the child styles will change as well. You can then edit the child styles to distinguish them from the parent style.

Import styles from other documents

You can import paragraph and character styles from another InDesign document (any version) into the active document. During import, you can determine which styles are loaded and what should occur if a loaded style has the same name as a style in the current document. You can also import styles from an InCopy document.

You can import paragraph styles and character styles from an InDesign or InCopy document into a stand-alone InCopy document or InCopy content that is linked to InDesign. You can determine which styles are loaded, and what should occur if a loaded style has the same name as a style in the current document.

If you import styles into linked content, new styles are added to the InDesign document when the content is updated, and any style with a name conflict is overridden by the InDesign style with the same name.

1. In the Character Styles or Paragraph Styles panel, do one of the following:
   - Choose Load Character Styles or Load Paragraph Styles in the Styles panel menu.
   - Choose Load All Text Styles in the Styles panel menu to load both character and paragraph styles.
2. Double-click the InDesign document containing the styles you want to import.
3. In the Load Styles dialog box, make sure that a check mark appears next to the styles you want to import. If any existing style has the same name as one of the imported styles, choose one of the following options under Conflict With Existing Style, and then click OK:

Use Incoming Style Definition

Overwrites the existing style with the loaded style and applies its new attributes to all text in the current document that used the old style. The definitions of the incoming and existing styles are displayed at the bottom of the Load Styles dialog box so that you can view a comparison.

Auto-Rename

Renames the loaded style. For example, if both documents have a Subheading style, the loaded style is renamed "Subheading copy" in the current document.

You can also use the Books feature to share styles.

Convert Word styles to InDesign styles

While importing a Microsoft Word document into InDesign or InCopy, you can map each style used in Word to a corresponding style in InDesign or InCopy. By doing so, you specify which styles format the imported text. A disk icon appears next to each imported Word style until you edit the style in InDesign or InCopy.

1. Do one of the following:
   - To add the Word document to existing text in InDesign or InCopy, choose File > Place. Select Show Import Options, and then double-click the Word document.
   - To open the Word document in a stand-alone InCopy document, start InCopy, choose File > Open, and then double-click the Word file.
2. Select Preserve Styles And Formatting From Text And Tables.
3. Select Customized Style Import, and then click Style Mapping.
4. In the Style Mapping dialog box, select the Word style, and then select an option from the menu under InDesign style. You can choose the following options:
   - If there is no style name conflict, choose New Paragraph Style, New Character Style, or choose an existing InDesign style.
   - If there is a style name conflict, choose Redefine InDesign Style to format the imported style text with the Word style. Choose an existing InDesign style to format the imported style text with the InDesign style. Choose Auto Rename to rename the Word style.
5. Click OK to close the Style Mapping dialog box, and then click OK to import the document.

Apply sequential styles to multiple paragraphs

The Next Style option specifies which style will be automatically applied when you press Enter or Return after applying a particular style. It also lets you apply different styles to multiple paragraphs in a single action.

For example, suppose you have three styles for formatting a newspaper column: Title, Byline, and Body. Title uses Byline for Next Style, Byline uses Body for Next Style, and Body uses [Same Style] for Next Style. If you select an entire article, including the title, the author's byline, and the paragraphs in the article, and then apply the Title style using the special "Next Style" command in the context menu, the article's first paragraph will be formatted with the Title style, the second paragraph will be formatted with the Byline style, and all other paragraphs will be formatted with the Body style.

Override character and paragraph styles

When you apply a paragraph style, character styles and other previous formatting remain intact. After you apply a style, you can override any of its settings by applying formatting that's not part of the style. When formatting that is not part of a style is applied to text with that style applied, it is called an override or local formatting. When you select text with an override, a plus sign (+) appears next to the style name. In character styles, an override is displayed only if the applied attribute is part of the style. For example, if a character style only changes text color, applying a different font size to the text does not appear as an override.

You can clear character styles and formatting overrides when you apply a style. You can also clear overrides from a paragraph to which a style has been applied.

If a style has a plus sign (+) next to it, hold the mouse pointer over the style to view a description of the override attributes.

Preserve or remove overrides when applying paragraph styles

- To apply a paragraph style and preserve character styles, but remove overrides, hold down Alt (Windows) or Option (Mac OS) as you click the name of the style in the Paragraph Styles panel.
- To apply a paragraph style and remove both character styles and overrides, hold down Alt+Shift (Windows) or Option+Shift (Mac OS) as you click the name of the style in the Paragraph Styles panel.

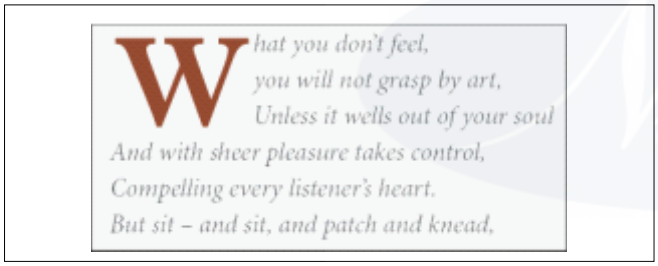
Right-click the style in the Paragraph Styles panel, and then choose an option from the context menu. You can then clear overrides, character styles, or both while applying the style.

Convert style bullets and numbering to text

When you create a style that adds bullets or numbering to paragraphs, these bullets and numbers may be lost if the text is copied or exported to a different application. To avoid this problem, convert the style bullets or numbering to text.

Apply a character style to a drop cap

You can apply a character style to the drop-cap character or characters in a paragraph. For example, if you want a drop-cap character to have a different color and font than the rest of the paragraph, you can define a character style that has these attributes. Then you can either apply the character style directly to a paragraph, or you can nest the character style in a paragraph style.



Create nested styles

You can specify character-level formatting for one or more ranges of text within a paragraph or line. You can also set up two or more nested styles to work together, one taking over where the previous one ends. For paragraphs with repetitive and predictable formatting, you can even loop back to the first style in the sequence.

Nested styles are especially useful for run-in headings. For example, you can apply one character style to the first letter in a paragraph and another character style that takes effect through the first colon (:). For each nested style, you can define a character that ends the style, such as a tab character or the end of a word.

Create nested line styles

You can apply a character style to a specified number of lines in a paragraph. As with nested styles, you can set up two or more nested line styles to work together, and you can create a repeating sequence.

Attributes applied by nested line styles can co-exist with attributes applied by nested styles. For example, a nested line style can apply a color while a nested style can apply italics. If both set conflicting settings of the same attribute, such as red and blue, the nested style takes precedence over the nested line style.

Loop through nested styles

You can repeat a series of two or more nested styles throughout a paragraph. A simple example would be to alternate red and green words in a paragraph. Or, in nested line styles you could alternate red and green lines in a paragraph. The repeating pattern remains intact even if you add or remove words in the paragraph.

Nested style character style options

To determine how a nested character style ends, select any of the following:

If you don't want the character to be included in the nested style formatted, choose Up To instead of Through when you define the nested style.

Sentences

Periods, question marks, and exclamation points indicate the end of a sentence. If a quotation mark follows the punctuation, it is included as part of the sentence.

Words

Any space or white space character indicates the end of a word.

Characters

Any character other than zero-width markers (for anchors, index markers, XML tags and so on) is included.

If you select Characters, you can also type a character, such as a colon or a period, to end the nested style. If you type multiple characters, any of those characters will end the style. For example, if your run-in headings end with a hyphen, colon, or question mark, you can type -:? to end the nested style where any of these characters appears.

Letters

Any character that does not include punctuation, white space, digits, and symbols.

Digits

The Arabic numerals 0-9 are included.

End Nested Style Character

Extends the nested style up to or through the appearance of the End Nested Style character you insert. To insert this character, choose Type > Insert Special Character > Other > End Nested Style Here.

Tab Characters

Extends the nested style up to or through the tab character (not the tab setting).

Forced Line Break

Extends the nested style up to or through the forced line break. (Choose Type > Insert Break Character > Forced Line Break.)

Indent To Here Character

Extends the nested style up to or through the Indent To Here character. (Choose Type > Insert Special Character > Other > Indent To Here.)

Em Spaces, En Spaces, or Non-breaking Spaces

Extends the nested style up to or through the space character. (Choose Type > Insert White Space > [space character].)

Anchored Object Marker

Extends the nested style up to or through an inline graphic marker, which appears where an inline graphic is inserted.

Auto Page Number / Section Marker

Extends the nested style up to or through the page number or section name marker.

Create GREP styles

GREP is an advanced, pattern-based search technique. You can use GREP styles to apply a character style to text that conforms to the GREP expression you specify. For example, suppose you want to apply a character style to all the phone numbers in text. When you create a GREP style, you select the character style and specify the GREP expression. All paragraph text that matches the GREP expression is formatted with the character style.

About object styles

Just as you use paragraph and character styles to quickly format text, you can use object styles to quickly format graphics and frames. Object styles include settings for stroke, color, transparency, drop shadows, paragraph styles, text wrap, and more. You can assign different transparency effects for the object, fill, stroke, and text.

You can apply object styles to objects, groups, and frames (including text frames). A style can either clear and replace all object settings or it can replace only specific settings, leaving other settings unchanged. You control which settings the style affects by including or excluding a category of settings in the definition.

You can also apply object styles to frame grids. By default, any frame grid you create uses the [Basic Grid] object style. You can edit the [Basic Grid] style or you can apply other object styles to the grid. When you create or edit an object style for a frame grid, use the Story Options section to specify writing direction, frame type, and named grid.

When creating styles, you might find that several styles share some of the same characteristics. Rather than setting those characteristics each time you define the next style, you can base one object style on another. When you change the base style, any shared attributes that appear in the "parent" style change in the "child" style as well.

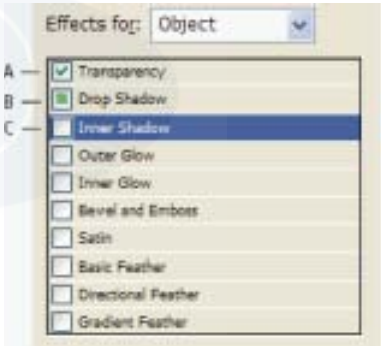
Object Styles panel overview

Use the Object Styles panel to create, edit, and apply object styles. For each new document, the panel initially lists a default set of object styles. Object styles are saved with a document and display in the panel each time you open that document. The Text Frame icon marks the default style for text frames; the Graphics Frame icon marks the default style for graphics frames and drawn shapes.

Use the Object Styles panel to create, name, and apply object styles. For each new document, the panel initially lists a default set of object styles. Object styles are saved with a document and display in the panel each time you open that document. The Text Frame icon marks the default style for text frames; the Graphics Frame icon marks the default style for graphic frames; the Grid icon marks the default style for frame grids.

Object style categories

If you want the style to apply only certain attributes, leaving any other settings untouched, make sure that the categories you want the style to control are in the appropriate state. You can use any of three states for each category: turned on, turned off, or ignored. For example, checking the Drop Shadow box will include drop shadow formatting in the object style. Deselecting the Drop Shadow box will indicate that drop shadow is turned off as part of the style - any drop shadow applied to an object appears as an override. Setting the Drop Shadow box to "ignore" (a small box in Windows or a hyphen in Mac OS) will leave drop shadow out of the style, so any drop shadow applied to the style does not appear as an override.



Object style categories

A. Turned on **B.** Ignored **C.** Turned off

Categories in which the settings can be turned on or off individually, such as Fill, Stroke, and Transparency, have only two states. They can either be turned on or ignored.

The Paragraph Styles category is ignored by default, even if you're creating a text frame. This category is applicable only if the object is an unthreaded text frame.

Apply object styles

If you apply an object style to a group of objects, the object style is applied to each object in the group. To apply an object style to a group of objects, nest the objects within a frame. (The Edit > Paste Into command is one way to paste an object into a frame.)

Clear object style overrides

When formatting is applied to an object that differs from part of the style definition applied to that object, it is called an

override. When you select an object with an override, a plus sign (+) appears next to the style name.

Use the Clear Overrides command to override any formatting that is either turned on or off in the object style; use the Clear Attributes Not Defined By Style to clear ignored attributes.

About tables of contents

A table of contents (TOC) can list the contents of a book, magazine, or other publication; display a list of illustrations, advertisers, or photo credits; or include other information to help readers find information in a document or book file. One document may contain multiple tables of contents-for example, a list of chapters and a list of illustrations.

Each table of contents is a separate story consisting of a heading and a list of entries sorted either by page number or alphabetically. Entries, including page numbers, are pulled directly from content in your document and can be updated at any time-even across multiple documents in a book file.

The process for creating a table of contents requires three main steps. First, create and apply the paragraph styles you'll use as the basis for the TOC. Second, specify which styles are used in the TOC and how the TOC is formatted. Third, flow the TOC into your document.

Table of contents entries can be automatically added to the Bookmarks panel for use in documents exported as Adobe PDF.

Tips for planning a table of contents

Consider the following when planning a table of contents:

Some tables of contents are built from content that does not actually appear in the published document, such as a list of advertisers in a magazine. To do this in InDesign, enter content on a hidden layer and include it when generating a TOC.

You can load TOC styles from other documents or books to build new tables of contents with the same settings and formatting. (You might need to edit an imported TOC style if the names of paragraph styles in the document do not match those in the source document.)

You can create paragraph styles for the table of contents' title and entries, including tab stops and leaders, if desired. You can then apply these paragraph styles when you generate the table of contents.

You can create character styles to format the page numbers and the characters separating them from the entries. For example, if you want the page numbers to be in bold, create a character style that includes the bold attribute, and then select that character style when you create the table of contents.

Creating tables of contents in books

For best results, be sure to do the following before creating a table of contents for a book:

Before you create a table of contents, verify that the book list is complete, that all documents are listed in the correct order, and that all headings have been formatted with the appropriate paragraph styles.

Be sure to use paragraph styles consistently throughout the book. Avoid creating documents with styles that have identical names but different definitions. If multiple styles have the same name but different style definitions, InDesign uses the style definition in the current document (if a definition exists there), or the first occurrence of the style in the book.

If the necessary styles do not appear in the pop up menus in the Table of Contents dialog box, you may need to synchronize the book so that the styles are copied to the document containing the table of contents.

If you want number prefixes (such as 1-1, 1-3, and so on) to appear in your table of contents, use section numbering rather than chapter numbering. Section number prefixes can be included in a table of contents.

Generate a table of contents

Before you generate a table of contents, decide which paragraphs should be included (such as chapter titles and section headings), and then define paragraph styles for each. Make sure that these styles are applied to all appropriate paragraphs in the document or booked documents.

When you generate the table of contents, you can also use paragraph and character styles to format the table of contents.

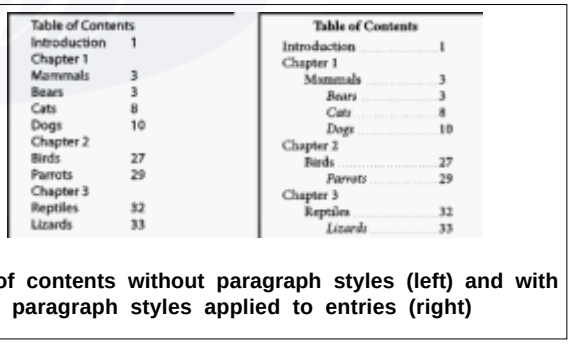


Table of contents without paragraph styles (left) and with paragraph styles applied to entries (right)

If paragraphs that are to be included in the table of contents appear in different stories on the same page, their order in the TOC is determined by their position on the page.

Create TOC styles for multiple lists

Use TOC styles if you need to create different tables of contents in your document or book. For example, you can use one TOC style for a list of contents and another for a list of advertisers, illustrations, or photo credits. Create a TOC style for each type of list.

Creating TOC styles are also useful if you want to use the same TOC formatting in another document.

Don't confuse TOC styles with paragraph styles that have a "TOC" prefix. TOC-prefixed paragraph styles (for example "TOC title") are used to format the table of contents entries themselves. In contrast, a TOC style is a collection of settings used to automatically create a table of contents.

Options for formatting a table of contents

When generating or editing a table of contents, use these options to determine the appearance of the generated table of contents text. Some of these options are available only when you click More Options in the dialog box.

The settings in the Style section apply only to the style currently selected under Include Paragraph Styles. You can specify different formatting options for each style.

Entry Style

For each style in Include Paragraph Styles, choose a paragraph style to apply to the associated table of contents entries.

Page Number

You might want to create a character style that formats the page number. You can then select this style in the Style pop up list to the right of Page Number.

Between Entry And Number Specify which characters you want between the table of contents entry and its page number. The default is ^t, which tells InDesign to insert a tab. You can choose other special characters, such as Right Indent Tab or Em Space, in the pop up list.

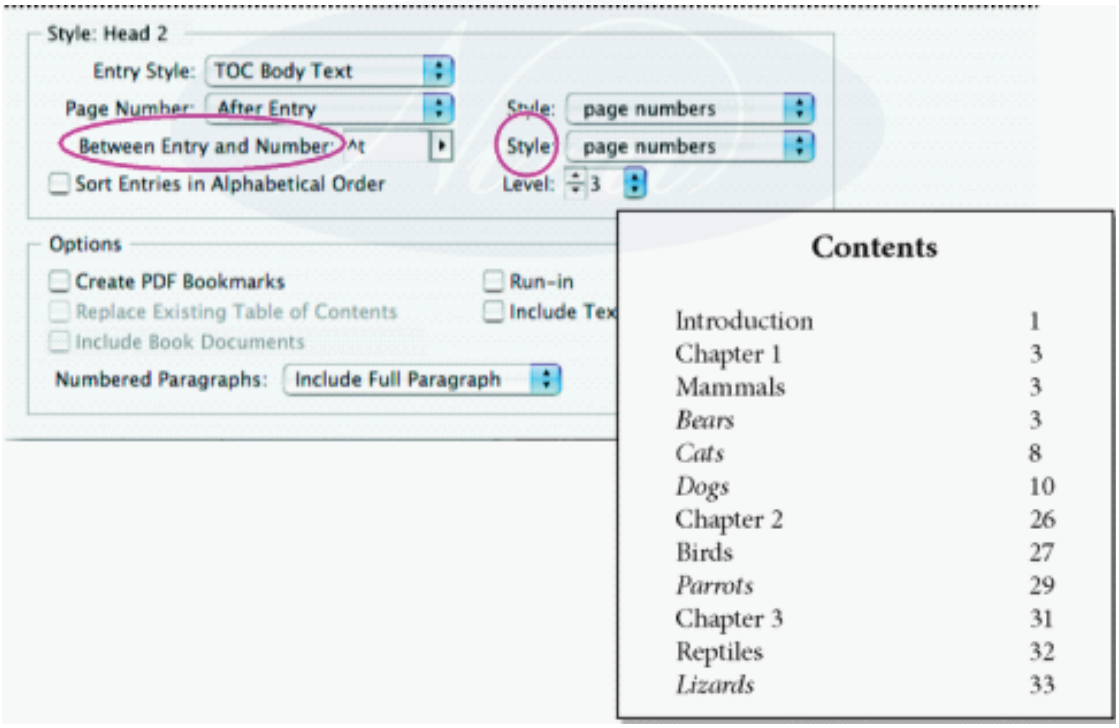
Select the existing text in the box before you choose a different special character, to make sure that you don't include both characters.

You might want to create a character style that formats the space between the entry and the page number. You can then select this style in the Style pop up list to the right of Between Entry And Number.

If the entry's paragraph style includes a tab leader setting, and if the tab character (^t) is selected, a tab leader appears in the generated table of contents.

Editing a table of contents

If your table of contents requires editing, edit the actual paragraphs in the document-not the table of contents story-and then generate a new table of contents. If you edit the table of contents story, you'll lose your revisions when you generate a new table of contents. For the same reason, you should edit the styles used to format the table of contents entries, rather than formatting the table of contents directly.



You can specify a character that separates an entry and page number, as well as a style to apply to a character.

Sort Entries in Alphabetical Order

Select this option to sort table of contents entries in the selected style alphabetically. This option is useful for creating simple lists, such as lists of advertisers. Nested entries (Level 2 or 3) sort alphabetically within their group (Level 1 or 2, respectively).

The sort order for a table of contents is determined by the document's default language setting. To change the default language setting, make sure nothing is selected and then choose a language from the Language menu in the Character panel.

Level

By default, each item added to the Include Paragraph Styles box is set one level lower than the item immediately above it. You can change this hierarchy by specifying a new level number for the selected paragraph style. This option adjusts only the display in the dialog box. It has no effect on the final table of contents unless the list is alphabetized, in which case the entries are sorted by level.

Create PDF Bookmarks

Select this option if you want the table of contents entries to appear in the Bookmarks panel of Adobe Acrobat or Adobe Reader® when the document is exported to PDF.

Run-in

Select this option if you want all TOC entries to be run into a single paragraph. A semicolon followed by a space (;) separates the entries.

Include Text On Hidden Layers

Select this option only if you want the paragraphs on hidden layers to be included in your table of contents. This is useful when creating a list of advertisers or illustrations that may not appear as visible text in the document itself. Deselect this option when you've used layers to store various versions or translations of the same text.

Numbered Paragraphs

If your table of contents includes a paragraph style that uses numbering, specify whether the TOC entry includes the full paragraph (both number and text), only the numbers, or only the paragraph.

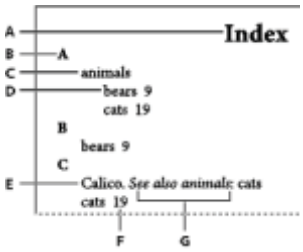
Frame Orientation

Specify the writing direction for the text frame you will use to create a table of contents.

About indexing

You can create a simple keyword index or a comprehensive, detailed guide to the information in your book. You can create only one index for a document or book. To create an index, you first place index markers in the text. You associate each index marker with the word, called a topic, that you want to appear in the index.

When you generate the index, each topic is listed, along with the page on which it was found. The topics are sorted alphabetically, typically under section headings (A, B, C, and so on). An index entry consists of a topic (the term readers look up) paired with either a page reference (page number or range) or a cross-reference. A cross-reference, preceded by "See" or "See also," points the reader to other entries in the index, rather than to a page number.



Parts of an index

A. Title **B.** Section heading **C.** Index entry **D.** Subentry **E.** Topic **F.** Page reference **G.** Cross-reference

Tips for creating an index

Creating a well-planned and complete index can help make the information in your document immediately accessible to your readers. Here are a few guidelines to consider:

Think about how you want your index to look. How many topic levels will it have? Will it refer the reader to other related topics? Will a simple keyword index suffice, or do you want a more complex index with cross-references to related topics and a well researched list of equivalent terms?

