

Which Software?

The Industry standard software used is the Adobe Creative Suite (CS). The Creative Suite consists of a whole range of software packages designed for use in creating and manipulating creative work both for screen and print.

The Creative Suite is constantly being upgraded resulting in different version names - that's why you'll see CS3 / CS4 / CS5 etc. - Adobe have just recently released the latest version which is CS6.

It is worth noting that while you can open files created in older versions of the software you cannot open files created in newer versions in older versions:

You can open an Illustrator Document that you created in CS3 in CS5. But if you create a document in Illustrator CS6 at home you cannot open it on your friend's computer if they are running CS5.

In order to avoid this issue you must think ahead to where you may need to open or edit your documents... If you think you will need to reopen your files in older versions of the software then you can save as a 'legacy' file.

Once you click save as you'll see your version at the top of the menu but if you drop down that menu you may save 'back' as an older version - allowing you to open the file on other computers.

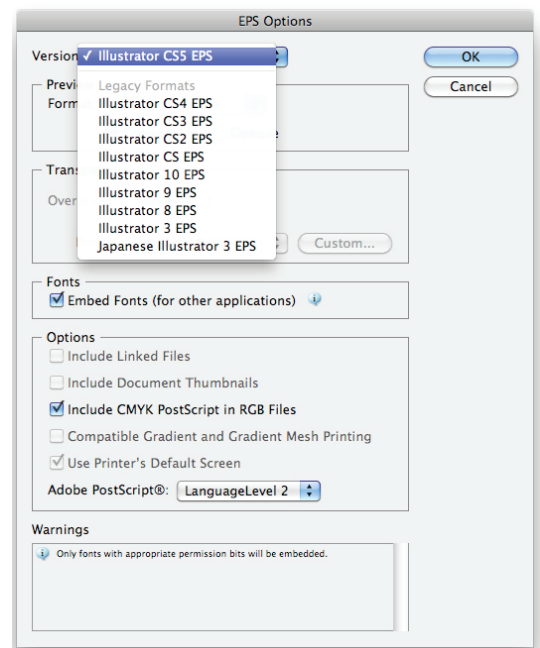
For the purposes of Desktop Publishing the main software used is Adobe Photoshop, Adobe Illustrator and Adobe InDesign.

Adobe Photoshop is a popular image editing software that provides a work environment consistent with Adobe Illustrator, Adobe InDesign and other products in the Adobe Creative Suite.

In this short course you will learn how to get started, how to use the interface, and how to modify images using some basic but powerful functionality.

Adobe Illustrator is a vector drawing program used for creating digital artwork such as logos and illustrations. It is the industry's premier vector-drawing environment for creating graphics that scale across media.

Adobe InDesign is a professional design and layout programme for producing high quality documents for print and on-screen delivery. It is a powerful layout programme allowing