Anticipate the variety of ways by which your readers might look up information. For instance, one reader may search for information on animals by looking under beasts; another may look for wildlife or fauna.

Add index entries when the content of your document is fairly stable. If you delete large portions of your text later, you may lose some of your indexing work.

A well-planned index presents topics consistently. Common indexing problems include mixing uppercase and lowercase (cats and Cats) and singular and plural forms (cat and cats). Use a topic list to keep terms consistent.

Review your index several times before you generate the final index. Look for duplicate entries, weak subject areas, misspellings, and inconsistencies in capitalization and wording; for example, InDesign treats Cheetah, cheetah, and cheetahs as separate entries.

Workflow for creating an index

To create an index, follow these basic steps:

1. Create a topic list (optional)

   A topic list helps you maintain consistency in your index entries

2. Add index markers.

   Add index markers on the pages in your document that you want the index entries to refer to.

3. Generate the index.

   Generating the index creates a set of entries for markers and their accompanying page numbers.

4. Flow the index story.

   Use the loaded text cursor to flow the index into a text frame. In most cases, you'll want the index to start on a new page. After you flow the index, you can format the pages and index.

You'll likely repeat these steps several times as you refine your index prior to publication.

Index panel overview

You create, edit, and preview the index using the Index panel (Window > Type & Tables > Index). The panel includes two modes: Reference and Topic. In Reference mode, the preview area displays complete index entries for the current document or book. In Topic mode, the preview area displays only topics, not page numbers or cross-references. Topic mode is used primarily for creating the index structure, whereas Reference mode is where you add your index entries.

In Reference mode, index entries are alphabetized and divided into sections by letter. Triangles next to entries let you expand or collapse the entry to view subentries, page numbers, and cross-references.

The following codes appear in place of page references to indicate index entries that may not be included in the generated index. You may need to choose Update Preview in the Index panel to view the codes.

PB

Indicates index entries on the pasteboard. These entries will not appear in the generated index.

HL

Indicates index entries on a hidden layer. When you generate the index, you have the option of including index entries on a hidden layer.

HT

Indicates index entries in a hidden condition. Index entries in hidden conditions are not included in the index.

PN

Indicates index entries in overset text. When you include these entries in the generated index, they appear without page numbers.

Master

Indicates index entries on a master page. These entries will not appear in the generated index.

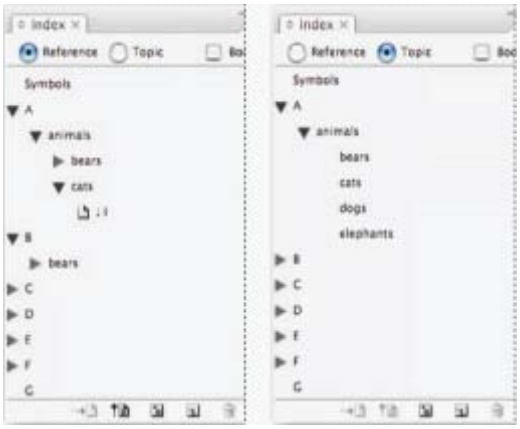
Click a triangle to expand or collapse an individual entry. Alt-click (Windows) or Option-click (Mac OS) a triangle to expand or collapse all subentries under an entry. Ctrl-click (Windows) or Command-click (Mac OS) a triangle to expand or collapse all entries.

Choose Update Preview in the Index panel menu to update the preview area. This option is especially useful if you've edited your document extensively or moved index markers in the document window.

Create a list of topics for an index

You can create or import a list of topics to use as a starting point when creating index entries. Later, when you add entries to the index, you can select topics from the topic list (instead of typing them each time) to ensure that information is indexed consistently throughout your document or book.

You create and edit a topic list using the Index panel in Topic mode. Note that Topic mode displays topics only; to preview index entries, with their associated page numbers and cross-references, use Reference mode instead.



Index panel in Reference mode (left) and Topic mode (right)

Topics in the topic list appear in the New Page Reference dialog box as well. To create an index entry, simply select a topic and then associate it with a page or cross-reference. Unused topics (those without page or cross-references) are excluded when you generate an index.

Creating a topic list before you add index entries is optional. Each time you create an index entry, its topic is automatically added to the topic list for future use.

By default, topics you add to the Topics list do not appear in the Reference list, which displays only the topics that have been associated with a page. However, to display the topics in the Reference list, you can choose Show Unused Topics from the Index panel menu in Reference mode.

Page range options in indexes

You can create index entries that include a page range (such as cats 82-87) instead of a single page number. The Type pop up menu in the New Page Reference dialog box includes the following page-range options:

Current Page

The page range does not extend beyond the current page.

To Next Style Change

The page range extends from the index marker to the next change of paragraph style.

To Next Use Of Style

The page range extends from the index marker to the page where the next occurrence of the paragraph style specified in the adjacent paragraph style pop up menu appears.

To End Of Story

The page range extends from the index marker to the end of the current thread of text frames that contain text.

To End Of Document

The page range extends from the index marker to the end of the document.

To End Of Section

The page range extends from the index marker to the end of the current section as defined in the Pages panel.

For Next # Of Paragraphs

The page range extends from the index marker to the end of the number of paragraphs specified in the adjacent box, or to the end of as many paragraphs as exist.

For Next # Of Pages

The page range extends from the index marker to the end of the number of pages specified in the adjacent box, or to the end of as many pages as exist.

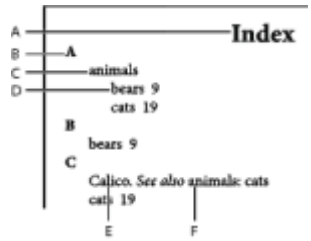
Generate an index

Once you've added index entries and previewed them in the Index panel, you're ready to generate an index story to place in your document for publication.

An index story can appear as a separate document or in an existing document. When you generate an index story, InDesign compiles index entries and updates page numbers across your document or book. If you add or delete index entries or update numbering in your document, however, you'll need to regenerate the index to update it.

Index formatting options

When you click More Options in the Generate Index dialog box, formatting options appear that let you determine the style and appearance of the generated index. InDesign includes a number of built in paragraph and character styles that you can select to format the generated index, or you can create and select your own styles. After you generate the index, you can edit these styles in the Paragraph Styles and Character Styles panels.



Index with nested entries

A. Title **B.** Section heading **C.** Level 1 entry **D.** Level 2 subentry **E.** Topic **F.** Cross reference

To replace the entry separators (such as the values for Following Topic or Between Entries), select the existing separator and then type or choose a replacement character.

Nested or Run-in

Select Nested if you want the index formatted in the default style, with subentries nested under an entry as separate indented paragraphs. Select Run-in if you want all levels of an entry to appear in a single paragraph. The Between Entries option determines which character separates the entries.

Include Index Section Headings

Select this option to generate section headings consisting of alphabet characters (A, B, C, and so on) representing the section that follows.

Include Empty Index Sections

Select this option to generate section headings for all letters of the alphabet, even if the index lacks any first-level entries that begin with a particular letter.

Level Style

For each index level, choose a paragraph style to be applied to each level of index entries. You can edit these styles in the Paragraph Styles panel after you generate the index.

Section Heading

Select the paragraph style that determines the appearance of the section headings (A, B, C, and so on) in the generated index.

Page Number

Select the character style that determines the appearance of the page numbers in the generated index. This setting does not affect index entries you formatted using the Number Style Override option.

Cross-reference

Select the character style that determines the appearance of cross reference prefixes (such as See and See also) in the generated index.

Cross-referenced Topic

Select the character style that determines the appearance of the topic being referred to (such as beasts in See also beasts) in the generated index.

Following Topic

Type or select a special character to separate the entry from the page number (such as Animals 38). The default is two spaces. Determine formatting for this character by editing the corresponding Level Style, or by selecting another.

Between Page Numbers

Type or select a special character to separate one page number or range from another. The default is a comma followed by an en space.

Between Entries

If Run-in is selected, type or select a special character to determine how entries and subentries are separated. If Nested is selected, this setting determines how two cross-references under a single entry are to be separated.

Before Cross-reference

Type or select a special character that appears between a reference and a cross-reference, as in Animals. See also beasts. The default is a period followed by a space. Determine formatting for this character by switching or editing the corresponding level style.

Page Range

Type or select a special character to separate the first and last numbers in a page range (such as Animals 38-43). The default is an en dash. Determine formatting for this character by switching or editing the Page Number style.

Entry End

Type or select a special character to appear at the end of entries. If Run-in is selected, the specified character appears at the end of the last cross-reference. The default is no character.

Create a book file

A book file is a collection of documents that can share styles, swatches, master pages, and other items. You can sequentially number pages in booked documents, print selected documents in a book, or export them to PDF. One document can belong to multiple book files.

One of the documents added to a book file is the style source. By default, the style source is the first document in the book, but you can select a new style source at any time. When you synchronize documents in a book, the specified styles and swatches from the style source replace those in other booked documents.

Manage book files

Each open book file appears on its own tab in the Book panel. If multiple books are open at the same time, click a tab to bring that book to the front and access its panel menu.

Icons in the Book panel indicate a document's current status, such as open, missing (the document was moved, renamed, or deleted), modified (the document was edited or its page or section numbers changed while the book was closed), or in use (if someone else has the document open in a managed workflow). No icon appears next to closed documents.

To view the pathname of any document in a book, hold the mouse pointer over the document name until a tooltip appears. Or, choose Document Information from the Book panel menu.

Save a book file

Book files are separate from document files. For example, when you choose the Save Book command, InDesign saves the changes to the book, not the documents in the book.

To save a book under a new name, choose Save Book As in the Book panel menu, specify a location and filename, and click Save.

To save an existing book under the same name, choose Save Book in the Book panel menu, or click the Save button at the bottom of the Book panel.

If you are sharing book files over a server, make sure that you have a file management system in place so that you don't save over each other's changes accidentally.

Add basic page numbering

You can add a current page number marker to your pages to specify where a page number sits on a page and how it will look. Because a page number marker updates automatically, the page number it displays is always correct-even as you add, remove, or rearrange pages in the document. Page number markers can be formatted and styled as text.

Change the page numbering style

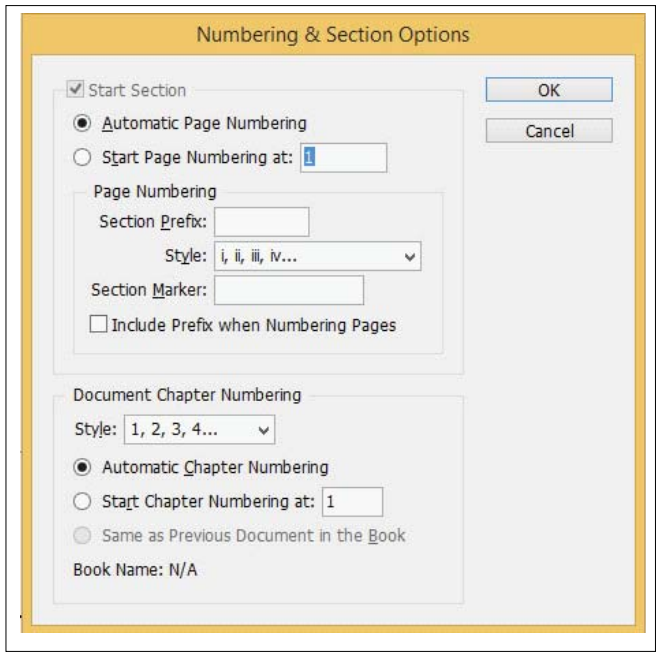
By default, pages are numbered using Arabic numerals (1, 2, 3...); however, you can number pages using upper or lowercase Roman (i, ii, iii...) or alphanumeric (a, b, c...) numbering. You can also number pages using preceding zeros. Each part of the document that uses a different numbering style is called a section.

In Japanese, Chinese, or Korean versions, by default, Arabic numerals are used for page numbers. However, if you use the Numbering & Section Options command, you can specify the style of numbering, such as Roman numerals, Arabic numerals, Kanji, and so on. The Style option allows you to select the number of digits in the page number, for example, 001 or 0001. Each part of the document that uses a different numbering style is called a section.

Use the Numbering & Section Options dialog box to change the page numbering style to use a different format. You can also use this dialog box to restart page numbering or to start page numbering at a number you specify

Number pages, chapters, and paragraphs in a book

You can determine how pages, chapters, and paragraphs are numbered in a book. In a book file, the numbering styles and starting numbers for pages and chapters are determined by each document's settings in the Numbering & Section Options dialog box or the Document Numbering Options dialog box. You can open one of these dialog



boxes by choosing Layout > Numbering & Section Options in the document or by choosing Document Numbering Options in the Book panel menu.

For numbered paragraphs (such as lists of figures), numbering is determined by the numbered list style definition contained by the paragraph style.

The page range appears beside each document name in the Book panel. By default, InDesign updates page and section numbering in the Book panel when you add or remove pages in booked documents, or when you make changes to the book file, such as reordering, adding, or removing documents. If you turn off the setting to automatically update page and section numbers, you can update numbering in a book manually.

If the book is updated and the numbering seems incorrect, the problem may be that absolute numbers are displayed instead of section numbers in General preferences.

If a document is missing or cannot be opened, the page range is shown as "?" from the place where the missing document should be to the end of the book, indicating that the true page range is unknown. Remove or replace the missing document before you update numbering. If the In Use icon appears, someone using a different computer has opened the document in a managed workflow; the person must close the document before you can update numbering.

Printing solutions and PPD's and PDF's generation

Objectives : At the end of this lesson you shall be able to
- **understanding about print document**
- **learning about set ink, separations and screen frequency**
- **learning about postscript and EPS file.**

About printing

Whether you are providing a multicolored document to an outside service provider, or just sending a quick draft of a document to an inkjet or laser printer, knowing a few basics about printing will make the print job go more smoothly, and help to ensure that the finished document appears as intended.

Types of printing

When you print a file, Adobe InDesign sends it to a printing device-either to be printed directly on paper or to a digital printing press, or to be converted to a positive or negative image on film. In the latter case, the film can then be used to create a master plate for printing by a commercial press.

Types of images

The simplest types of images, such as text, use only one color in one level of gray. A more complex image is one with color tones that vary within the image. This type of image is known as a continuous-tone image. A photograph is an example of a continuous-tone image.

Halftoning

To create the illusion of continuous tone, images are broken down into a series of dots. This process is called halftoning. Varying the sizes and densities of the dots in a halftone screen creates the optical illusion of variations of gray or continuous color in the printed image.

Color separation

Artwork that will be commercially reproduced and that contains more than a single color must be printed on separate master plates, one for each color. This process is called color separation.

Getting detail

The detail in a printed image results from a combination of resolution and screen frequency. The higher an output device's resolution, the finer (higher) the screen frequency you can use.

Duplex printing

Printer-specific features such as duplex printing are available when you click the Printer button in the Print dialog box. Duplex printing is available only if the printer supports it. For information on duplex printing, see your printer documentation.

Transparent objects

If the artwork contains objects with transparency features that you added using the Effects panel or the Drop Shadow or Feather commands, the transparent artwork will be flattened according to settings in the flattener preset you choose. You can affect the ratio of rasterized images to vector images in the printed artwork.

Page printing options

You can print all pages, even or odd pages only, a series of individual pages, or a contiguous range.

Range

Specifies the range of pages to print in the current document. Indicate numbers in a range by using a hyphen, and indicate multiple pages or ranges by using commas or spaces.

If the document includes pages with different page sizes, you can use the options above the Range field to select all pages of the same size.

Sequence

Choose All Pages to print all pages of a document. Choose Even Pages Only or Odd Pages Only to print only those pages within the specified range. These options are unavailable when you are using the Spreads or Print Master Pages options.

Spreads

Prints pages together, as if they were bound, or printed on the same sheet. You can print only one spread per sheet. If the new page is larger than the currently selected paper size, InDesign prints as much as it can, but won't automatically scale the page to fit the imageable area, unless you select Scale To Fit in the Setup area of the Print dialog box. You may also want to specify landscape orientation.

If different trapping styles are applied to pages in the spread, InDesign resolves the differences.

Print Master Pages

Prints all master pages, rather than document pages. Selecting this option makes the Ranges option unavailable.

Examples of page ranges

Page range	Pages printed
11-	Page 11 to the last page of the document.
-11	All pages up to and including page 11.
+11	Page 11 only.
-+11	All pages up to and including page 11.
+11-	All pages from the eleventh page to the end of document.
1, 3-8	Page 1, plus pages 3 to 8.
+1, +3-+8	Page 1, plus pages 3 to 8.
Sec1	All pages in section labeled "Sec1".
Sec2:7	Page numbered 7 (not necessarily the seventh page of that section) in section labeled "Sec2."
PartB:7-	Page numbered 7 in section labeled "PartB" to last page of section.
Chap2:7-Chap3	Page 7 in section labeled "Chap2" to end of section labeled "Chap3".
Sec4:3-Sec4:6, Sec3:7	Pages 3-6 in "Sec4" and page 7 in "Sec3".

Options for printing objects

The General area of the Print dialog box contains options for printing elements usually visible only on-screen, such as grids and guides. Choose from the following options:

Print Layers

Determine which layers are printed.

Print Non-printing Objects

Prints all objects, regardless of your settings to selectively prevent individual objects from printing.

Print Blank Pages

Prints all pages in the specified page range, even if no text or objects appear on a page. This option is unavailable when you are printing separations. If you are using Print Booklet for composite printing, use the Print Blank Printer Spreads option to print blank spreads added to fill out composite signatures.

Print Visible Guides and Baseline Grids

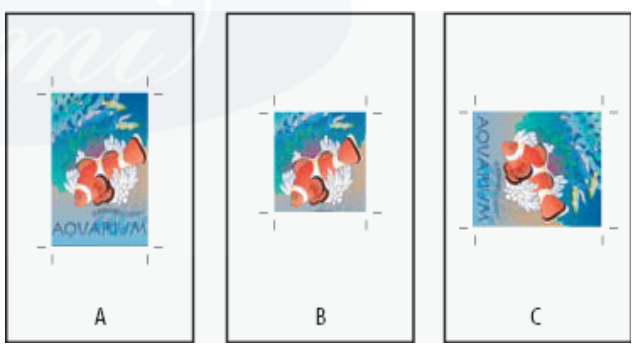
Prints visible guides and grids in the same color as shown in the document. You can control which guides and grids are visible in the View menu. This option is unavailable when you are printing separations.

Specify paper size and page orientation

It's important to distinguish between page size (as defined in the Document Setup dialog box for your document) and paper size (the sheet of paper, piece of film, or area of the printing plate you'll print on). Your page size might be US Letter (8.5-by-11 inches), but you might need to print on a larger piece of paper or film to accommodate any printer's marks or the bleed and slug areas.

The list of paper sizes available to InDesign comes from the PPD (PostScript printers) or from the printer driver (non-PostScript printers). If the printer and PPD you've chosen for PostScript printing support custom paper sizes, you'll see a Custom option in the Paper Size menu.

Most imagesetters can accommodate regular paper sizes, such as letter and tabloid, as well as transverse orientation, where the regular page size is rotated 90° when printed. The transverse orientation is often a more efficient use of imagesetter media.



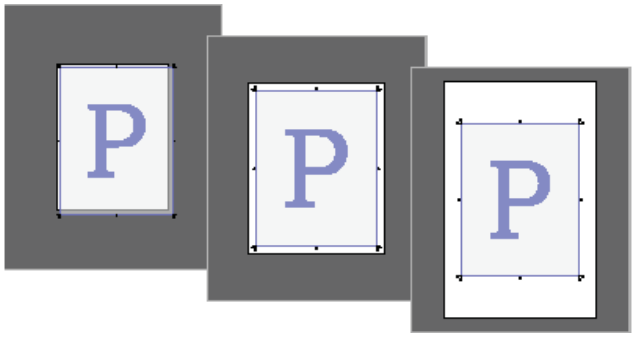
Page size and orientations for imagesetters

A. Letter (tall orientation) **B.** Custom page size (tall orientation) **C.** Letter (transverse orientation)

Paper sizes are listed by familiar names (such as Letter). The dimensions define the limits of the imageable area-the total paper size, less any unprintable border used by the printer or imagesetter. Most laser printers cannot print to the exact edge of a page.

If you select a different paper size (for example, if you change from Letter to Legal), the document is rescaled in the preview window. The preview window displays the entire imageable area of the selected page; when the preview size is changed, the preview window automatically rescales to include the imageable area.

The imageable area will vary by PPD file, even for the same paper size (for example, Letter), because different printers and imagesetters define the sizes of their imageable areas differently.



Comparison of printing a letter-size page on Letter, Letter.extra, or Tabloid paper

The preview in the lower-left area of the Print dialog box indicates whether you have enough space to include all printer's marks and the bleed and slug areas.

Printing to non-PostScript language printers

You can print a document on a non-PostScript language printer. However, because PostScript is the standard page-description language for professional publishing, many high-end color and graphics features, such as screen frequencies or color separations, cannot be reproduced on non-PostScript printers. Most imported graphics file formats print acceptably. In general, a document printed to a non-PostScript printer should look the way it appears on-screen when you view the document using Preview Mode.

Some vendors sell software programs that add PostScript-language capability to a non-PostScript language printer. Check with your software reseller for availability and compatibility.

Preview documents

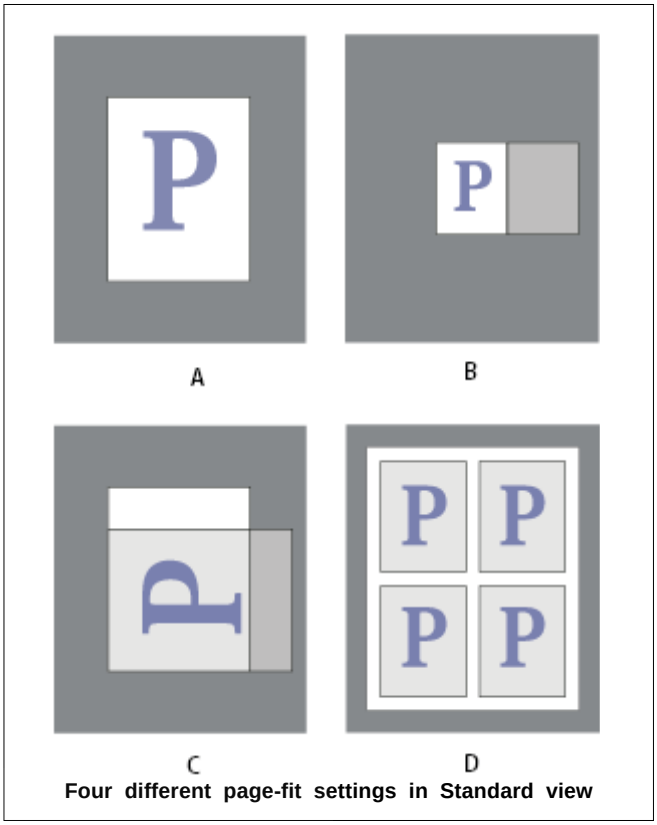
You can view how the document's pages fit on the chosen paper size before you print to a PostScript printer. A preview in the lower-left area of the Print dialog box shows whether your paper and orientation settings will work for your page size. When you select different options in the Print dialog box, the preview updates dynamically with the combined effects of your print settings.

1. Choose File > Print.
2. Click the preview image in the lower-left area of the Print dialog box.

The preview has three views:

Standard view

Displays the relationship of a document page to the media. It shows the effects of various options such as paper size to imageable area, bleed and slug areas, and page marks, as well as the effects of tiling and thumbnails.



Four different page-fit settings in Standard view

A. Default **B.** Spreads **C.** Orientation **D.** 2-by-2 Thumbnails

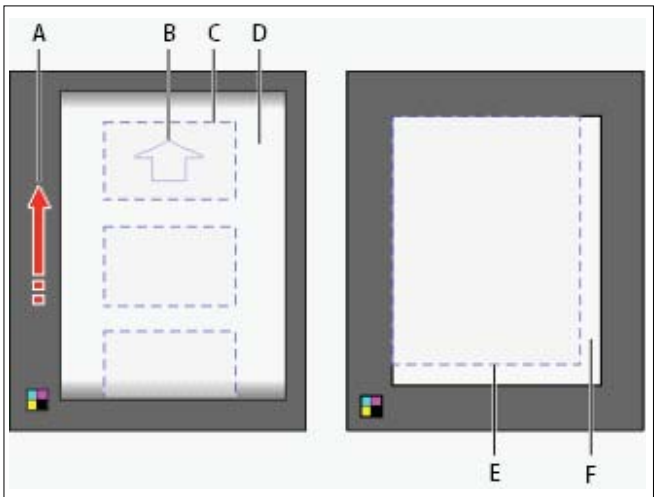
Text view

Lists the numerical values for certain print settings.

Custom page/Cut sheet views

Displays the effects of different print settings, depending on your page size. For custom page sizes, the preview shows how the media fits on the custom output device; the maximum supported media dimensions of the output device; and the settings for offset, gap, and transverse. For cut sheets, such as Letter and Tabloid, the preview shows the relationship of the imageable area to the media size.

In both the custom page and cut sheet views, the preview also indicates the output mode using an icon: Separations, Composite Grayscale, Composite CMYK, or Composite RGB.



Custom page view (left) and cut sheet view (right)

A. Direction of media travel **B.** Transverse deselected **C.** Paper size **D.** Media **E.** Imageable area **F.** Media

Select a PPD file

A PPD file (PostScript Printer Description file) customizes the behavior of the driver for your specific PostScript printer. It contains information about the output device, including printer-resident fonts, available media sizes and orientation, optimized screen frequencies, screen angles, resolution, and color output capabilities. It's important to set up the correct PPD before you print. Selecting the PPD that corresponds to your PostScript printer or imagesetter populates the Print dialog box with the available settings for the output device. You can switch to a different one to suit your needs. Applications use the information in the PPD file to determine which PostScript information to send to the printer when printing a document.

For best printing results, Adobe recommends that you obtain the latest version of the PPD file for your output device from the manufacturer. Many print service providers and commercial printers have PPDs for the imagesetters they use. Be sure to store PPDs in the location specified by the operating system. For details, consult the documentation for your operating system.

In Windows and in Mac OS, you select a PPD file in the same way you add a printer. The steps for selecting a PPD file are different for each platform. See your operating system documentation for details.

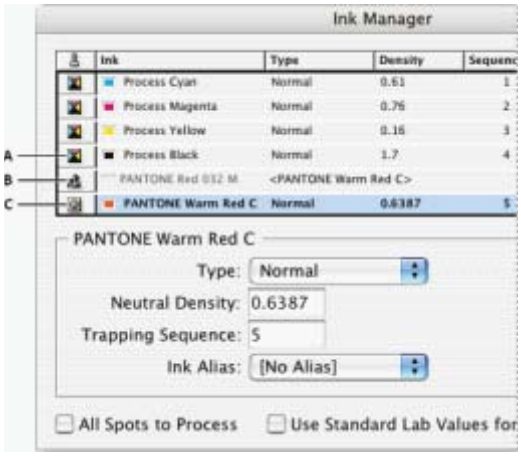
Ink Manager overview

The Ink Manager provides control over inks at output time. Changes you make using the Ink Manager affect the output, not how the colors are defined in the document.

Ink Manager options are especially useful for print service providers. For example, if a process job includes a spot color, a service provider can open the document and change the spot color to the equivalent CMYK process color. If a document contains two similar spot colors when only one is required, or if the same spot color has two different names, a service provider can map the two to a single alias.

In a trapping workflow, the Ink Manager lets you set the ink density for controlling when trapping takes place, and it lets you set the correct number and sequence of inks.

InDesign and Acrobat share the same Ink Manager technology. However, only InDesign has the Use Standard Lab Values For Spots option.



Ink Manager

A. Process ink **B.** Aliased Spot ink **C.** Spot ink

Open the Ink Manager

Do one of the following:

From the Separations Preview panel menu (Window > Output > Separations Preview), choose Ink Manager.

Choose File > Print, and click Output. In the Output section, click Ink Manager.

Display or output spot colors using Lab values

Some predefined spot colors, such as colors from the TOYO, PANTONE, DIC, and HKS libraries, are defined using Lab values. For backward compatibility with previous versions of InDesign, colors from these libraries also include CMYK definitions. Lab values, when used in conjunction with the correct device profiles, give you the most accurate output across all devices. If color management is critical to your project, you might prefer to display, export, and print spot colors using their Lab values. The Ink Manager option Use Standard Lab Values For Spots lets you control which color mode InDesign uses for these predefined spot colors: Lab or CMYK. If you need the output to match earlier versions of InDesign, you should use the CMYK equivalent values.

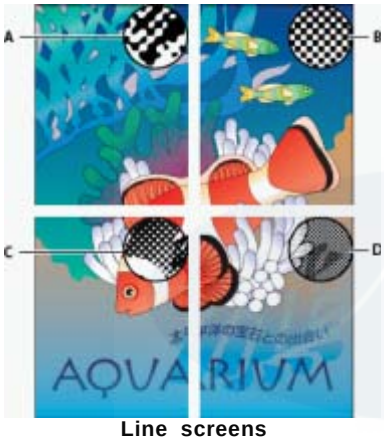
To improve on screen accuracy, InDesign uses the Lab values automatically if Overprint Preview is on. It also uses Lab values when printing or exporting if you've selected Simulate Overprint in the Output area of either the Print or Export Adobe PDF dialog box.

1. Choose Ink Manager in the Separations Preview panel menu.
2. Do one of the following:
   - For Lab values, select Use Standard Lab Values For Spots.
   - For CMYK values, deselect Use Standard Lab Values For Spots.

About halftone screen frequency

In commercial printing, continuous tone is simulated by dots (called halftone dots) printed in rows (called lines or line screens). Lines are printed at different angles to make the rows less noticeable. The Screening menu in the Output section of the Print dialog box displays the recommended sets of line screens in lines per inch (lpi), and resolution in dots per inch (dpi), based on the currently selected PPD. As you select inks in the ink list, the values in the Frequency and Angle boxes change, showing you the halftone screen frequency and angle for that ink.

A high line-screen ruling (for example, 150 lpi) spaces the dots closely together to create a finely rendered image on the press; a low line-screen ruling (60 lpi to 85 lpi) spaces the dots farther apart to create a coarser image. The size of the dots is also determined by the line screen. A high line-screen ruling uses small dots; a low line-screen ruling uses large dots. The most important factor in choosing a line-screen ruling is the type of printing press your job will use. Ask your service provider how fine a line screen its press can hold, and make your choices accordingly.



Line screens

A. 65 lpi: Coarse screen for printing newsletters and grocery coupons **B.** 85 lpi: Average screen for printing newspapers **C.** 133 lpi: High-quality screen for printing four-color magazines **D.** 177 lpi: Very fine screen for printing annual reports and images in art books

The PPD files for high-resolution imagesetters offer a wide range of possible screen frequencies, paired with various imagesetter resolutions. The PPD files for low-resolution printers typically have only a few choices for line screens, usually coarser screens of between 53 lpi and 85 lpi. The coarser screens, however, give optimum results on low resolution printers. Using a finer screen of 100 lpi, for example, actually decreases the quality of your image when you use a low-resolution printer for final output.

Specify a halftone screen frequency and resolution

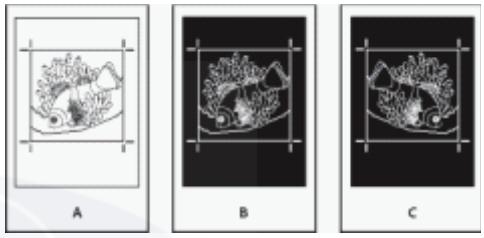
- In the Output section of the Print dialog box, choose one of the following options:
  - o To select one of the preset screen frequencies and printer resolution combinations, choose an option in the Screening menu.
  - o To specify a custom halftone screen frequency, select the plate to be customized, and then enter the lpi value in the Frequency text box and a screen angle value in the Angle text box.

Before creating your own halftone screens, check with your service provider for the preferred frequencies and angles. Also, be aware that some output devices override the default frequencies and angles.

About emulsion and image exposure

Depending on the type of printing press used and how information is transferred from the film to the printing plates, you may need to give your service provider film negatives or positives, with emulsion side up or down. Emulsion refers to the photosensitive layer on a piece of film or paper. Typically, print service providers require negative film in the United States and positive film in Europe and Japan. Check with your service provider to determine which emulsion direction they prefer.

To tell whether you are looking at the emulsion side or the nonemulsion side (also referred to as the base), examine the final film under a good light. One side appears shinier than the other. The dull side is the emulsion side; the shiny side is the base.



Emulsion options

A. Positive image **B.** Negative **C.** Negative with emulsion side down

The emulsion and image exposure settings in the Print dialog box override any conflicting settings in the printer driver. Always specify print settings using the Print dialog box.

Proofing color separations

Create a hard proof to verify that colors will print on the correct separations, or a soft proof to preview how your document's colors will look when reproduced on a particular output device.

While no proof will give you an exact representation of your final output, you can greatly improve its accuracy by calibrating all the devices you use to create a document (such as scanners, monitors, and printers). If the devices are calibrated, the color management system can help you get predictable and consistent color.

The hard proof represents your expectation of the way the final separations will appear, and helps the service provider to verify that the output is correct. Be sure to print proofs on a PostScript printer; you cannot reliably proof color separations printed from a non-PostScript printer.

For assurance that the file will print correctly, consider saving the separations as a PostScript file, converting the PostScript file to Acrobat 8 PDF using Acrobat Distiller, and then viewing the PDF document in Acrobat. By viewing

the PDF document in Acrobat, you can inspect high-quality PostScript output on screen at a high level of detail.

Producing in RIP separations

To produce in RIP separations, you need the following software and hardware:

A PPD file that supports in RIP separations.

Any PostScript 3 output device, or a PostScript Level 2 device whose RIP supports in RIP separations. If the document contains duotones from Photoshop 5.0 or later, a PostScript 3 device is required to generate in RIP separations.

Depending on the prepress software available, a service provider may be able to perform such prepress activities as trapping, imposition, separating, and OPI replacement at the output device's RIP. Therefore, your service provider may prefer to receive a composite PostScript file of the document optimized for in RIP separations, rather than a preseparated PostScript file.

Creating PostScript or EPS files

As an alternative to printing a document to a printer, you can save a PostScript-language description of the document as a .PS file for printing on remote printers-for example, by a prepress service provider. A service provider can send a .PS file directly to the imagesetter. The size of a PostScript file is usually larger than the original InDesign document, because the graphics and fonts are embedded.

You can also export a document page or spread to an EPS (Encapsulated PostScript) file and place it in other applications.

About device- and driver-dependent PostScript files

Select a printer and a supported driver in the Printer menu. A device- and driver-dependent PostScript file has the following characteristics:

- It is driver-dependent. The PostScript file will contain code generated by InDesign and by the driver. The InDesign code is primarily responsible for the page content, including font downloading, and for setting basic device information, such as media size, resolution, and screening. The driver is primarily responsible for setting special driver features, such as watermarks, and for enabling or controlling special device features. Since InDesign doesn't have complete control over creating the PostScript file, the level of DSC compliance isn't quite as high as it is with driver independent PostScript files. The level of DSC compliance, and therefore the PostScript file's suitability for prepress tasks, depends on the printer driver used.
- It is device-dependent. It contains code for enabling and controlling specific device features, making it less compatible with devices other than the target device.
- It can be composite or separated (all of the color output methods that InDesign supports are available).
- It can be trapped by InDesign (either by using Application Built-In or Adobe In-RIP Trapping).
- It can be printed directly to the device, or to file.

A device- and driver-dependent PostScript file is ideally suited for proofing (by the designer) to desktop PostScript printers. It can also be used by service providers who don't plan to do any prepress tasks to the job outside of InDesign or the RIP system. In other words, if trapping is done, it happens in InDesign or at the RIP.

Create a device-independent PostScript file

Select PostScript File in the Printer menu, and select Device Independent in the PPD menu. A device-independent PostScript file has the following characteristics:

- It is 100% DSC-compliant, making it ideal for such post-processing tasks as trapping and imposition.
- All device and driver dependencies are removed, so that the file will print to almost any output device. However, special printer features found in PPD files, such as image exposure, available media sizes, and optimized screen frequencies, aren't available in device-independent output.
- The color output is always composite CMYK, but it also includes spot colors. As a result, it has to be separated in post-processing software, or at the RIP using in-RIP separations.
- It cannot be trapped by InDesign; trapping must occur at the RIP, or in post-processing software.
- It can only be printed to file (not directly to a device or application) from InDesign.
- A device-independent PostScript file is ideal for composite prepress workflows, where the file will be trapped and separated later in the production process, such as during imposition, trapping, or at the RIP (if the output device supports in-RIP separations).

Export pages in EPS format

Use the Export command to export InDesign pages in EPS format, which you can import into another program. If you export multiple pages, each page is exported as a separate file with a number appended to the end of the filename. For example, if you export pages 3, 6, and 12, and specify the filename News.eps, InDesign will create three files named News_3.eps, News_6.eps, and News_12.eps.

When you export to EPS, you can specify the following options:

PostScript®

Specifies a level of compatibility with the interpreters in PostScript output devices. Level 2 will often improve the printing speed and output quality of graphics printed only on a PostScript Level 2 or greater output device. Level 3 provides the best speed and output quality, but requires a PostScript 3 device.

Color

Specifies how color is represented in the exported file. The options below are similar to the Color settings in the Print dialog box.

Leave Unchanged

Leaves each image in its original color space. For example, if the document contains three RGB images and four CMYK images, the resulting EPS file will contain the same RGB and CMYK images.

CMYK

Creates a separable file by representing all color values using the gamut of cyan, magenta, yellow, and black process color inks.

Gray

Converts all color values to high-quality black-and-white images. The gray levels (shades) of the converted objects represent the luminosity of the original objects.

RGB

Represents all color values using the red, green, and blue color space. An EPS file with RGB color definitions is better suited for on-screen viewing.

PostScript®Color Management

Uses the document's color data in a calibrated version of its original color space.

Preview

Determines the characteristics of the preview image that is saved in the file. The preview image is displayed in applications that cannot display EPS artwork directly. If you don't want to create a preview image, choose None in the format menu.

Embed Fonts

Specifies how to include fonts used in the pages you export.

None

Includes a reference to the font in the PostScript file that tells the RIP or a post processor where the font should be included.

Complete

Downloads all fonts required for the document at the beginning of the print job. All glyphs and characters in a font are downloaded even if they don't appear in the document. InDesign automatically subsets fonts that contain more than the maximum number of glyphs (characters) specified in the Preferences dialog box.

Subset

Downloads only the characters (glyphs) used in the document.

Data Format

Specifies how InDesign sends the image data from your computer to a printer: as ASCII or Binary data.

Images

Specifies how much image data in placed bitmap images to include in the exported file.

All

Includes all available high-resolution image data in the exported file and requires the most disk space. Choose this option if the file will be printed on a high-resolution output device.

Proxy

Includes only screen-resolution versions (72 dpi) of placed bitmap images in the exported file. Choose this option in conjunction with the OPI Image Replacement option, or if the resulting PDF file will be viewed on-screen.

OPI Image Replacement

Enables InDesign to replace low-resolution EPS proxies of graphics with high-resolution graphics at output time.

Omit For OPI

Selectively omits imported graphics when sending image data to a printer or file, leaving only the OPI links (comments) for later handling by an OPI server.

Transparency Flattener

Select a flattener preset in the Preset menu to specify how transparent objects appear in the exported file. This option is the same as the Transparency Flattener option that appears in the Advanced area of the Print dialog box.

Ink Manager

Corrects any ink options without changing the design of the document.

Costing and Estimating

Current pricing practices

As a mature industry, today's print market place has clearly - defined price ceilings. There is slight pricing latitude, but higher prices must be intensely justified to customers. For this reason, it is vital that pricing be based on actively researched competitive information. A well-defined pricing strategy, combined with aggressive cost reduction plans, is critical for supporting reasonable profit margins in commercial printing.

Growth for traditional commercial color printing has been stagnant and margins have generally been poor in recent years. In 2005, the average lithographer made just 2.5 percent returns on sales2. This number is projected to be 3 percent for 2006. Price premiums, when justified, help to increase profit margins on individual jobs and lead to greater profitability as a whole. Value - added services - services beyond core printing products that provide unique significance to the customer - are generally perceived as the means for increasing price, market share, and profit margins. Successful commercial printers intimately know their customer's business, are properly equipped to offer unique solutions for their customer's problems, and focus on services and products that provide distinct, substantial, and well - documented value to their customers - a challenging feat in a competitive market.

Cost estimating

Commercial printers have been cost estimating for many years. Estimating costs prior to producing a job provides multiple benefits. Primarily, a cost estimate can be the basis for pricing decisions. When a client requests a price quotation, a customized cost estimate is prepared using the specifications provided. This information is forwarded to sales management who analyzes the anticipated production costs against competitive pricing information to derive a price quotation. In ideal scenarios, the cost estimate and price quotation have a wide margin for profit. However, in competitive markets, pricing may be determined independently from the cost estimate.

It could be argued that cost estimating is no longer necessary for pricing. Since pricing is substantially market - driven, then why is it necessary to estimate? Why not simply use a price matrix or competitive pricing? Any managerial accounting system will accurately track revenues and expenses. Yearly profit and loss statements can be developed without a job estimating system. Even if cost estimating is never performed, accurate projections and reports can be generated related to expenses and revenues.

The response to that argument is that knowing anticipated costs prior to negotiating price is extremely helpful. It provides key information to the printing sales representative to know the break - even point on production - the price point at which there is both zero profit and zero loss. Further, this detail provides useful information about production processes or operations that are particularly profitable or especially costly to the business. Cost estimating empowers the sales staff with knowledge about where they can be aggressive and where they need to hold the line on price.

For low-margin work, cost estimating takes on an increasingly important role. In most situations, companies should not price work below their costs. However, without a cost estimate, that break - even point is not known until after production. Further, it is quite useful to know that the marketplace simply will not support the cost associated with performing certain processes. For example, if the market rate for perfect binding is extremely competitive, it may make sense to outsource these functions to low-cost trade binders instead of trying to keep the operations in-house. The cost estimate helps to expose those cost prohibitive operations.

What about digital printing? Is cost estimating still relevant when dealing with digital printing? Why not simply price estimate, using simplified formulas with built-in profit to calculate price? In some cases, the customer can price the work directly by consulting a pricing matrix. For printing that is highly uniform, price estimating makes sense. Digital printing often produces standard sizes, on standard paper, with standard inks and toners. When simple, low-complexity work is produced, pricing tables make sense, whether published or private. When complicated, valued-added processes are involved, however, cost estimating is helpful in managing the pricing and production functions.3

What are these complicating factors that necessitate an estimate? When simply running standard paper through a print engine-print-on-demand (POD) or short-run color printing the cost is fairly uniform and can be easily predicted. However, when variable data, digital asset management, digital coatings, variable finishing, or other non-standard processes are involved, the complexity and unpredictability of the job increases. A customized cost estimate is necessary.

How is cost estimating performed?

The estimating process

Cost estimating follows a well-defined workflow. The process begins with the request for estimate, provided to the estimator by a sales representative or the customer directly. When completed thoroughly, the request for estimate form contains the specifications to accurately estimate the cost of production. An alternate to a request for estimate form is a web portal, where the customer or sales representative completes the necessary fields for the estimate. Most web portals are integrated with estimating software, facilitating easy transfer of specifications directly to the software. The web has also ushered the era of the unknown customer. Today, it is common to estimate jobs for businesses where no established relationship previously exists.

After the estimator receives the request for estimate, he or she begins the estimating process. To estimate correctly, the job's production must be accurately planned. Production planning involves mapping the production steps and

materials needed to complete a project. The estimator breaks down the production planning by cost center. A cost center is an area of production, such as digital prepress, which has defined costs associated with it including equipment, labour, supplies, and facilities. One or more operations may be performed in a cost center. For example, digital prepress may include operations such as preflighting, image manipulation, color correction, imposition or proofing, and might have an hourly cost rate of $85 per hour.

more work involved in establishing an ABC estimating system and completing the estimate. Most commercial MIS or accounting systems are not easily adaptable to an Activity Based Costing system.

Job costing

Cost estimating is performed prior to printing a job. In commercial lithography, it is completed prior to the price quotation. Job costing, on the other hand, is the function of tracking and applying actual costs to a job after production. Its purpose is two-fold: compare actual cost to estimated cost; and ensure all change-orders are applied and correctly billed to the customer. Job costing usually requires all customer changes to be initiated in written form, ensuring a paper trail for billing purposes.

Commercial printers may link job costing to their payroll system. This requires employees to accurately track their time against a job in order to get paid. Consumables must also be tracked to give accurate results. Most commercial printers put some emphasis on their job costing efforts, largely because change-orders can go unbilled unless an effort is made to track all costs associated with each job. Job costing also reveals trends that can help identify ongoing production problems.

One very important benefit of accurate job costing is continuous improvement. The estimating process needs feedback in order to ensure the most accurate outcomes, which means that production standards must be continually monitored. Improved production efficiencies, if not reflected in the estimate, will result in fewer print contracts awarded than possible. Alternatively, an optimistic estimate that doesn't reflect actual production may secure a job, but result in lost revenues when production takes longer than expected.

When the estimating manager gets repeated feedback from the job cost report that a particular process is outperforming or underperforming expectations, he or she can refine the production standards and consumables used. This refinement is an ongoing process, and when diligently preformed, results in a very accurate estimating system.

Book design (Stages)

Typographers refer to books that are 6" by 9" and 81/2" by 11"- two popular sizes. Popular book sizes have become identified with the terms quarto and octavo because book paper is manufactured in standard sizes.

Publishers often refer to books as folio and quarto editions. A folio edition commonly means an oversized book that is larger than a quarto which is in turn larger than an 8vo.

Books are produced in signatures collections of pages sewn or glued together in the binding. The arrangement of the signature pages is known as the imposition. The imposition of a 32 page signature is that page 32 faces page 1. page 31 faces page 2. page 30 faces page 3. and so on. An easy way to remember imposition is to remember that the sum of the facing pages will be one greater than the total number of pages in the signature. (N+1) The best way to certain about an imposition is to create a dummy, a set of pages folded and numbered in exactly the same way as the signature. After the dummy, one can make certain of the imposition.

Rules of book composition

The typographer should decide whether a book should be set justified or ragged right, choose the appropriate type face, select type size and line space, determine the width of the measure. These decisions form the crux (criticism) of book design.

The basic rules of book composition

Line length

Research decided optimum line lengths. The 2½ rules suggests that 10 pt type is most legible on a measure 25 picas long. If the book is large a two column format should be considered.

Typesize

A common sense rule is to use sizes that are large enough to be read. The most popular type sizes are 10 pt and 12 pt. Chapter heads should not overpower the body type. If 10pt / 12pt type is specified for the main body 8 pt should be used for foot notes.

Book composition

The golden section/progressive margins

The book typographer's first job is to prepare a layout for two facing pages. The typographer works with two bits of knowledge the size of the book and the nature of the book. Keeping this points he/she must create an overall concept presents and complements the author's ideas.

One of the first significant design decision is the width of the margins. Margins serve four functions they frame the text, provide a space for illustrations and folios, enable the reader to hold the book without hiding the text and allow for trimming. The typographer should specify margins that are at the very least 3/8" of an inch wide.

Different books require different margins. Mass market paperbacks have narrow margins to reduce the number of pages and keys cost low. Quality books tend to have wider margins for elegant appearance. The typographer should discuss general economic considerations with the publisher before beginning to design the work.

There are several classical theories. The oldest is known as the Golden Section. Jan tschichold, one of the most innovative book designers discovered that the inner. outer. head and foot margins were determined according to the formula 2:3:4:6. The inner margin was 2". the head was 3", the outer margin was 4" and the foot was 6". According to the golden section, the width of the page should be proportional to its depth by ratio of 2:3, meaning that a 6 by 9" book conforms perfectly with this proportion. The ratio of text to page area is also 2:3, so the text area of a 6 by 9" book that is 4"-24 picas wide should be 6"-36 picas deep. The final rule of the golden section is that the text should be as deep as the sheet is wide.

The golden section proportions determine then the text dimensions of a 6 by 9" book will be 24 picas wide and 36 picas deep.

A newer theory is the idea of program margins. Progressive margins become larger beginning with the inner margin and working counter-clock-wise on verso pages and anticlockwise on recto pages. Classic difference between the golden section and progressive margins is the absence of a uniform proportion.

Book production

The grid theory

Grid theory is the most valuable frame work for production of a book. The typographer first examines the text and illustration and their shapes and sizes. Then dimensions of the grid cell decided. The size of the cell is determined. Every textual element, folios, running heads, captions, body copy and chapter heads must be specified to fit into the cellular pattern.

The grid is a structure providing a proportional relationship. The typographer designs the pattern to fit the demands of the project. This is the greatest advantages of the grid theory.

After typographic decisions are made the typeset pages are checked for errors while the typographer prepares the layout. The complete layout of each page the dummy is the neat step. Each page is dummied on an individual sheet, which is usually printed in non-reproducible blue ink. The layout sheets should be imprinted with two pages to allow for the design of facing pages spread.

Book composition

Rules and theories

There are some basic rules for legible typesetting of a book:

Line length

Research suggests the 21/2 rule, which means that 10 pt type is most legible on a measure 25 picas long. If the book is large a two-column format should be selected.

Type size

A common sense rule is to use sizes that are large enough to be read. The most popular type sizes are 10pt or 12pt. Chapter heads should not overpower the body type. For 10pt or 12pt body type. 8pt should be used for footnotes.

Line space

Normally use 1 or 2pts for leading. Line that are "aired out" more than 2 pts may appear disjoined. Whereas less than 1 pt of lead may result in an extremely black and illegible page.

Typeface

Common sense and good taste are the two rules for selecting typeface. In general, regular type versions are more legible than variations, italics and bold should be used only for emphasis, serifs tend to be more legible than sanserifs.

Designing books

The shape of a book

Jan Tschichold-one of the greatest typographers, defines the proportions of the pages rational and irrational page proportions. Irrational page proportions of 1:1,618 (Golden rule), 1: root2. 1:root3, 1:root 5, 1:1.538 and rational page proportions 1:2, 2:3, 3:4, 5:8, and 5:9. These are clearly intended and defined. All others are unclear and arbitrary.

Proportions for book pages

There are two factors to decide area devoted to type on the pages. The type area proportions will vary. Very fine books have the type cover only one half the area of the page. A good general rule is to set the type so that it measures 0.71 of the width and depth of the page. The type area is figured y multiplying the width and depth by 0.71.

width 36 by 0.71 = 25.56 or 26 picas.

deep 54 by 0.71 = 38.34 or 38 picas.

The type will be set to a measure of 26 by 38 picas.

Selecting and using type

Common

The selection of the type for a job requires the serious attention of the graphic designer. There are some ideas the designer uses in selecting type.

1 Pick a type face to match with the mood of the design. A thin light face gives a different image than a thick bold face.

2 Headlines are the major captions set above a newspaper or magazine articles. Headlines in colour should be a little larger than those in black.

3 Variety is obtained by changes in type size and blackness. The use of condensed and expanded types also gives variety. Italics are used for interest.

4 A talented designer can mix typefaces-one for headlines and another for the body.

5 Type mixing is a matter of taste. Old roman and modern roman do not go together well.

6 San serif are a neutral type. They go well with almost any other type.

7 Old English should be combined only with roman faces.

8 Type spaces selected should be readable.

9 Words made/set from caps and lower case letters are more readable than all capitals.

Type running from left to right is more readable than in vertical/diagonal rows.

10 Extra spaces between the lines of the body will improve readability-1pt leading is common.

11 The size of the type affects the width of the body columns. The bigger the type, the wider the column needed. A general rule is the width of the column is equal to 39 lower case characters.

12 Display types are those larger than 14pt sizes. They are used for newspaper, magazines, headlines, posters requiring a large attention getting face. Display type can be crowded, standard, or positioned any way to be effective.

13 Spacing between words and letters is vital typographic design. The spacing should be decided by a designer rather than a printer.

Book composition

Books represent the oldest form of the graphic art. Books become the most valued one because of their permanence. Books have been the major vehicle for the shaping of education, culture, the recording of history and the interchange of information. Books have convenience, authority, economy, intimacy when comparing will electronic media.

Books require a length production time. The book has long been appreciated as an art form by serious collectors.

Book design can be categorized into various specialization. Designers of scientific text books are more concerned with the legible design of characters, graphs than the designer of navels.

Format

The size, shape and general appearance of a printed piece constitutes its "format'. The format is decided by the author.

Publisher and the designer. Choice of format depends on objectives of the place and on customary format for each information. For example a poster is the customary format for announcing an arts, fair and the one for which people will look.

Another influence for format is ease of use. A form must be convenient to fill out, to file, and to refer to later. A self-mailing catalogue must meet postal requirements.

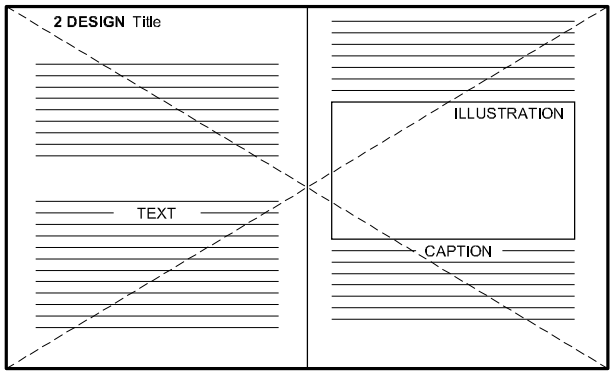
Donot gues how a printed piece will be used or assume that its principal use is its only use.

The way a printed piece reaching its audience is another factor to be considered when deciding on format.

Page design

The pages of a book should be a coherent whole. Designer should apply a consistent formula so that the design of each page appears to have been inevitable. By far most valuable frame work used in the layout of a book is the grid theory.

Fig 1



The grid is universal today, the typographer first examines the text and illustration requirements, taking note of the sizes and shapes of any photographs, logos, etc. The dimensions of the grid cell are then decided. The cell is a carefully formalized vertical and horizontal unit. After the size of the cell is determined the typographer makes tangible grid and uses in laying out the pages.

Every textual element, including folios running heads, captions, body copy and chapter heads must be specified to fit into the cellular pattern. As the typographer lays out the book, the parts of the page will inevitably align into a unified design.

The grid governs both the position and the size of all design elements. If the typographer has determined that the grid cell of an 8.5 x 11 inches book will be 1" wide and 1/2" high, the measure used to set every part of the copy must be a variable of 6 picas (1"). Text type can be set 12 picas (2 cells), 18 picas (three cells), or 24 picas (four cells) wide, but it must not be set 16 picas wide, illustrations are sized according to the grid. All photographs will be reproduced in variations of 1 x 1 ½". A photograph may be scaled to 6 x 4 ½". but a 6 x 4 1/8" photograph would isolate the integrity of the grid.

The grid is a structure providing a proportional relationship. The grid theory does not constrain the typographer to a given pattern as golden section. Rather, the typographer designs the pattern to fit the demands of the project. This is the greatest advantage of grid theory. The grid system is at the same time quite adaptable, unifying a variety of unequal (desperate) elements. After the initial typographic decisions are made, the typography of the book is common place (explained later). The typeset pages are checked for errors while the typographer prepares the layout. A complete layout of each page called dummy, is the next step. Each page is dummied on an individual sheet usually printed in non-reproducible blue ink. The layout sheets should be imprinted with two pages to allow for the design of facing pages a spread.

Margins

Margins are white spaces around the printed matter on a page. Each margin has specific name according to its position on the sheet; as back, head, fore-edge and tail.

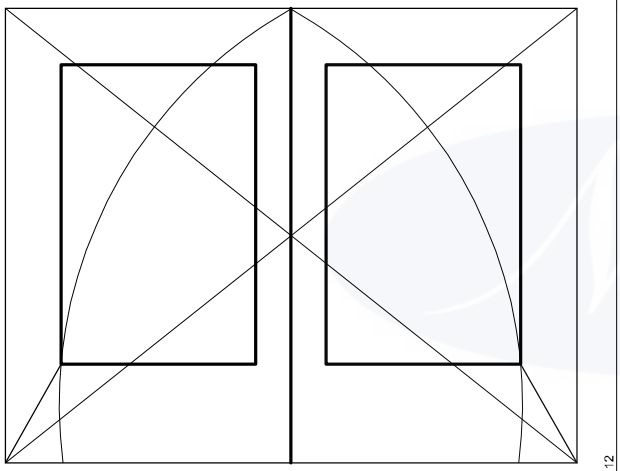
The back margin is the space between two adjacent pages of type or illustration. This produces the white space at the inner edge of the printed leaf. The head margin is the space at the top of the printed page. Fore-edge is the space at the outer edge of the printed page which is the opposite to the back. The tail is the space at the bottom of the printed page.

Among the different margins, the back margin has the least and the tail the highest margin, the head a little more than the back and the fore-edge a little less than the tail, but more than the head. If the back margin is one unit then the head margin can be one and a half unit, the fore edge two units and the tail two and a half units. Normally the back and the fore-edge margins are allotted in the ratio of 2:3 in the available space. The same ratio is followed for the head and tail margins in the available space.

Golden section is the most pleasing proportion between the text and the blank space. Progressive margins use more white space.

Planning for margins

Fig 2



PLANNING FOR MARGINS

IN2301112

Allotting margins depends upon the class of work (whether cheap, moderate or deluxe), type of binding etc. The margin are allotted as wide or narrow depending on the nature of the publication such as, cheap, moderate or costly edition and the purpose of publication. For cheap works very narrow margins will be sufficient so that the printing area may be increased to reduce the cost of production by bringing down the number of pages and quantity of paper. For deluxe and costlier editions the printing area is made lesser, allowing a wider margin around.

The smaller the size and more solid the page, the smaller the margin may be while large, widely-spaced setting requires liberal margins. The margin may also be determined by the necessity for getting a large quantity of text into comparatively few pages, then the margin must obviously be as limited as possible.

Margins are necessary for the following reasons

- for binding, sewing, and stitching purposes.
- to provide the trimming allowance and gripper allowance during printing on the machine.
- for printing the signature, headings, notes etc.
- to form a frame around printed matter to ease the strain on the eyes.
- to protect the printed matter while handling and turning the pages.
- for trimming during rebinding.
- wider margins are allotted sometimes in books of research and studies for the purpose of taking notes.
- white space around the matter is also a decoration.

Golden section

According to the golden section the width of the page should be proportional to its depth by a ratio of 2:3, meaning that a 6 x 9" book conforms with this proportion. The ratio of text to page area is also 2:3. The final rule of the golden section is that the text should be as deep as the sheets wide. The typographer has to work with two bits of knowledge: the size of the book and what the book is about, with this information typographer should, create an overall concept that presents and complements the author's ideas.

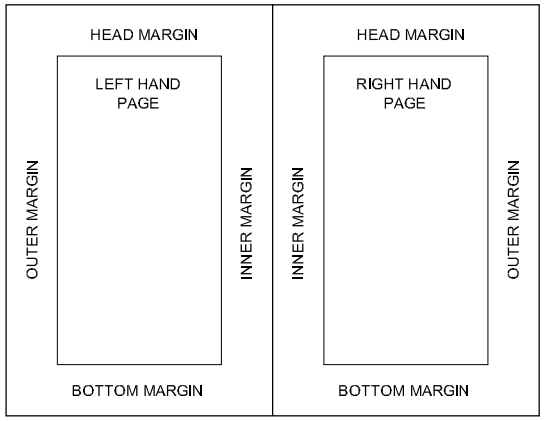
First significant design decision is the width of the margins. Margins serve at least four functions. They frame the text; provide a space for illustrations and folios; enable the reader to hold the book without hiding the text; and allow for trimming.

Different books require different margins. Mass market paper backs have narrow margins to reduce the number of pages and keep costs low. Quality books tend to have wider margins, which result in a more elegant appearance and higher production costs.

There are several classic theories as to how margins should be designed. The oldest is known as the Golden section. JAN TSCHICHOLD discovered that many medieval manuscripts and INCUNABULA shared a uniform proportion. The inner, outer, head and foot margins were determined according to the formula 2:3:4:6 if the inner margin was 2", the head was 3", the outer margin 4", and the foot 6".

These golden section proportions determine that the text dimensions of a 6 x 9 inch book will be 24 picas wide and 36 picas deep. There will be a 2 inch margin at the foot. 1 3/8" at the outer margin. 1 inch at the head, and 5/8 of an inch at the inner margin.

Fig 3



THE MARGINS IN A SHEET OF PAPER

A newer, closely related theory is the idea of progressive margins. Progressive margins become larger beginning with the inner margin and working counter clockwise on verso page and clockwise on recto pages. The proportions can vary. For example, if the inner margin is 1 inch, the head margin could be 2 inches, the outer margin 3 inches, and the bottom margin 4 inches. The basic difference between golden section and progressive margins is the absence of a uniform proportion.

Advantages of margins

Margins help the eye to focus of the type area. There should be more margins at the bottom of a page than at the top otherwise the type has the appearance of falling out of the page.

The inner margins should be less than the outer margins. Enough space should be left on the side margins for easy handling without obscuring type matters. The bottom margin should be large enough for the comfortable placing of the reader's thumb when the last lines of the page are being read, Good margins are an aid to legibility. The larger amount of margin on sides, head, and tail allows for subsequent cutting and rebinding without injury to the type idea. Ample margins also give room to the reader for annotation.

Body type size and leadings

"Body type" is normally no larger than 12 pt. used for the text or main part of a printed piece. "Leading" is the space between lines of type. Type may be "set solid" with no extra space or air between lines, making compact, or set spaced apart. Thus both size and leading affect the length of a column of type. If for example specified, it means that body type is 9 pt 10 pts of space, allowing 1 pt of leading lines.

Column width

Column width is specified in picas. "pica' is a common unit of measure in the printing industry and equivalent to 1/6 of an inch. 6 picas make 1 inch. "Column" is a vertical block of type made of two lines all set to the same width.

Depth

"Depth" is howlong a column of type will be, if depth has been estimated as 10 inches then add extra space between paragraphs or additional lines to compensate for anticipated changes after type is set.

Headlines and subheads

A "headline" or "head" identifies the subject of an accompanying article or block of copy. It is usually larger than the body type and often of a different weighter type style. A "subhead" is smaller than headline and appears as further introduction to the text/within the text to break into sections.

Book typeface selection

Type the voice of the printed page, should be legible and fascinating. Book-lover loves readability and legibility. A esthetic considerations are the dominant factors to prefer a classic types for printing a book. The choice of type is dependent on practical considerations as the kind of book, public, its length, its size, type area, the type size and leading, paper is another primary factor to decide type. Monotype book laces have high degree of legibility and grace of their letterforms. Leading has the optical effect of altering the colour values of the type on the printed page. The colour value (weight) of type is effected by the kind/ colour of paper used. Types like Casion, Garamond and perpetua attain their flowering in their larger sizes whilst fournier, plantain and imprint are most successful in smaller sizes.

Book-typography

Book design continuous to be vital part of the printing industry. Typography is important to the book in three distinct areas, the cover and jacket design, the text and the illustrative material.

Text face in chosen far less for it emotional impact than for simple legibility. The typographer selects a type face the best reflects what the book is about, charts, tables, and graphs are exempt.

From any debate regarding emotional appeal. Typeset illustration material is designed to present information that can be interpreted. A well designed graphic an convey statistical information.

Book typography must be emotive, legible and informative as the situation demands. These three functions offer a constant into which all typography must fit. Design strategies an discussed and executed either by in-house graphic personnel or by free-lance designers.

Book Jacket

Book jacket is an extraneous to the book. It demand the most careful, injenious treatment.

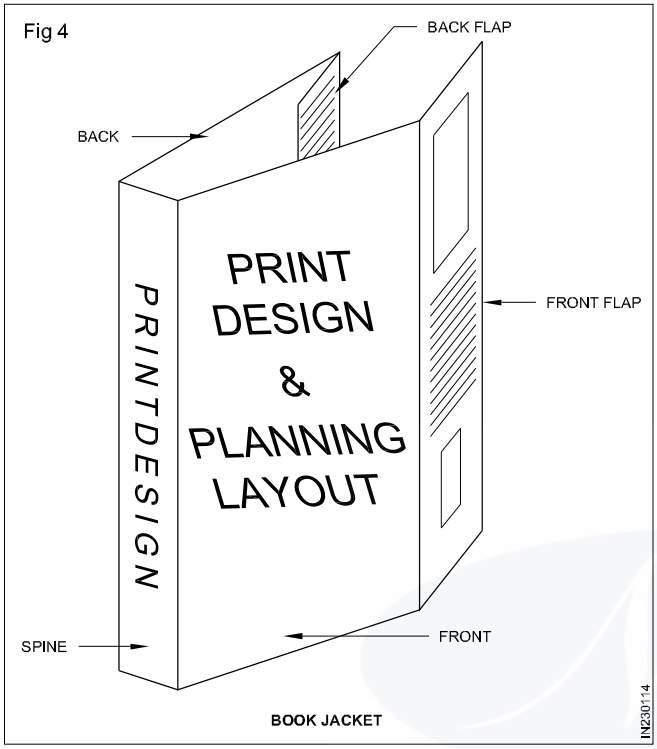
Book jacket is the loose paper wrapper placed round the binding case after the book is bound.

The original purpose is to protect the case before sale against handling and exposure to light and atmosphere.

The jacket is still referred to as the dust-wrapper. According to Rosner, "jacket is a poster wrapped round a commodity". Jacket is a sales device.

The book jacket should appeal to prospective buyers at a first impression when they see from 8 -10" distance and 3' high. The excellence of a jacket will play a competitive.

Jacket must have a recognizable style to invite the buyers. The best jacket designs are to be planned and executed by illustrators and art editors.



Types for jacket design

one of the following typefaces can be selected for jacket printing.

Suggested faces

Chisel, fat face, shaded ultra Bodoni, ultra bodoni condensed condensed-Roman, Times heavy titling, Gillsans bold sanserifs shadow and camco ruled.

Binding styles

The term "binding" means conventional book binding. There are basically three kinds of binding. (a) case or hard binding, or hard cover, (b) paper or paper back or soft cover. and (c) mechanical including "spiral" binding.

Tipping, wrapping & inserting:

Signature are bundled and sent to the gathering, department where they are assembled into books. Before they are gathered the end papers are tipped onto the first and last signatures and any illustrations are upped, inserted, or wrapped at the proper place.

Tipping means pasting onto a page with about 1/8" of pasted along the inside or gutter, edge.

Inserting into a signature means placing four or more pages in the middle or elsewhere.

Wrapping in the reverse of inserting: here the pages go around the outside of the text signature, mechanically the operation same as inserting.

Case binding

This is the conventional method of making a book. Where by the signatures are enclosed in a rigid cover to the inside of which they are attached by pasting the endpapers or the first and last pages (self-lining). There are several variations in case binding. The pages may be held together.

- **A** By sewing the signatures together.
- **B** By use of wire stables or
- **C** By adhesives (perfect binding)

There are two sewing methods:

Smyth sewing

The most common method used for trade books. If the book has only one signature and the stitching goes through the gutter. It is called saddle-stitching.

Side sewing

The thread is passed through the entire book about 1/8" from the back. For books over ¾" bulk machine sewing is used.

Wite stitching or stabling

This is a cheaper method of holding pages together when there is just one signature. Two or three wire stables are passed through the gutter as in a pamphlet. Side wire stitching is smaller to side sewing.

Perfect-binding (adhesive binding)

This process consists of trimming off the folds at the back of the book and applying an adhesive to hold the pages together. A more sophisticated type of perfect-binding is done by electronically welding the molecules of paper together. The perfect binding is commonly used on directories. Catalogues and large reports and now-a-days costly text books of limited pages. A soft cover-weight-paper is used to a hard cover.

A type of perfect binding may be done by office equipment or a bindery.

Preliminary matter

A book consists of three basic parts:

- **A** Front matter
- **B** Body and
- **C** Back matter

The cover/jacket of a book is an exterior which includes endpapers and spine.

The preliminary matter is otherwise called as front matter or prelims. Preliminary matter consists of all or a combination of the following.

1 Half-title (bastard title)
2 Announcement (fact title) or frontispiece
3 Title page
4 Copy right page

5 Dedication
6 Table of contents
7 Preface
8 Forewords
9 List of illustrations
10 Acknowledgements

Half-title page

The Half-title page is the first page to contain type. Always a recto, it features only the title of the book. This should appear on the upper fourth of the page. Half title type should be below 18pt often it is the same size as the type used for chapter openings.

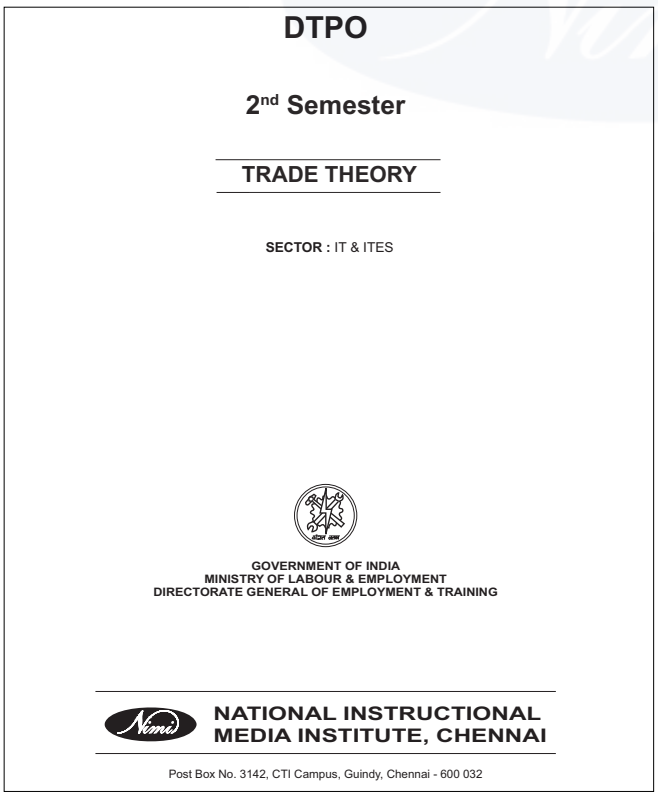
Announcement

Appears opposite the title page. The announcement, fact title or card is a list of books previously written by the author. This element is a new member of the front matter, replacing the frontispiece, a photograph that is related to the topic of the book. Announcement type should be set same size as the text type used in the body.

Title page

The title page includes the full title of the book; the authors name, the publisher's name, place of business and logo or emblem. This page is always a recto.

Typographically, the title page sets the tone and artistic style for the entire book. The important point is that the entire books have been devoted to the design of this page alone.


DTPO

2nd Semester

TRADE THEORY

SECTOR : IT & ITES

GOVERNMENT OF INDIA
MINISTRY OF LABOUR & EMPLOYMENT
DIRECTORATE GENERAL OF EMPLOYMENT & TRAINING

NATIONAL INSTRUCTIONAL MEDIA INSTITUTE, CHENNAI

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The type sizes to be used must be selected with the importance of the various elements in mind. The title should be set in the largest size on the page. The names of the author and publishers should be less prominent. They are often set in the same size.

The publisher's place of business and the date of publication merit the smallest type size -10, 12 pt is adequate. The typographer must not commit one mistake setting the word by in the same size as the author's name and thereby calling undue attention to an insignificant proposition. There are possible solutions cite the author's name without the use of word; Set the word by on a separate line in a smaller size, de-emposize the word in the same line by setting a lower case 'b', or combine the last two suggestions and a set by in smaller type on its own line.

The title page design should not exceed the dimensions of the text type specified for the body and should reflect the typography of the book as the whole. If illustrations are important part of the book, an illustration might be used on the title page.

Type selected for title should reflect the relative importance of the title page elements. The optical center and upper third of the page with the author's name below but still in the top off.

Wide white space should be left between the author's name the publishers name and emblem.

The last line on the title page should be in the bottom margin of the book and should align with the last line of type on text page. When possible, the title should align with the top line of a text page.

Today's title pages may contain a single hairline rule to demarcate the publishers imprint. Any additional decoration-borders, rules, is probably a poor choice.

Copy right page

The copy right page is located on the reverse-opposite of the title page (verso). Copy right contains the following information: a copy right notice, the date of publication, the name and address of the publisher; the edition number, a copyright warning, cataloging in publication (CIP) data, and the books FS ISBN International Standard Book Number.

Dedication

Appears either on the copyright page or directly opposite on its own page. If a full page is allotted to the dedication, the page should be a recto.

The type should be same size used for the announcement and text. Dedication should be placed at the head of the page or in the optical center. If it will be set on several lines, the first line should align with the top of a text page.

Table of contents

The contents page is a numbered recto. The table must show the relationships between the various parts of the text castly and quickly. The contents should be displayed in a text size (10-12pt). The header-Table of contents, list of contents, should be in the same size as the chapter opening heads.

Chapter number should be displayed at the left, followed by the chapter title. If there are more than nine chapters an en space should be set before the number in chapters 1 (through 9, so that single digit numerals will align with the second digit numerals 10 and above.

Chapter titles must be absolutely accurate. The page numbers are set after the mechanicals for the book are completed. Only there will be the exact sequence of pages be known. The page number of each chapter should be checked and rechecked. The chapter numbers, chapter titles and page numbers can be visually connected in many ways. Popular methods include the use of leaders, extra leading between chapter titles and bold faces.

The typography of the table of contents should not overpower the text.

Foreword

The foreword is the written by an authority on the subject matter, who explains why the book is an important contribution and appraises the author's standing in his/her field.

The foreword should be designed to be consistent with chapter opening pages. The first foreword page is usually a recto, but this decision may depend on the length of the foreword.

Preface

There is much confusion among the words the preface the foreword and the introduction. In general, the preface is a short preamble that may serve to acknowledge the help of other individuals/organizations/may summarize the methods used to collect information. Most important the preface should give the reader an idea of the book's purpose.

The design of the preface should echo the foreword and the chapter openings. The section should open an a recto.

List of illustrations

A list of illustrations tends to be added at the editor's discretion, believing that it will assist the reader. I should briefly identify the book's illustrations and include the page number on which each illustration appears. If an illustration appears on an unnumbered page. It should be identified by the number of the page that it faces/follows as facing page 124 or following page 124. If plate numbers or figs are used in the text they should be included in the list of illustrations.

This section directly follows the table of contents either on a verso or recto. The typographic style should closely follow that of the contents page.

Acknowledgements

Acknowledgements are made to persons and organizations helpful to the authors in preparing the manuscript. In a work discussing art or photography. Acknowledgements will also be made to museums and individuals who permitted the author to reproduce art work.

Other possible front matter include list of abbreviations (may be included as back matter), lists of contributors (short bio graphics), lists of symbols and errata. The errata is a list of all mistakes made in the book.

When designing the front matter, the typographer should not include more than one section on a single page. Acknowledgements should be either included in the preface or set as an acknowledgements page.

The body

For 350 years all typography was book typography and most book typography concerned body text. The typographer is concerned with several problems in designing the book proper the introduction, part-title pages. chapter openings, headers and footers, folios, heads and subheads, Captions, and footnotes. If the book is to be aesthetically successful, all elements must be treated uniformly and coherently.

Introduction and part-title pages

The introduction is treated exactly like a chapter. The introduction opening should be designed in the same way as a chapter opening.

Part-title pages separate sections consisting of several chapters within a book. Part title pages usually feature the same display type used on the title page and in chapter openings and may contain a decorative emblera or illustration that ties in with the overall design or theme of the work.

Chapter openings

Chapter openings should form a consistent pattern to secure the parts of the book together into a visual whole. Recto chapter openings were obligatory at one time, recto pages are noticed first by those leafing through a book and a verso chapter opening was avoided at all costs. The typographer should try to manipulate his/her design so that chapters regularly open on right hand pages.

After the title page, the chapter head is the one constant display element in all books, the only part of the body that is set in display type. It should typographically define the beginning of the chapter.

The typeface selected for the chapter number and title usually belongs to the same family as that chosen for the text. The type should be set in a size at least twice as large as the text type-bold face is rarely necessary. The title and chapter number are often placed in the optical center of the chapter opening page.

The typographer must decide how to design the text opening. The first letter/words of each chapter may receive special treatment so that they will be visually emphasized. For example, a raised initial simply involves setting the first letter in a type size larger than that used for the rest of the text. The more complicated hung initial involves indenting upto four lines of text. Finally, the first two words of the chapter may be set in small caps for an understated effect.

Heads and subheads

Captions that introduce sections of material within a chapter are called headings or heads. Subheads correspond to divisions within each main section. All heads and subheads should be separated from the text by the use of white space and by a distinct treatment of type. There should be more white space above heads and subheads than below. If equal space is used, it will be more difficult to discern the organization of the chapter.

Heads may be set as much as two to three points larger than the text type size. They may also be set in boldface, italics, or all caps, the main heads and various levels of subheads must all be distinct from one another. If a main head is set in boldface type two points larger than the text size, the first subhead may be set in upper and lowercase boldface that is the same size as the text and a second subhead may be set with identical specifications in roman. The typographer should specify heads to be set in the same family as the face used for the body.

Running heads

A running head is set along the top of each text page to identify basic information about the book. The three most common varieties of running heads include the book title on every page, the book title on the verso and the chapter title on the recto and the chapter title on the verso and an indication of the pages contents on the recto. In a volume of poetry, the repetition of the book's title throughout is perfectly appropriate, whereas in a technical reference work, the reader expects some help in locating specific pages.

Running heads not only aid the reader in finding particular parts of a book, but they also form a visual bond between two facing pages. A book without running heads will appear typographically disjointed.

The running head is sometimes placed along the outside margin or at the front of the page, whenever its location, it must be separated from the text either by some decorative device (a rule is common) or by white space. Page numbers can be incorporated into the running head in a variety of ways. When placed at the bottom of the page, the running head becomes footer and the page number becomes a drop folio.

If white space is used to separate the heads from the text, a minimum of six points should be specified. Running heads should be set in small caps/italics to distinguish them from the text. The type face should be from the same family as the text type. Overall, the running head should be a visual, strong enough to be easily seen the more important elements of the book.

Folios

Folios, or page numbers, are often designed in conjunction with the running head. The folio is usually placed on the outer edge of verso and recta page. Folios should never be placed in the gutter adjacent to the spine, because the reader will have difficulty in finding them there.

Folios are set in regular/italic type, boldface variations are rarely used. Like the running head the folio should be apparent when needed. If the folio is not part of the running head, it may be placed.

- In the outer margin at the approximate optical center.
- At the foot of the book in the outer margin , or
- At the foot of the book, centered wherever the folio is placed, it should be clearly discernible from the main body.

The folio on the chapter opening page receives special attention. Folios demand well-considered treatment because they are very important to the text.

After determining the position of the page the designer must consider whether to use old style/lining figures. If the folio is part of a running head set in small caps, an old style figure should be used. In general, old type figures have more serious tone and are less conspicuous than lining figures. It catches the eye prominent.

Captions

Captions describe/identify illustrations. They can also serve as a credit line that acknowledges the supplier of illustrative material. Caption typography should be internally consistent. They typographer should decide upon one measure for all captions. If that measure is less than a dozen picas the captions should be set ragged right. The ragged right lines will be much less noticeable than the CHOPPY lines created by a too-short justified measure. A caption should never be set longer than the width of the illustration.

Captions should be set at least two points size smaller than the text, but the type should be no larger than 8 point. If the illustration is a full bleed, place the caption on the opposite page, if the illustration takes up two facing pages place the caption on the next page. A MORTISE (a hole) or white box cutout the illustration with type dropped in, is unsightly, and should be avoided. The standard location of caption is below the illustration, flush left.

There are a few situations in which captions (in magazines), legends (in books), and cutlines (in news paper) are unnecessary.

Captions should do more than just describe what the picture shows or give the name of the person in it, because readers look at illustrations first, before they start to read the page. Their interest is aroused by images which ought, therefore, to be utilized as hooks to pull the readers into the story.

The caption should be closely attached to the picture so they are perceived together. Alignment and closeness are the two obvious techniques to make them appear that way.

Quotations

Quotations are either set as an integral part of the text or separated from the text by white space and an indent. The decision of when to segregate quotation is a matter of publishing house style. A general rule is that if the quotation is longer than fine text lines, it should be indented. Extracts may be set in a smaller size/italic. Extracts should be line spaced at least on a full text line before and after the quotation and indented two to four picas from both margins.

Footnotes and endnotes

Notes should be set atleast two points smaller than the text but no larger than 8 points. Footnotes are necessary only in scholarly we should be grouped either at the ends of as back matter.

Long footnotes may dominate the page. pographically, it would be better to eliminate foot-notes altogether but that would require readers to flip back and forth as they were reading, endnotes are the better typographic choice.

If notes appear in the back matter, they should be listed according to chapters as well as pages for easy cross-reference. Several different systems are used to identify footnotes-a series of asterisks and daggers on each page, sequential numbering in each chapter and sequential numbering throughout the text. If sequential numbering is used, one small error may mean that the entire book will have to be reset.

Back matter

The back matter consists of reference material helpful to the reader, including appendices, endnotes, glossary, bibliography, contributor's list index and colophon.

Appendix

An appendix contains information helping some readers. Explanations of research methods, text is of documents, tables of technical data are some examples. Typographically, the appendix is treated exactly as a chapter. If chapter opening pages are rectos, appendices should open on the recto. Type sizes should be the same as in the body copy.

Glossary

The glossary defines technical terms used in the text with which the reader may be unfamiliar.

Glossaries are often set in type that is one or two points smaller than the type used in the main body of the book. It is permissible to set the glossary in two columns. The glossary should be arranged in alphabetical order. If it is quite long the typographer should consider marking the beginning of each letter in the alphabet. This will break the monotony of uninteresting pages and it will help the readers to locate a word in the list.

Bibliography

The bibliography opening page should be consistent with the opening page of the glossary adn index. The type size may be one or two points smaller than the body copy size. The use of boldface and italics depends on the guidelines provided in the publisher's house style manual.

Index

The index is the last portion of the book to be designed and prepared. The index can we prepared only after the book is completely set and pasted upto pages.

The typography of the index with depend entirely upon how many pages the typographer has to devote to this portion of the book. Indexes may be set in four columns of 6 pt type or in two columns of 10 pt type if many back matter pages remain. It is the responsibility of the typographer to design the index before it is done.

The alphabetical divisions of the index should be made explicit with an initial letter or with whites pace less than twice the linespace being used. A regular type face, smaller than the text, should be used in index citations. Textual references should be clearly distinguished from references to illustrations. A good strategy is to set textual references in regular type and illustrations reference either in italic or bold.

The footnotes, glossary, bibliography and index are designed as a whole and often only after the remainder of the book has been set. At that point, the publishing house and the typographer know how many printed pages must be allotted for the front matter, body, and appendices. Often the remaining back matter is then "assigned" a specific number of pages.

Colophon

Colophon is appearing on either the copyright page or the last page of the book, the colophon includes the names of the designer, illustrator, printer, and binder, along with such information as the typeface, typesize, and paper used and other production details.

Tabular composition

Tables vary greatly in their nature and their relationship to the text and the ways of setting them vary accordingly. In general, they are set 2 or 3 sizes smaller than the text. When tables are set on slug-machines the use of horizontal rules usually presents no problems, but vertical rules may be vary expensive if it is necessary to cut slugs. In simple tables, each column can be set on its own measure, with vertical rules dropped in between. Complicated table which require both horizontal and vertical rules can be more economically set by photocomposition. It may be necessary to turn tables the other way of the page (side turn) if there are too many columns for the width.

Illustrations

Book production of a hundred years ago was capable of much memorable, but the purposes and methods of illustration were more limited and formal in those days than they are now. Today's pictures look different, describe different subject and appears in greater variety than in the past.

As a conspicuous element of the book's appearance, illustration deserves the designer's skill. Knowledge of reproduction methods and ability to adopt and manage pictures for presentation in book form are essential to success. Much illustrate is textual in purpose rather than decorative the decision of having more illustration is reserved by author or editor.

Position

The position of illustration is relation to each other to the text to the page, and to the rest of the book is regulated by the designer in every illustrator opening of a book. Illustrations area a conspicuous part of the book and their arrangement is conspicuous part of the book and their arrangement is conspicuous part of design. The position of each is a subeditorial matter which is best decided in terms of book design. The appearance of illustrated opening benefits from vertical/horizontal alignment between the various illustrations and other elements printed on it. Illustrate can be sized to align at one edge, with each other

and with the text area. At the other side drawings can be scattered across page or opening.

Illustrations of irregular outline need to be in balance rather than in alignment.

A rectangular squared-up half-tone, is placed with one/ more of its edges in exact alignment with other elements of the opening. The hard straight edges then seem to have been arranged with indent, parallel with edges of illustrations or text. Of halftones tones are two close to each other or to text, the leader may name difficulty in identifying as depart items. They may even appear to blend into a single picture from the text distract the reader or every picture is improved by a frame of white space and when text and illustration approach within a pica of each other, technical problem of page assembly may begin to appear. When halftone or solids are placed back-to-back on the same leaf, there is a risk that each will show through the paper to confuse the other. The printer may be cautious with his inking, too thick a film of ink causes set off on the printed sheet.

When illustration are printed as sections of plates they are usually backed, and when they are printed in the text, a textually appropriate position is usually to be prepared.

If text is to be divided by an illustration in mid page, the act of reading will be favoured by placing the illustration between two paragraphs, rather than in mid sentence within a paragraph. The division a paragraph into two parts on one page. Above and below an illustration, is now custom but dividing a word immediately before and after and illustration is clumsy.

When a typographic reference to a half page illustration appears in the lower half of a recto page, the illustration ill have to be placed in the next opening. Text reference to illustration as appearing above or below are likely to need amendment after makeup. Above and below books have to mean further back and further on. Marginal illustration tends to reduce the measure throughout the book. Placing illustrations in the margin has the advantage that throughout the book a number of a small or at least narrow pictures can be placed beside the actual reference to each, without extending the text or interrupting the reader. A recto pages are often preferred for full page illustration when they are few.

As a rule, lettering on any illustration should start from the top and read downwards, unless it is horizontal. Any lettering which reads upwards on the illustration will be printed up side down if the illustration is turned. Illustration should not, as a rule be printed on endpaper papers can be made tinted paper and printed a colour other than black, and they are always easy for the reader to find.

Kinds of illustration

There is a wide range of visual material included in illustration. The illustration are divided by function.

There are four kinds:

(a) Informative, (b) Suggestive, (c) Decorative and

d) Representative.

Informative

Illustration which explains or depicts facts circumstances characters, things and places. The realistic, drawings commonly used in teenage fictions the photographs, drawings, diagrams found in many technical and fiction books.

Suggestive

Suggestive illustration included all graphic elements designed to establish or enhance mood or atmosphere.

Decorative

These graphic element are meant simply to ornament the page.

Representative

These are works of art, used the purpose of producing pleasure of seeing the original.

Illustration Captions

Captions are elements of page design as pictures/text. If captions consist of a line/two they may be used to contrast with a large block of text/picture.

Captions must be readable but must contrast with the text sufficiently to avoid confusion. They may be set 1.2 or 3 sizes smaller than text and still be readable. It helps to set them in italics/in another face. In crowded layouts/texts, there is often a need to set captions in narrow measures.

When placing captions above and below illustrations remember that there are usually more ascenders and caps than descenders. There optically more space below a line than above necessary to specify a little more space 2pts) between pictures and captions place than those placed above.

Legends

Legend is a name given for the descriptive matter printed below an illustration. The custom of printing and publishing establishments is to prefer the term caption.

Caption or legends belongs under picture to which it refers. To put it in some other position above or besides the picture is to force the reader to search for it and perhaps to loose interest.

The size of the caption is frequently determined not by the extent of the ideas to be exposed. but by the space allocated to a picture text to it or in a similar position on the same or facing page. Pictures occupying adjacent/related positions are usually given identical space for captions.

Captions/legends that accompany photographs, charts, cartoons, and art work should be written carefully with a view to their purpose and the space available. Writing an effective caption takes more time and thought than its length would indicate caption must have some punch and be the proper length to fit the space limitations.

The caption writer is responsible for the line giving credit to the photographer/source of the chart/art work reproduced. This credit line may appear immediately below the picture, i.e. above the caption itself or as a final pharase in the last

line of the caption.

Casting off copy

Estimating the number of columns or pages a manuscript will make when set in type is defined as "Casting off".

"Casting off" in copy fitting, is considering or counting every letter, numeral, punctuation mark, word space as a character. Word processing system makes cast off simple. There are two kinds of cast off justified and unjustified.

Justified

To make a justified castoff, use revised gallery proofs if possible. Unrevised proofs may be used if the corrections are minor and the master proofs are at hand, so that the effect of the text changes can be taken into account. A difference of a line/two and a word/two may have a serious effect when number of pages is very close to the limit.

In a justified cast off, the pages should come out exactly as in the makeup, which means that all problems must be solved in detail.

The problems include: a) linal determination of the space to be used for illustrations. (b) Disposition of odd amounts of space resulting from matter set in lines of various depths. c) Provisions for widows and d) disposition of the various problems caused by running breaks that fall at the ends of pages.

Unjustified castoff

This is simply a linear measurement without allowance for alignment of short/long pages due to widows/other make up problems. An unlucky sequence of widows can throw a chapter over to another pages by adding several lines and this can affect the overall length. For this reason, an unjustified east off has limited value.

The quick-and-dirty method, used for longer manuscripts, is to find the average length of type written line by sampling several pages and multiplying the result by the number of lines in the copy.

A more precise method involves several steps.

First find the shortest full line on each page ignoring short end of paragraph lines. Then draw a vertical line through the copy.

Count the number of characters in the short line and multiply the result by the number of lines in the page. Next, count "leftover" characters to the right of the cut off line and add that total to the first total. Add a character to every line ending with a complete word. If we forget to account for the "invisible" word spaces. The count will be off by about 25 characters per page. Ignore end-of-line hyphens, because this is not to be hyphenated again.

The quickest and safest way to count characters is to make a character-gauge by typing a row of numerals along the edge of a sheet of paper.

Haber rule has gauges for elite and pica type and gauges for common text type sizes. It is an invaluable tool for the type designer.

Special setting-lists, indented quotations, must be cast off separately. Add additional line spacing above and below special settings.

There is no accurate method for counting variably spaced copy apart from counting, every character individually.

There are several different styles of character count tables; the most common is a character per- pica scale.

This chart indicates that 11 pt. perpetua sets at 2.81 characters per pica. This works for metal/phototypesetting systems. It will not work for digital systems:

The final step is to compute the vertical space and the depth of the type. Formula is depth of line X number of lines = depth of type.

Cast - off- problems

The treatment of space, breaks, run- in chapter titles, and subheads that fall at the bottom of pages are major problem of the castoff.

Copy fitting principles

Copy fittings or copy casting means calculating the area that copy will take up when it is converted into type.

There are several methods, some more, precise than others. The shorter the copy, the more, accurate the calculations must be

There are three common steps in copy fitting to proceed:

1 Casting off/computing the number of chargeters on the original copy.
2 Calculating the number of lines of type represented by the castoff.
3 Calculating the depth of the text block.

Copy fitting determines how much space body type will consume after it is typeset. This information is necessary when the typographer works with large amounts of type because the typeface, typesize, line space and line length selections have a significant impact upon the ultimate length of the printed work.

The decisions of the typographer are most often based on two considerations: Space and Cost in the first case, Particularly in advertising typography, copy fitting will determine what parameter may be specified to fit a given number of characters successfully in a given space. In second case, manuscript set in 8 pt type will take up less space than the same pages set in 12 pt. The selection of typographic parameters will be significantly influenced by the publisher's decision as to how many pages should be promoted. Copyfitting in the only way in which the typographer can be certain the chosen book length will be realised.

Every typographer must know how to copyfit. Designers and art directors often write the notation set to fit, meaning that the type setter should fit the copy into the block that has been created.

Before determining space for typesetting, one must assess how long type written manuscripts is. To do this, we must count the characters in the manuscript. Usually the copy has been typed consistently in one of the two

standard typewriter styles: Pica and Elite, pica type has ten characters to the inch; Elite typewriting is slightly smaller there are twelve characters to the inch.

Counting one line

The first step in copyfitting is to count the number of characters in a single line. We can do this either by counting the number of characters in one inch and multiplying the figure by the number of inches in the line, or simply by counting each character.

Pick a line of average length. The character count computing is an average. A very short very long line will skew the average either high/low. Remember also that when counting characters for copy fitting, count letters, figures, punctuation marks, and spaces between words. When finished counting oneline, write down the number.

The page count

After counted the number of characters in one line, it is easy to compute the number of characters on one page. Count the number of lines on the page, ignoring very short lines. Multiply that number by the character count determined in step one. This is the page character count. If the manuscript has more than a single page, the page character count is first computed as outlined above. Then determine the number of full pages of manuscript. Pages will one/two lines may be ignored; if two characters each end with a half page, the two half pages are counted as a single page. After determining the number of full pages, multiply the page character count by the number of full pages to obtain the manuscript character count, the number of characters in the complete manuscript.

Copy fitting charts

Before going further in copy fitting, the typesetting specifications must be established. Assume that the type is to be set in 10pt Helvetica with an 11 pt line space on a 20 pica measure.

the copy fitting chart-the character for 10pt type is 2.68. write this down.

If the measure is 20 picas, how many type characters will be in one line of type? As you know there are 2.68 characters in every pica and there are 20 picas. Multiply the character-per-pica value by the measure. The result will be the number of characters that will appear in each line of typesetting.

Number of typeset lines

To determine the number of lines, divide the number of typeset characters one line into the total page character count. Remember that we are concerned with typeset characters. Use the value determined in step three using the copyfitting chart. As a simple example, if a document has 100 characters and there are 20 typeset characters in each line, the typeset job will have five lines. Refer this with copy and copy fitted text (chart).

Vertical depth

After determining the number of typeset line the copy fitting exercise is basically complete layout artist could now draw the number of puted typeset lines. But there are more steps to round out the job.

First, remember that the linespace has been specified as 11 pts. To make certain that the type will fit the layout, we must compute the total depth of the typesetting. If oneline takes up 11pts, multiply the number of typeset lines determined in step four to compute the total depth is points. It is difficult to visualize what a depth of 351 points means. For better comprehension, the copyfitter should convert depth in points into depth in picas. Since there are 12 points in a pica, the conversion is quite simple; divide the depth is points by 12. If it is necessary convert the measure in to inches by dividing the depth is picas by 6.

Copy fitting prevents the page from designing itself. The type should not consume whatever space it happens to require. The typographer control the page.

Copyfitting

Here is a roundup of the copyfitting steps:

1 Count the number of characters in an average line of type writing.

2 Count the number of lines in the manuscript.

3 Multiply the number of characters in one the number of lines. That is the total typewritten characters.

4 After specifying type, consult a copy fitting chart. Find the per pica value for type face and type size chosen.

5 Multiply the character per pica value by the measure specified. This is the number of characters in one typeset line.

6 Divide the number of characters in one typeset line by the total number of typewritten characters in the manuscript. This is the number of typeset lines.

7 Multiply the number of typeset lines by the line space. This is total depth in points.

8 Convert depth in points in to depth in picas by dividing by 12. If necessary convert depth in picas in to depth in inches by dividing by 6.

Points and picas

Points and picas are the printer's until of measure, and this measure is used with all typesetting systems for practical purpose note that;

Six picas make one inch.

One pica makes 12 points.

The standard typewriter produces six single spaced lines per inch, hence each line is a pica.

It is simple to convert any number of pica lines to points. For instance six inches equal to 36 picas and 36 picas equal to 432 points. If you were going to set type in nine point solid you need only divide 432 by nine, and you would get a result of 48.(432/9) Thus 48 lines of nine point type would fit into 36 picas.

To save time, a line guage, will visually indicate the number of lines in a given amount of space.

Method of copyfitting

To determine how many lines of type will be set from a manuscript, you should have knowledge of some system of quick and simple. Let's examine a system called the Character Count Method:

Every size and style of type will have a character count which refers to the average number of characters that will fit into one pica. This count is referred to as "Character per pica" or "CPP". (REFER XEROX COPY)

There are 26 letters in the alphabet, let us add 2.5 more characters for punctuation marks we have figure 26+2.5 = 28.5 - we can call "K" (Constant).

Simple formula for character per pica for the modern type style:

$$\frac{\text{K(constant)}}{\text{lower case alphbet length in picas}} = \text{CPP}$$

The measurement of modern typeface lower case line is 14.25 picas.

To figure the character per pica for modern type,

$$\frac{28.5}{14.25} = 2\,\text{CPP}$$

To determine the characters per picas, first measure the lower case line from the left of the 'A' to the right of the 'Z', use picas scale for accuracy for greatest accuracy a point-scale should be used.

Let us assume a manuscript contains 30,000 characters. It is to be set in eight point type, 12 picas wide. The character count is 2.5 CPP for our type style.

If our type is to be set 12 picas wide, we can multiply 12 by 2.5 which tells us that one line will require 30 characters.

12 picas by 2.5 CPP = 30 characters in one line. 30,000 character manuscripts will require 1000 lines of type.

Lines in manuscript	19
Average characters per manuscript	65
Characters in manuscript	12.35
Type character per pica	2.5
Type line width in picas	17
Characters in one line	45.9

The square inch method

Square inch method is another method of estimating copy fit which is not as accurate as the character count method. It can be convenient for quick estimating.

Determine the number of words in the manuscript. Determine the number of words of type to be set in one inch.

Divide as:

$$\frac{\text{Number of words in manuscript}}{\text{Number of words in 1 square inch}} = \text{Number of square inches job will make for example}$$

$$\frac{\text{40,000 words in manuscript}}{\text{20 words per square inch}} = 2000 \text{ square inch of composition}$$

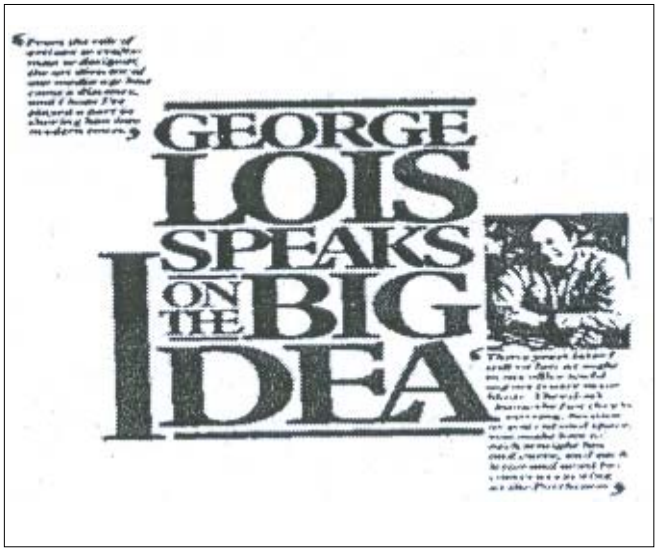
To find the number of square inches you merely multiply the length times the width. If the type area is 4" by 5" then the number of square inches would be 20.

They balance and counter balance in the placement of various elements in a layout.

Whatever be the advantages of the decorations they are never as important as the type; and the designer should not allow their beauty or importance to die with the message for the sake of attention. A precaution in the use of decoration is, "Decorate constructions; do not construct decorations." Decoration for the sake of decoration can spoil the beauty of the design, instead of creating it. Any exclamation from the reader relating to the beauty of the decorative elements is sure proof that they are interfering with the effectiveness of the message. Remove all rules, borders and ornaments then if you feel that something is wanting, then use them.

Excessive ornaments may interfere with the legibility of the letters. For this reason designers tend to prefer those ornamental series which in their fundamental form are close to the conventional proportions of the roman or italic printed letters. The only kind of ornamental letter which has no place in book is that which is ambiguous or difficult to recognize at a glance.

Remember that simplicity is the style of modern typography. It is not a must that we fill every blank space with some decoration or ornaments. Modern typography considers that, white space is the bes decoration.



Preparation of originals

Any matter to be reproduced graphically can be called an original. It includes a wide variety of items such as, manuscript, art pulls of types, india ink drawings, painting, photographs slides, transparencies etc. Great care and accuracy is required in the preparation of the originals to ensure precision and good result in reproduction.

Adhering to suggested ground rules, for good preparation of the original, may prevent costly mistakes:

- Use clean, white, standard size paper to prepare original according to the nature of the work.
- If manuscript, it should be legible. Typing should be double-spaced, clean and on one side of the paper alone and wide margins should be used.
- Corrections should be neatly made, using standard proof reader's marks to prevent misunderstandings.
- Sheet should be numbered consecutively. If any addition or removal is done, proper notation should be made on the preceding and succeeding page.
- Illustrations should be neatly drawn in india ink on white drawing paper. An art work in black and white should not be rolled, folded, pinned or clipped as these marks will appear in the reproduction. An over-flap or flap of thin paper is pasted over for protection from dirt and dust.
- Glossy photographs are more suitable for reproduction and scanning as they reflect light better. Matt prints reproduce badly. Special care is needed to be keep them devoid of pin arks, finger prints, scratches etc. This applies also to transparencies.
- Squaring up, adding register marks, centre marks, trim marks etc., are also essential steps in the preparation of the original for reproduction.
- All originals should be prepared in a size proportionate to that of the reproduction.

A particular process may require great contrast and tone values of the original, while others may not demand so much. In certain cases excess enlargement or reduction may take away the details of the original. Very small original when unduly enlarged, will show graininees and other defects magnified. So size and nature of the original is also important. All these points must be taken into consideration in assessing the suitability of originals for reproduction.

Copy preparation

The copy for setting and reproduction should be typed in double spacing, with ample margins. Space for illustrations is marked up. Clear instructions regarding the size, face, line measure, page depth, indention, notes, captions etc., are also given specially. Copy preparation also includes the careful checking of house style and consistency in English usage, such as capitalization, italicization, the treatment of affixes, punctuation, indention etc. The illustration and photographs to be reproduced also are supplied along with the type script. While the type-script is clear and well spaced the photographs also should be devoid of defects such as, folds, crease, pin marks, scratches etc.

A copy prepare should edit the manuscript so thoroughly that changes will be kept to an absolute minimum. Frequent changes, corrections or resetting can be time consuming and costly.

The following are points to be borne in mind while preparing a copy:

- Correcting all misspelled words.
- Copy preparer should be proficient in spelling and possess a good dictionary.
- Use consistent capitalization according to a set style.
- Correcting faulty punctuations.
- Compounding of words correctly and consistently
- Watch for coordination between reference in the text and corresponding footnotes.
- Maintain uniformity and consistency throughout the text.
- Checking the correct numerical order of figures and alphabetical order of letters.
- See to illustrations to make sure that they are properly placed, all accounted for and identified correctly.
- Observe rules on the use of number, whether they are to be shown as figures or spelled out.
- Indicate styles of type, indention, length of line and other markings.

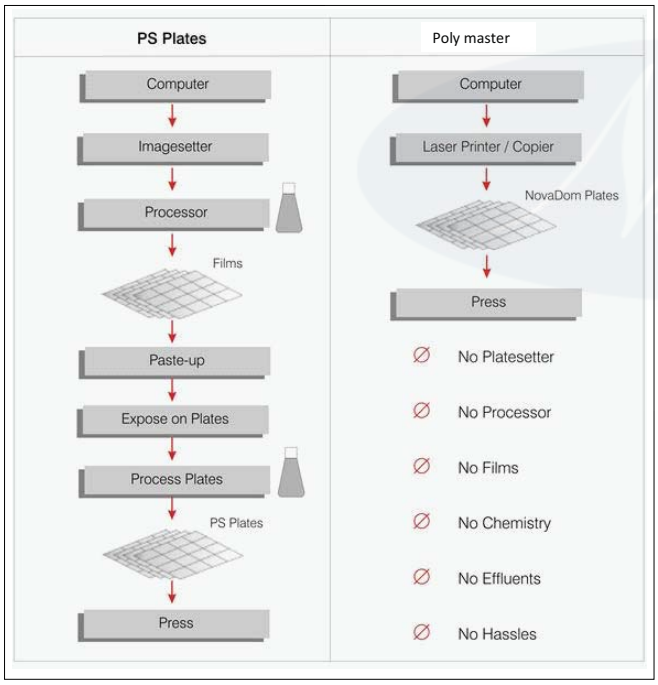
Preparation of Master

Master paper is a polyester plate for sheet-fed small offset printing. It can be imaged on both sides directly through a laser printer or copier and does not require any exposing or processing. Just mount the plate on the press and print. Master paper or poly master is ideally suitable for long run print applications such as Newsletters, Book Publication, Forms and Literatures.

Features & Benefits

- Double sided plate to facilitate imaging & printing on either side
- Inventive surface coating to give long run-length upto 10,000 impressions from each side of the plate
- scum-free background during start-up and press stop-pages
- Innovative AntiGrease layer safeguards the surface from finger prints or marks
- User-friendly QuicK cleaning treatment that ensures that the plate fits closely around the cylinder, facilitating quick make readies
- Universally compatible with most laser printers and photo copiers#

Conventional v/s CtPoli Laser System



Press Proofs

Press proofs are the most accurate proofs, since they simulate the final printed product using the actual ink and paper stock you have selected for your job. They are produced with actual plates mounted on a proofing press. The two other options, digital off-press proofs and analog off-press proofs, either are produced with products other than printing ink--such as films or powders (for analog proofs such as Matchprints and Cromalins) or dyes, toners, or ink-jet inks (for digital proofs). Furthermore, they are usually printed on paper stocks that differ in color or surface texture from that used for the final product.

Press proofs can show how the color of the actual printing paper will alter the ink colors and how the paper's texture will affect the "feel" of the printed product. They also reflect actual dot gain as well as show the true color of a duotone (since digital proofing devices only simulate PMS colors with 4-color process inks or toners).

Prepress

Prepress is the term to describe all of the processes that occur before **printing** and **finishing.** Since many publications nowadays are published both in print and electronically, many refer to the shared processes as **premedia** services instead.

Prepress Overview

The prepress processes that are listed below may take place at one single location, such as a large publishing and printing company, or at a variety of places. Usually some tasks happen at a publisher while others take place at a printer or a dedicated prepress company (which are sometimes referred to as service bureaus or trade shops).

Design: Since the advent of desktop publishing, many people in the printing industry no longer consider design to be a prepress task. The design process includes:

- Preparing data, which includes **copyediting** and product **photography,** such as for a mail order catalog.
- Creating the **layout** is done using one of the leading **design application** such as Adobe InDesign or QuarkXPress. People outside the graphic arts community may use tools like Microsoft Office or Publisher. There is also a wide range of specialized applications for tasks like **database publishing.**
- The correction cycle includes processes such as **proof reading** and **image retouching,** for which Adobe Photoshop is the leading application.

Preflighting: Before finished pages go through the remaining processes, a validation is done to check if all the data meet the necessary production requirements.

Proofing: During the design phase there are already page proofs being created. Proofs are usually also made by the company that is responsible for the printing. This can be done for internal checks of the impositioning (imposition proofs) as well as for their customer who needs to sign off the proofs for approval. More and more such proofs are **soft proofs** that are evaluated on a monitor. **Hardcopy proofing** remains popular when there is sufficient time for it and for color critical or expensive jobs.

Imposition: Depending on the final output device a number of pages will be combined into signatures.

Output to the **final output** device such as a digital press, filmsetter or CtP device. To output data, pages or complete flats have to be ripped or rendered. This process usually also includes:

- **transparency flattening:** transparency effects such as drop shadows behind text need to be resolved.
- **color separation**
- **color management**
- **trapping**
- **screening**

Some people prefer to delay the above destination specific conversions to the very last moment. This is commonly referred to as **late binding.** Once a job is printed, its data usually go into an **archive.**

Many of the above steps are nowadays heavily automated, by either stand-alone applications or **prepress workflow systems.** The automation also allows for more elaborate **communication processes:**

- Exchanging data such as the final layout may still happen using a physical carrier such as a DVD. In the past people usually submitted the native data, meaning the original layout file(s) and all associated images, fonts and other data. Nowadays **PDF** files are often used instead.
- Increasingly the internet is used for submitting jobs. This is referred to as **web-to-print.**
    - When the data exchange focuses purely on page content, solutions range from using an FTP server or e-mail system to using file sharing tools such as DropBox or YouSendIt. A more sophisticated **web portal** can add functions such as preflighting and page approval.
    - A **digital storefront** enables a printer to not just capture page content but also order related information. Such a system can also facilitate reorders and allow print buyers to customize documents on-line.
- Job related data such as the job ID or run length are exchanged between systems such as an MIS (Management Information System), a prepress workflow, press control system and finishing equipment. Protocols such as JDF allow systems from different vendors to exchange the necessary data.
- Many projects nowadays are published using other media besides print as well. The content of a magazine may also be published on the web while the content of a book is repurposed for e-books. There are special tools and protocols such as XML to facilitate **cross media publishing.**

Installation of Multilingual Software

Objectives: At the end of this lesson you shall be able to
- **practice installing Multilingual Sofware for Windows O/S**
- **practice Configuring for a particular script.**

India is a unique country in the world having 22 scheduled languages besides heritage languages and over one hundred widely used languages with different scripts. Despite a very impressive growth of computers and the Internet over the past few decades, most of the content on the Internet and most of the ICT based solutions in India are still available only in English. This is in stark contrast to hardly 10% of Indians who can use English as a language for communication. It is realized long ago that penetration of IT to masses is possible in India only if we develop tools and technologies to overcome this language barrier. Hence, for the last 25 years, it has been pursuing pioneering research in Language Technology and Heritage Computing. Technology Development for Indian Languages (TDIL) Programme initiated by the Department of Electronics & Information Technology (DeitY), Govt. India has the objective to develop information processing tools to facilitate human machine interaction in Indian languages and to develop technologies to access multilingual knowledge resources. Department of Information Technology launched another major initiative called National Rollout Plan to aggregate these software tools and to make these available through a web based Indian Language Data Centre (ILDC). This activity is being executed in close coordination with CDAC, GIST, Pune, Maharashtra. Under this user friendly software tools and fonts are being made available free for public through language CDs and web downloads for the benefit of masses.

Most of us require a lot of typing in regional language scripts, for printing and emailing. Although there are different methods for inputting Regional Language Script in computer, the most widely used and favourite is undoubtedly ISM, which is created by the C-DAC. It has to be said here that the current Regional Language script typing standard is UNICODE Fonts.

The availability of these software tools, fonts and resources in local languages at no cost is intended to motivate general public to use ICT tools and technology in their day to day work like Word Processing, Presentation preparation, Spread Sheets preparation, Web Page Surfing & Designing, Messaging etc. in local languages. Further, the consolidated availability of linguistic resources and tools at one place will help researchers to carry out their research in a smooth and efficient manner. Establishing standards such as ISCII, Unicode, ISFOC, etc. for Indian language applications on computers and electronic media. It is also working for standardization of W3C (Languages on Web), Internationalized Domain names, Governance, linguistics formats, storage, input, display fonts, etc. developed several True Type Fonts (TTFs) and Open Font Format for various Indian Languages. For UNICODE support in various applications, it has developed Open Type Fonts for various scripts in all 22 official languages. Over 8000 fonts consisting of True Type, Open Type and Bitmap have been produced so far.

Indian Language Tools

For printing most of the Indian scripts, one needs hundreds of shapes, which may need to overlapped with each other. The Matras can be attached on the top, bottom, left or right of a character. It is possible to create all this variety easily by hand. How easy would this be through a keyboard?

An English typewriter keyboard just had to provide for 26 keys for accommodating the lower-case and upper-case alphabet, and a few more for punctuations, numerals and special characters. A computer keyboard provides 47 keys for accommodating these English characters. Is it possible to provide an overlay on these keys, for typing characters in Indian scripts?

If a different overlay is required for each Indian script, how will a person be able to learn different overlays for typing the different scripts which he knows. Wouldn't this create a barrier in the use of different Indian scripts-hindering national integration itself? Although we have declared Hindi as our national language, it has not been accepted as a functional language in several states.

The In-script keyboard overlay has achieved, what was earlier thought as not possible. It allows all the Indian scripts, to be typed in a uniform manner. This means that a person knowing how to type in one script can immediately typing any other, since the keystrokes remain the same. The inscript overlay always generation of hundreds or thousands of character combination which may exist in a script, by typing just the basic alphabet which gets easily accommodated on an English keyboard.

The inscript overlay could achieve this miracle, by making use of the fact that there are less than 70 basic letters in any Indian script. Although the exact number of letters may vary in each script, they are all similar, since they originated from the same ancient script Brahmi. Brahmi letters, had the vowels and consonants, categorized on a scientific and phonetic basis.

To enable development of Indian language applications with greater ease, there are several tools

- Intelligent Script Manager (ISM) for 19 Indian Languages
- Sree Lipi for 12 Indian Languages
- Font Suvitha Professional for many Indian Languages
- PATRIKA for many Indian Languages
- iLEAP for many Indian Languages
- LEAP Office for many Indian Languages
- ISM Office for many Indian Languages
- ISM Publisher for many Indian Languages
- ISM Soft for many Indian Languages
- INDICA for many Indian Languages
- ELANGO for Tamil
- PONMOZHI for Tamil
- VANAVIL for Tamil
- BARAHA for many Indian Languages
- THOOLIKA for Malayalam
- LEKHINI for Telugu

As per e-Governance standards of character encoding for Indian-languages, all government web applications should be in Unicode. Standardization is one of the baselines to be followed in localization. Standardization means to follow certain universally accepted standards so that the developers from any part of the globe could interact through the application. The worldwide encoding standard "Unicode" provides code points to every alphabet of the world.

All the major operating systems, browsers, editors, word processors and applications and tools are supporting Unicode so it is necessary to use Indian languages and scripts in the Unicode environment, which will resolve the compatibility issue.

Laclisation is the process of adapting software for a particular country or region. For example, software must support the character set of local language and must be configured to numbers and other values in local format. Localising a word processor or DTP software might require adding new spell checker that recognizes the words in local language scripts.

With the mandate given by the Government of India for the Rupee sign, now ISM introduced Rupee sign in both Inscript and QWERT keybaord overlays for all 20 Indian official languages

Unicode

It is an international encoding standard for use with different languages and scripts, by which each letter, digit, or symbol is assigned a unique numeric value that applies across different platforms and programs.

Unicode is intended to address the need for a workable, reliable world text encoding. Unicode could be roughly described as "wide-body ASCII" that has been stretched to 16 bits to encompass the characters of all the world's living languages. In a properly engineered design, 16 bits per character are more than sufficient for this purpose.

Unicode provides a unique number for every character,

- no matter what the platform
- no matter what the program
- no matter what the language

The Unicode Consortium was founded to develop, extend and promote use of the Unicode Standard, which specifies the representation of text in modern software products and standards. The Consortium is a non-profit, charitable organization.

Notable addition to Unicode include Arabic, Armenian, Cyrillic, Devanagari, Georgian, Greek, Gujarati, Gurumukhi, Hebrew, Kannada, Latin, Malayalam, Oriya, Tamil, Telugu, Thai, Tibetan etc.

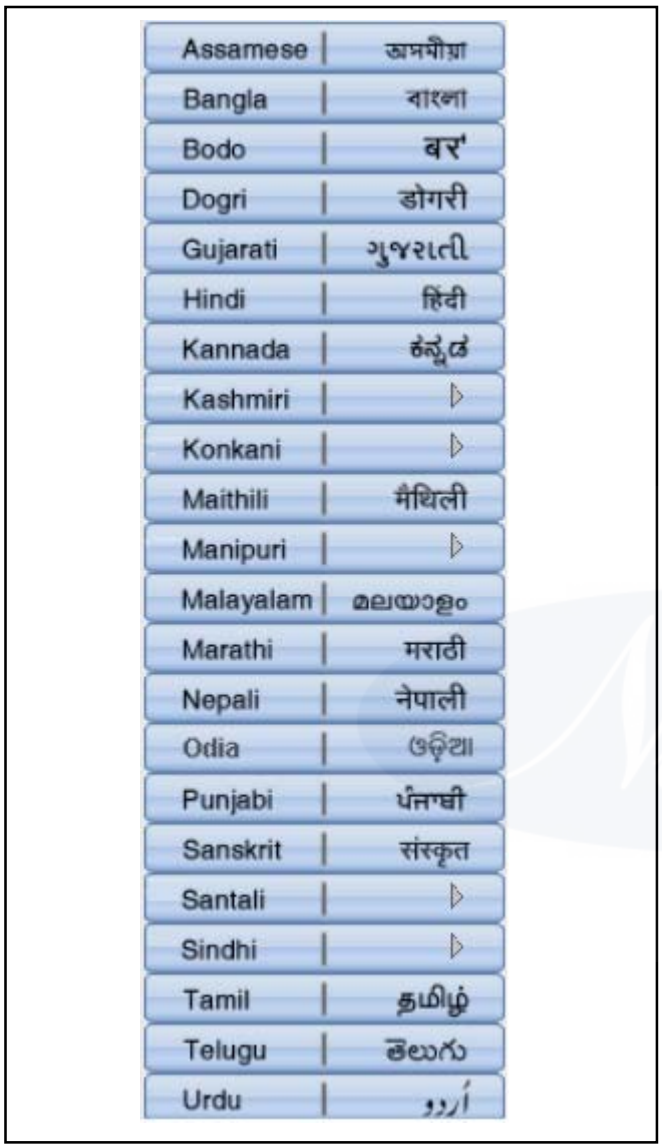
ISM Publisher V6

The latest ISM V6 is completely UNICODE compliant which offers support for Open Type fonts. ISM V6 will cater to diverse user requirements from word processing, database applications, web-based applications, publishing and even custom built software, said a press release.

The ISM V6 is UNICODE compliant and comprises of ISM Office, ISM Publisher and ISM Soft and supports 19 Indian languages such as Assamese, Bengali, Gujarati, Hindi, Kannada, Marathi, Malayalam, Oriya, Punjabi, Sanskrit, Tamil, Telegu, Manipuri, Nepali, Konkani, Bodo, Santhali, Maithili, Dogri besides English. It also has a rich collection of designs and clip arts. It also include an enhanced spellchecker for Open Office and MS Word macros like Find-replace, keyboard shortcut, convert macro, spellchecker, synonym dictionary and Official language dictionary available for documents in open type font.

Most ISM utilities now have Bilingual font implementation. This means that the same font contains both English and Indian language capability. It is not necessary to select a different font for English and Indian scripts. The Script toggle key will automatically switch between the two. This facility is particularly useful in applications such as Spread Sheet and Database programs that allow only one font to be selected at a time and where bi-lingual data is to be displayed.

The ISM is supplied with Dongles. A dongle is a piece of hardware that attaches to a computer and allows a piece of secured software to run. The device does not contain the software in its entirety, but rather is an electronic key that unlocks the program on a computer. In most cases, it is used as an anti-piracy measure, since making a copy of the hardware is much more difficult than copying the program itself.



ISM V6 works with USB based Dongle. These are especially useful in modern-day systems and laptops. ISM V6 can also be alternatively used with a hardware lock which can be connected to your computer's parallel port for using the ISM V6 package. Your printer cable can be connected after this dongle. This does not affect the normal functioning or performance of any of your system's hardware or software. If you have two parallel ports, you can install the dongle in any one of them and the other can be used to install the printer's cable. Do not remove or attach the dongle when your computer is switched on. Also make sure that your printer port is configured for a "Centronics" parallel port.

Installing the ISM software

It is recommended that you close all other programs while running the ISM V6 Installer. To install the software, insert the ISM V6 CD in the CD-ROM drive.Most of the systems are enabled for CD autorun. This will initiate the installation process automatically. However if the installation does not start automatically, run setup.exe.

The Installation program is interactive. It will prompt you for the requred information and guide you through the entire installation.

Most of the utilities and fonts in your ISM V6 distribution CD-ROM are in encrypted and compressed form. During installation the ISM V6 installer will automatically decrypt and uncompress these files while copying them to your hard disk.

The following table lists utilities and fonts that get installed with ISM V6.

- Clip Art Viewer
- Configurable Keyboard
- Font Previewer
- ISM and HTML Converter
- Data Migration System
- Official Language Dictionary
- Name Trans
- ISM api Help
- Kbd api Help
- ISM Editor
- MS Office Macros
- Star Office 6.0 Macros
- Open Office Macros
- Fonts

Before beginning to install ISM V6, set the macros security settings in MS Word to set 'low'. ISM V6 comes with a collection of utilities that can be used with MS Word and MS Excel. True Type Default fonts of all languages along with two Open Type Fonts also installed.

Font Types in ISM

1. Open Type (OT) Fonts

Open Type fonts support UNICODE data. You require Windows OS and Language Pack installed in your system in-order to use Open Type Fonts. An Indian language Open Type font can be used in various applications which support UNICODE for complex scripts such as those by Indian Languages. These are 16 bit fonts and so require the latest OS and applications to work.

2. TrueType Fonts

These are single files using the extension .TTF. You can use a TrueType font on any computer running Windows. An Indian language True Type font file consists of information about character shapes, also known as glyphs. One or more glyphs from the true type font file are used to form Indian language characters.

2. ISFOC Fonts

The aesthetic quality of the displayed text output depends on the number of unique shapes available with the font. Fonts cater to a heterogeneous range of applications. For e.g. the publishing industry requires very high quality display, but does not need support for English characters, where as a data entry software would require bilingual support from a single font. Web data poses other specific requirements on fonts. With these considerations in mind, ISM V6 supports 6 font types.

2.1.1. ISFOC Bilingual Web

This font is similar to the bilingual font. In addition, it is optimized for web applications. This font type is especially useful for developing Indian language applications and static or dynamic web pages. The Monolingual and Bilingual web fonts can be used in web as well as non-web application areas with equal effectiveness.

2.1.2 ISFOC Bilingual

A bilingual font is one, which has glyphs for one Indian language script along with glyphs for English. With this font you can create content that contains Indian language as well as English text without having to change the font.

2.1.3 ISFOC Monolingual Web

This font is similar to the monolingual font. This font is additionally optimized for web applications. It is recommend Desktop Publishers, web content creators, who don't require bilingual text, but require high quality monolingual text, to use this font type.

2.1.4 ISFOC Monolingual

A monolingual font has glyphs for only one script. This allows the font to have a large number of unique glyphs for a particular script. This font type produces high quality output and should be used for DTP applications.

2.1.5 ISO Bilingual

ISO Bilingual fonts are recommended for use where Bilingual support is required in special applications such as Oracle Forms, .Net, etc. Note that all languages are not supported under ISO Bilingual.

2.1.6 ISO Monolingual

ISO Monolingual fonts are recommended for use where Monolingual support is required in special applications such as Oracle Forms, .Net, etc. Note that all languages are not supported under ISO Monolingual.

2.1.7 Printer Outline (.PFB)

The printer outline contains the information for printing a smooth font of any size. Adobe Type Manager (ATM) also uses the printer outline to create smooth fonts on the screen of all sizes.

2.1.8 The Metrics File (.PFM)

The metrics file contains measurement information for the font. Always keep these two files together so that the font prints and displays properly.

ISM Conventions (ISFOC Script Mnemonic)

Each script is given a two letter mnemonic in ISM V6, which are the first two characters of all the ISFOC fonts.

The ISFOC Script Mnemonics are:

Mnemonics	Language
AS	Assamese
BN	Bengali
DV	Devanagari
EN	English
GJ	Gujarati
KN	Kannada
ML	Malayalam
OR	Oriya
PN	Punjabi
SD	Sanskrit
TM	Tamil
TL	Telugu
BRXOT	Bodo
DGROT	Dogri
KONOT	Konkani
MAIOT	Maithili
NEPOT	Nepali
SATOT	Santhali

ISFOC Font Naming Convention

ISM V6 comes with two types of fonts, namely True Type and open type. An ISFOC font file name can have 8 characters. The first two characters in the font file name constitute the script and font type mnemonic. For example, here DV indicates Devanagari, similarly KN indicates Kannada.

Mnemonic	Script	Font Type
DV	Devanagari	Monolingual
DVB	Devanagari	Bilingual
DVW	Devanagari	Monolingual Web
DVBW	Devanagari	Bilingual Web
DVOT	Devanagari	Unicode
TM	Tamil ISFOC	Monolingual
TMB	Tamil ISFOC	Bilingual
TMW	Tamil ISFOC	Monolingual Web
TMBW	Tamil ISFOC	Bilingual Web
TMOT	Tamil UNICODE	Unicode

Windows explorer will display the font file as DVYG0NTT.TTF, whereas the application menu will display the font as DV-TT Yogesh.

Introduction to Digital Printing

Digital printing refers to methods of printing from a digital-based image directly to a variety of media. It usually refers to professional printing where small run jobs from desktop publishing and other digital sources are printed using large format and/or high volume laser or inkjet printers. Digital printing has a higher cost per page than more traditional offset printing methods, but this price is usually offset by avoiding the cost of all the technical steps required to make printing plates. It also allows for on-demand printing, short turn around time, and even a modification of the image used for each impression. The savings in labour and the ever increasing capability of digital presses means that digital printing is reaching the point where it can match or supersede offset printing technology's ability to produce larger print runs of several thousand sheets at a low price.

The process

The greatest difference between digital printing and other methods such as letterpress, lithography, flexography or gravure is that there is no need to replace printing plates in digital printing, whereas in analog printing the plates are repeatedly replaced. This results in quicker turnaround time and lower cost when using digital printing, but typically a loss of some fine-image detail by most commercial digital printing processes.

In digital printing, an image is sent directly to the printer using digital files such as PDFs and those from graphics software such as Illustrator and InDesign.

Without the need to create a plate, digital printing has brought about fast turnaround times and printing on demand. Instead of having to print large, pre-determined runs, requests can be made for as little as one print. While offset printing still often results in slightly better quality prints, digital methods are being worked on at a fast rate to improve quality and lower costs. In other words, it is printing without a printing press, without printing plates.

Offset, or conventional printing, has changed little since the original steam powered offset press was first developed in 1906. It involves a mechanical process of applying layers of ink to paper with a series of rollers. Each roller has its own specified ink – Cyan, Magenta, Yellow and Black — or CMYK. As each of these rollers pass over the page, they transfer ink and build layers of colors, resulting in complete images and text on the page. Additionally, specialized colors called Pantones or PMS colors can be added to the layout if very specific colors are needed, for instance in a logo.

Digital printing eliminates the numerous steps involved in the offset printing process, such as creating films and plates for ink rollers. Most digital presses today apply ink in a single pass from a single ink head, similar to common inkjet printers found in homes and offices.

Examples of Digital Presses are:

- Technova Pamex
- Konica Minolta Bizhub Presses
- Kodak Prosper
- Xerox iGen4
- Xerox Nuvera
- DocuTech

Working with multilingual software

Objectives: At the end of this lesson you shall be able to
- **practice working with multilingual software with application software**
- **practice working with multi scripts in the same page.**

To begin using ISM with any application software, for example with Adobe PageMaker 6.5 or 7.0, First we can load the application software, here it is Adobe PageMaker. And create a new file by using File --> New command.

Later goto ISM and choose script you want to enter, Keyboard overlay to be used, selection of Toggle key and Font type as shown below. Then select the Font from the Adobe PageMaker. Switch on the toggle key to begin typing. When there is a need to enter any English scripts in between, proceed clicking on Toggle key to switch over to English.

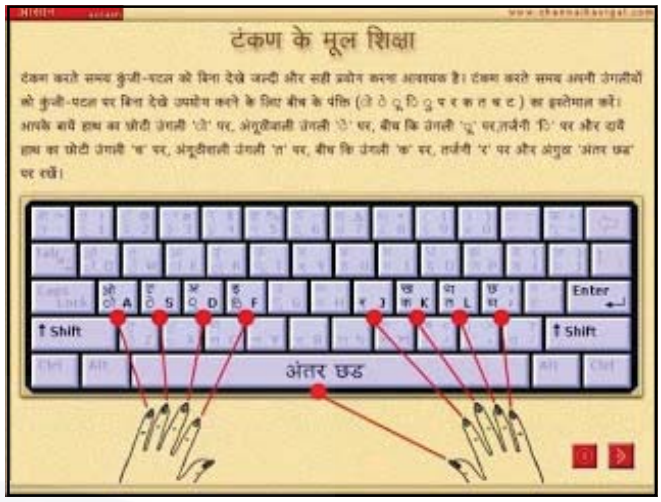
Keyboards in ISM V6

ISM V6 allows you to type with keyboards of your choice. The keyboards supported by ISM V6 are INSCRIPT, Phonetic, Easy Phonetic and numerous other popular typewriters. ISM V6 also allows you to configure your own keyboard.

But it is recommended to use any one of the Keyboard overlay to expertise in Regional Language Script entry.

INSCRIPT

The INSCRIPT (Indian Script) keyboard overlay was standardized by Department of Electronics (DOE) in 1986 with a subsequent revision in 1998. This keyboard overlay is phonetic in nature and has a common layout for all the scripts provided with this software. The INSCRIPT overlay contains characters required for all the Indian scripts, as defined by the ISCII character set. The Indian script alphabet (ISCII) has a logical structure derived from the phonetic properties of the Indian scripts. The INSCRIPT overlay mirrors this logical structure. Due to the phonetic nature of the keyboard, a person who knows typing in one Indian script can type in any other Indian script. The logical structure allows ease in learning. Most modern operating systems come with Inbuilt support for INSCRIPT layout.



Phonetic English

This keyboard overlay, has the Indian script alphabets phonetically assigned to that of English alphabets on the IBM-PC QWERTY overlay. This keyboard is useful for people who are acquainted with the language

Typewriter

Typewriter keyboard overlay functions in the same manner as the manual typewriter. Users accustomed to working with a typewriter can use this facility with minimal learning and training time.

Easy Phonetic English

This is special Keyboard Layout designed by C-DAC, same as Phonetic English Typing for Indian languages. This makes Typing in Indian languages very simple for anyone who know english Typing.

Indian Language Scripts or Indian Language Alphabets can be divided into Vowels, Consonants, Conjucts, Vowel Diacritics (Matras), Halents etc.

Custom Keyboard

Besides a wide range of keyboards to choose from, ISM V6 additionally provides users with a facility to create fully customized keyboards.

Language & Scripts in India

Hindi is spoken as a mother tongue of majority of the population, mainly in the area known as the Hindi belt comprising Bihar, Madhya Pradesh, Rajasthan, Chhattisgarh, Uttarakhand, Uttar Pradesh, Haryana

Jharkhand, Arunachal Pradesh and Himachal Pradesh. It is the official language of the Indian Union and the above states. Hindi is also spoken in Nepal. Devanagari is the script used to write Hindi, Nepali, Marathi, Konkani, Bodo and Maithili and some other languages and dialects of India.

Assamese is the state language of Assam and is spoken by nearly 65 to 70% of the State's population. The origin of this language dates back to the 13th century and also spoken in Arunachal Pradesh. This is written in Assamese script which is similar to Bangla script.

Bengali (Bangla) is spoken by nearly 200 million people in the world. It includes in West Bengal, Tripura, Assam, Andaman & Nicobar Islands, Jharkhand, Bihar and in Bangladesh. It developed as a language in the 13th century and is the official state language of the eastern state of West Bengal and Tripura. This is written in Bengali script.

Gujarati is the state language of Gujarat and is spoken by 70% of the State's population. It is Indic in origin and branched out from the Indo-European group of languages.

Kannada is the State language of Karnataka and is spoken by 70% of the State's population. Kannada is written in Kannada script.

Kashmiri is a language written in both Persio-Arabic and Devanagri script and is spoken by 55% of the population of Jammu and Kashmir.

Konkani, principally based on classical Sanskrit, belongs to the south western branch of Indo-Aryan languages. It is spoken in the Konkan region covering Goa and parts of the coastal regions of Karnataka, Kerala and Maharashtra. But it does not have its own script.

Malayalam is a Dravidian language, spoken by the people of Kerala, Lakshdweep and parts of Puducherry. It is an ancient language and is thousands years old and written in Malayalam script. Malayalam is also spoken in Bahrain, Fiji, Israel, Malaysia, Qatar, Singapore, UAE and Saudi Arabia.

Marathi is an Indic language dating back to the 13th century. It is the official language of the western state of Maharashtra and also spoken in Goa. This is also written in Devanagari script.

Oriya, the state language of Orissa is spoken by nearly 90% of its population and written in Oriya script.

Punjabi is an Indic language and is spoken in the state of Punjab. Although based on the Devanagri script, it is written in the 16th century script called Gurumukhi, created by the Sikh Guru, Angad.

Sanskrit is one of the oldest languages of the world and also the language of classical India. All the classical literature and the Indian epics are written in this language. Sankrit is also written in Devanagari script with slight variations.

Sindhi is spoken by a great number of people in the Northwest frontier of the Indian sub-continent comprising parts of India and Pakistan. In Pakistan, the language is written in the Perso-Arabic script, while in India in the Devanagri script.

Tamil, an ancient Dravidian language is at least 2,000 years old. It is the state language of Tamil Nadu, Puducherry and Andaman Nicobar Islands and is spoken by at least 165 million people around the globe. Tamil is also spoken in Sri Lanka, Malaysia, Singapore and Mauritius and written in Tamil script.

Telugu is also a Dravidian language and is the spoken by the people of Andhra Pradesh, Telangana and parts of Puducherry. Telugu is written in Telugu script.

Urdu is the state language of Jammu and Kashmir and it evolved with Hindi in the capital of India, Delhi. Urdu is also spoken in Pakisthan and Middle East. Urdu is written in the Persio-Arabic script and contains many words from the Persian language.

English is also spoken in most of states of Indian Union and used as the Languages for Inter state communication. English is the officail state language of Mekhalaya, Nagaland, Manipur, Andaman & Nicobar Islands, Chandigarh, Dadra & Nagar Haveli and Lakshadweep and is spoken by 5% of the Indian population. But 28% to 30% of the Indian population deals with English scripts.

Feature of ISM V6

- Macros for Open Office and MS-Word, find-replace for regional scripts, keyboard shortcuts, script converters, spellcheckers, synonym dictionary, official language dictionary etc. are available. The mail merge feature is now also available in UNICODE also.
- UNICODE sorting of data in Excel, Calc through macros
- Enhanced spellcheckers in Hindi, Gujarati, Bengali & Malayalam are available.
- Features like insert date & time facility, number to word conversion etc.
- Easy phonetic keyboard.
- Apart from BIS standardized INSCRIPT keyboard support for popular keyboard layouts like typewriter as well as custom designed layouts available.
- On screen keyboards to expedite content creation and facilitate learning etc.
- Range of aesthetic assortment of True Type fonts, symbols, borders and cliparts.
- Publish content on the web using applications like MS Front Page, Flash, Dreamweaver etc.
- Supports popular publishing software such as CorelDraw, PhotoShop, Adobe Illustrator etc.
- Indian languages in mailing through ISM-Mail.

Working with advanced tools & settings of ISM

Objectives: At the end of this lesson you shall be able to
- **practice creating conjects in regional language scripts**
- **inserting special characters.**

Historically, India has been a multilingual country. Today, the India Constitution officially recognizes 18 languages and ten different scripts used in different states / regions spread across the country.

Despite the plurality of languages and scripts, the underlying grammar is largely similar across languages with a common vocabulary of 40 to 80 percent. Hence translation from one script to English and English to regional language script is necessitted.

C-DAC provided the solution to us by introducing nTrans.

nTRANS Software

nTrans can be used for converting English names to Indian language in ISCII and vice versa.

It is possible to convert either a single name at a time or an entire file of data from either English to ISCII or from ISCII to English. All names in a file must be either in English or in ISCII.

The utility also allows the user to build and update a Personal Dictionary where the user can store preferred conversions.

If the source file contains data in English, two ouput files with data converted to ISCII and ISFOC respectively are generated.

While, if the source file contains names in ISCII, the output file generated will contain data in English.

The utility appends "_Isc.txt" to the output file with ISCII data and "_Isfoc.txt" to the output file with ISFOC data. "_Eng.txt" is appended to the output file containing English data (in case of ISCII to English conversion.).

To view the converted data, click on View English Output if your source file is in ISCII. Click on View ISCII Output or View ISFOC Output if your source file contains names in English.

nTrans uses its default dictionary to convert names from ISCII to English and vice versa. To bring the accuracy of nTrans closer to your requirements, you can store preferred conversions or customized conversions for specific names in the Personal Dictionary. The utility will then use the preferred conversions or customised conversions whenever it encounters the specified names.

For example

The default dictionary of nTrans will give the English conversion for the name जगदीश as "jagdish". However you may prefer the converted output to be "jagadish" or "jagdeesh".

Please note that the utility will take a longer time to do conversion as the custom dictionary increases in size. The total number of words that users can add to the Personal dictionary is about 4000 words. By default the personal dictionary is empty. Personal Dictionary does not accept duplicate entries; new entry will replace old entry. Commonly used acronym such as Dr., Mr., Mrs. are available as an inbuilt feature.

Figures to Words Conversions

This utility allows users to convert numbers, date and time into words in Indian language and transfer the converted data on to UNICODE enabled documents or editors. The data gets converted to the language that has been specified in Language on the ISM V6 user interface. The font type for data transfer is as specified by user on the ISM V6 user interface. Various formats for Date and Time are also supported.

Font Previewer

ISM V6 is packaged with a plethora of aesthetic TT and OT fonts and symbols. To save disk space, the installation program installs two most commonly used fonts for each language by default. Additional TT fonts are located at

CD Root:\Fonts\Language\TTFonts.

Using the Font Previewer tool, users can install/uninstall additional fonts. The Font Previewer also provides facility to preview a font before installing it.

Font Previewer can be accessed from the ISM V6 user interface or from Windows Start menu, through Tools in ISM V6 Publisher.

The Font Previewer can be used to install or uninstall only True Type fonts and Open Type fonts.

Monolingual and Bilingual data is not supported under Windows Vista Operating System. For Windows Vista, it is recommend using Web fonts or Open Type fonts (wherever supported).

Uninstalling Fonts

Type Face Name on Remove Fonts page displays fonts installed on the system. Select the fonts you want to uninstall and click on Remove Fonts button. A preview of the selected font will be displayed in the preview pane.

ISM V6 comes with a plethora of fonts and symbols. The installation program installs two most commonly used fonts for each language, by default, for all types of installations.

These fonts do not get installed automatically through the installation program. The user can install extra fonts in from the Control Panel.

Clip Art Viewer

Lists various available categories of clip-art. Select a Clip-Art Category to view a list of available cliparts in the Clip-Arts list.

This lists various clip-arts within each category. You can select a clip-art from this list to display it in the preview window. Clip-arts are available as .jpg format files. Clip Arts Viewer permit us to browse, open, copy, save, changing attributes etc.

Floating Keyboard

The Floating Keyboard is a handy typing tool developed especially for users who are not comfortable with the keyboard overlay. The Floating Keyboard is also useful for keyboards that do not have a printed overlay. The Floating Keyboard facilitates typing by displaying on the screen, the layout of the selected keyboard (INSCRIPT, Phonetic, Typewriter or Customized) for the selected language and font type.

The Floating Keyboard resides on top of all applications running on the system. Floating keyboard is placed in system tray when minimized.

When toggling between applications you need to click on the active application each time before you can use the Floating Keyboard.

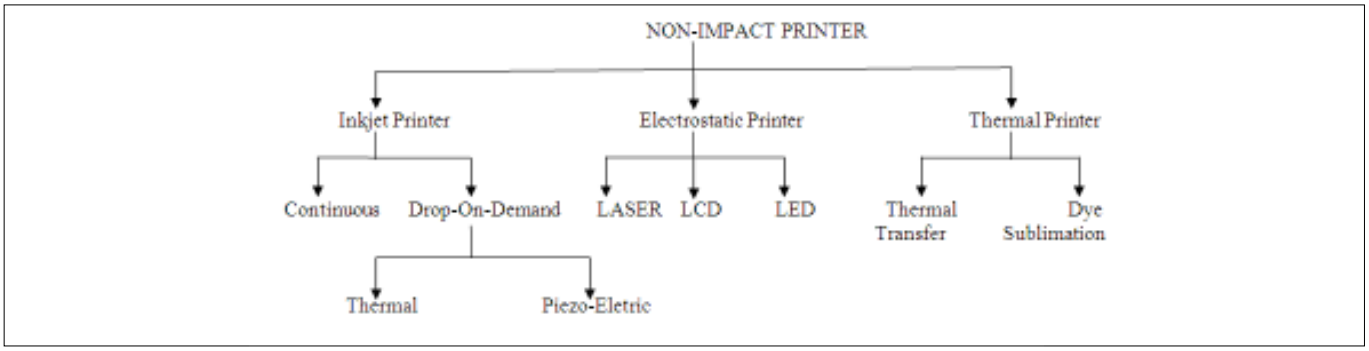
To type a character key that is located in the Shift position, press down the Shift key of the physical keyboard or the floating keyboard.

Classification of Printers

Objectives : At the end of this lesson you shall be able to
- **explain impact and non-impact printer**
- **determine the importance non-impact printers**
- **illustrate with diagram thermal printer.**

Printers can be categorized as:

- Impact printers
- Non impact printers



- LASER - Light Amplification Stimulated Emulsion By Radiation
- LCD - Liquefied Crystal Diode
- LED - Light Emitting Diode

IMPACT PRINTER - In an impact printer printing heads strikes and imaged on a paper. In impact printer printing heads marks the sheet (paper) by impact against a ribbon as in Tele type printer, Line printer, Dot matrix printer, Daisy wheel printer.

NON - IMPACT PRINTER - We divided non impact systems into inkjet printer and eletronic printer (laser printer) used as an output to work in D.T.P.

Non-impact printer - There are countless methods of actually transferring a rasterized image to paper. The contending technologies can be broadly grouped into non-impact systems and conventional process that have been modified to accept direct digital imaging of the printing surface (the term "non-impact" was originally coined to describe computer printers that did not employ printing heads that marked sheets by impact against a ribbon, as do Tele type printer, Dot matrix printer and Daisy wheel printer) for convenience, we have divided the non-impact systems into inkjet (where a liquid ink is propelled onto the paper); electrostatic (where a wax or dye colorant is transferred to the paper by heat).Further we can add a thermal technology for broad scenario. The classification is something of a simplification, and many devices do not fit neatly into one or other of the categories proposed.

All non-impact printers (system) have three basic components:-

a) A RIP

b) A buffer

c) A marking engine

a) A RIP:- A raster image processor to convert the image into a bitmap suitable for the printer.

b) A buffer:- A buffer that holds the rasterized image in memory ready for printing.

c) A marking engine :- A marking engine that transfers colorant to the substrate.

The RIP may be located within the printing device itself, or externally in a separate hardware RIP or in the host computer (Main computer that attached directly to the printer). In some cases, the printing speed of the marking engine can be as high as that of a small conventional printing press, but in practice, the speed may be limited by the capabilities by the RIP and the page buffer.

Inkject printer

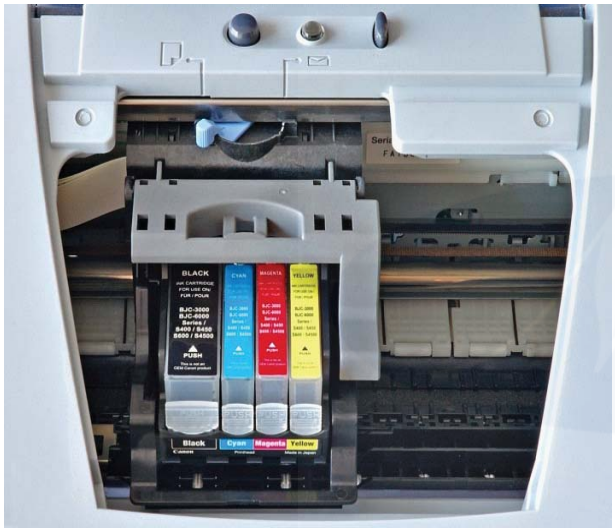
Inkjet printers generate ink droplets, either by forcing a continuous stream of ink through a nozzle (with the unwanted droplets deflected electro-statically to a waste gutter) or by dropellng droplets on demand according to the image requirements. Drop-on-demand desktop inkjet printers propel ink by thermal or piezoelectric methods.

Thermal inkjet (or bubble jets) printer heat a tiny amount of ink until it vapourizes, its expansion forcing liquid ink through an aperture (setting a shape) at a high speed, while piezoelectric (or phase change) systems rely on the properties of quartz and ceramic material (used to give shape image) to change shape when a charge is applied,

mechanically forcing ink out through an oppening/ nozzle.Most systems are effectively binary-droplets tha cannot vary in size but some continuous inkjet printer have the ability to send several droplets to the same location on the paper, resulting in the droplets merging and spreading as they arrive at the paper surface.The number of droplets that can be sent to the same spot determines the number of gray levels that the process can achieve.

Most desktop inkjet printers can produce resolutions comparable to low-end laser printers, at around 300 dpi. At this resolution, working at upto 20,000 cycles per second, a twelve jet array takes a minute or show to print a single page. The lower resolutions and faster droplet generation of pres-mounted continuous ink inkjet allow them to print at the full production speed of the press, which may be as much as 70,000 copies per hour.

Inkjet devices can print on most papers, although drying is slow on stocls with low absorbency, and wicking (an ink which is spread into the fibres inside) can occur on highly absorbent materials newsprint.



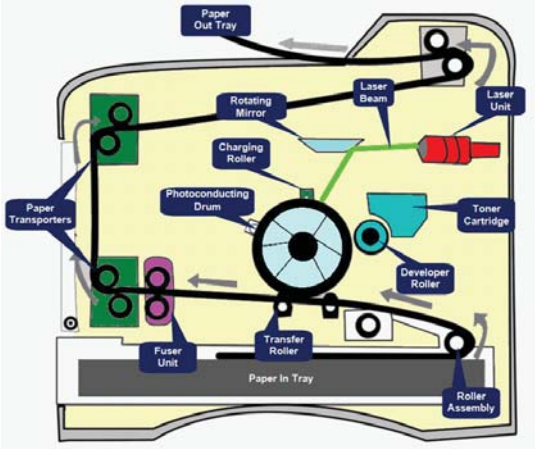
Inkjet printer diagram

Desktop color inkjet printers produce color documents and visualization proofs, but higher resolutions are needed for approval proofs, and even these can not reproduce the halftone screen exactly as it will appear in the final printed job.With some color inkjet devices, the the ink used is solid at room temperature and briefly liquifies as it is heated prior to printing.It then re-solidifies immediately upon reaching the paper, providing a sharper image and stronger color since the paper does not absorb this ink at as it would any normal liquid ink.

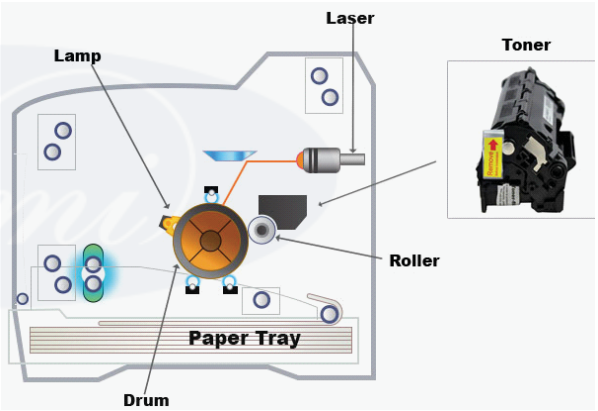
Electrostatic printer

Electostatic printers, covers photocopiers, laser printers, LED printers , LCD printers and other printing devices that employ the Xerography principle of using an electrical charge to attract the image areas.A pattern of charged areas corresponding to the image that is to be printed is created on a dielectric drum (OPC-Organic Photo Conductor).Toner with an opposite charge charge is brused over the drum,where it adheres only to the image areas and is then transferred to the paper.

The image is formed on the drum by the first applying a charge to the whole drum.A high-intensity light source scans across the surface, switching on and off according to the image requirementsand the charge dissipated wherever light falls on it. In a photocopier, the light is reflected from an original resting a platen through a lens on to the drum, while, in a laser-printer, the light sources are laser or LED or LCD devices driven by digital image data which is sent by computer system.



Schematic of a laser printer



Basic laser printer components

Laser printers usually have resolutions of 600 dpi,although 4800 dpi now technically feasible.

Toner particles size around 10 microns and the resolving powder of the transferred drum set the ultimate upper limit of the possible resolution.High microns of toner particles having less dpi and low microns of toner particles have more/high dpi.High resolution electrostatic system using liquid toner(instead of solid particles) produce high quality color print but they are more expensive than solid toner system.Toner particles size (aroun 2 microns) is smaller than solid toner.

Laser printer

A typical laser printer that utilize a laser beam to produce an image on a drum.The light of the laser attracts the electrical charge on the drum whenever it hits.The drum is then roll through a reservoir of toner which is picked up by the charged portion of the drum.Finally,the toner is transferred to the paper through a combination of heat or pressure.

LED

The difference is only the method of the light distribution in LED printers.LED printers function by the beam of an array of LED builts into the cover of the printer that usually more than 2500 covering the entire width of the drum which creates an image when shinning down at 90°. The number of dpi depends upon the number of LED. If the printer prints 600 dpi than the printers have 600 LED per square inch.

LCD

LCD printers using a similar principles only differences is the light source. Liquid crystal panels is used as a light source in place of laser on LED matrices.

Thermal printer

The 'Thermal printer' covers a very wide variety of different techniques but the following two are of particular importance:

a) Thermal transfer

b) Dye sublimation

Both type use semi-conductor resistor to heat the colorant so that it can be transferred to the paper.

a) Thermal transfer - In the thermal transfer, the colorant is effectively melted onto the paper,like a miniature version of wax sealing.

b) Dye sublimation - The dye sublimation printing,the colorant is vapourized before transfer to the paper.

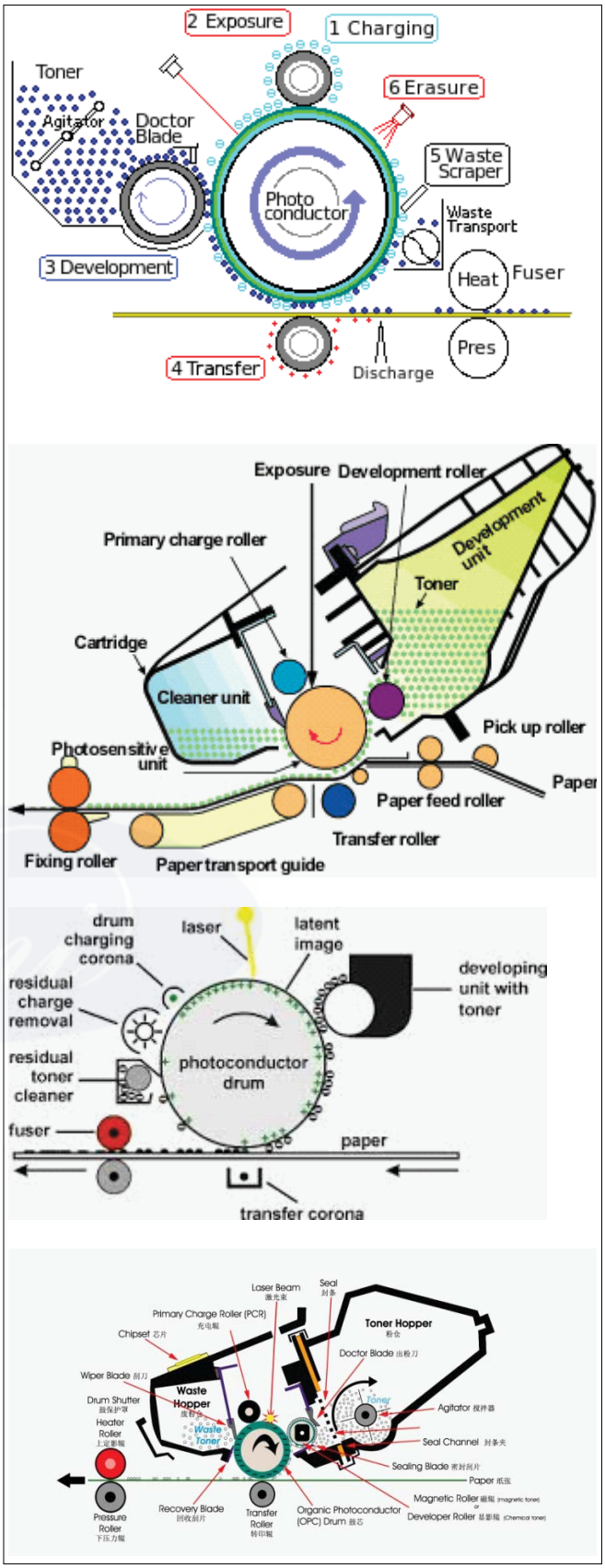
Thermal system that produces binary images does not have adequate resolution (dpi) to form halftone screens and instead uses coarse dither patterns to reproduce continuous - tone images.

By applying a variable voltage to the resistors in a dye-sublimation printer, different densities of colorant can be transferred to give a gray scale instead of binary image.

The dye of three primary colors (black is often unnecessary due to high density of the CMY solid overprint) combines, resulting in a continuous-tone image very similar to the photographic point. Dye-sublimation systems of this sort do not simulate a halftone dot when used for proofing, and because a continuous-tone image is produced a resolution of around 300 dpi is adequate.

Dye-sublimation printers produce brilliant, saturated colors. The slow down speed of output makes them suitable mainly for one-off print such as color proofs, print from digital cameras, and presentation materials. Special papers are required for most systems.

For longer runs, electrostatic systems are currently the most successful technologies, with speeds that approach conventional lithographic printing. In the future it is possible that inkjet may emerge as the most viable digital printing technology, but at present the difficulty in achieving acceptable resolution at high production speeds excluding inkjet from color printing at speed.



Digital color presses are faster to set up than conventional presses since there is no need to adjust position or inking levels. The current thermal electrostatic printing technologies includes-

i. Dry Electro Photography - With pigmented toner powder as the printing media.

ii. Liquid Electro Photography - With pigment particles suspended in a liquid.

iii. Phase-Change Electro Photography - With pigment suspended in a waxy solid that is briefly liquefied during image transfer.

Some important notes

a. Inkjet Printer - Both speed and dpi low.

b. Thermal Printer - Speed low and dpi high.

c. Electrostatic Printer - Both dpi and speed high.

- Sublimation - Direct from solid to gas state is called sublimation.

Merits of inkjet printer

- Colour printing is possible
- Print quality is good
- Noiseless
- Printing speed is high
- Most models are relatively light weight and compact so they don't take up too much space on the desk

De-merits merits of inkjet printer

- Not be the printer of choice for everyone, Due to the cost of ink, running an inkjet printer over time is a more expensive than a laser printer.
- Prints emerge from the printer slightly wet and may need time to dry.
- Printing is slower and therefore inkjets aren't designed for high volume printing. Ink cartridges spill out tiny droplets of ink to print, the resolution is lower than that of laser toners

Merit of laser printer

- High quality printouts - better than ink-jet or dot-matrix
- Fast printouts - faster than ink-jet or dot-matrix
- Prints very quietly - quieter than ink-jet or dot-matrix
- Cost per page is low - cheaper than ink-jet or dot-matrix

De-merit of laser printer

- Most expensive printer type to buy, especially colour lasers.
- Toner is more Expensive than inkjet printer.
- Expensive to repair -lots of complex equipment inside.
- Larger in size than inkjet printer.

Binding

Book are repositories of knowledge and wisdom. They are mirrors of our culture and civilization. Books are records of our history and have been treasured and preserved from time immemorial. If binding is not done adequately and securely, in the required style and strength, the whole labour in designing and publishing a book may go waste, the product will not last long. The shape of book gave rise to the need of binding. Binding, therefore was and is needed for saving books for as long a period as possible. The main purpose of the binding is to hold pages of a book together and protect them.

Sheets of paper are bound together in several pages by different ways. Methods of binding are important to use and like of the book. Some are designed for low cost and short life. Others for long life and hard use. Methods of binding are classified into five types. They are:

Mechanical binding

In this type of binding some mechanical devices are used. Three common mechanical binding methods are spiral binding, comb binding, and wire 'O' binding. In these binding method, holes are punched by the punching machine to accommodate the consumable such as spiral, comb, wire etc. These are mainly mainly used for short life publication such as business reports, meeting reports etc.

Examples

- Spril binding
- Comb binding
- Wire 'O' binding

Loose leaf binding

This binding method permits ease in add and removing sheets. Three common loose - leaf binding are ring binder, post binder and friction binder. The ring binders and post binders are widely used in accounting filed. Friction binding is a plastic 'U' shape strip clamping the paper edges. Booklets of few pages are suitable for this binding method.

Examples

- Ring Binder
- Post Binder
- Friction Binder

Wire staple binding

Two common wire staple binding are saddle wire binding and side wire binding. Saddle wire method is used to bind periodicals and small booklets. Side wire binding is used for thicker magazines and book.

Examples

Saddle wire binding

Side wire binding

Perfect Binding

This binding does not require sewing. Sheets of paper are held together by flexible and heat sensitive adhesive. PUR (Poly Urethane Adhesives) is relatively new adhesive used in perfect binding. Pocket size books are usually bound in this manner.

Sewn Binding

Sewn binding is the most permanent and durable way to hold sheets of paper together. Strong thread is placed through binding edges securely holds all sheets. There are two types of sewn binding - Thread stitch, Section sewn. The section sewn are more expansive book binding but most the dureable.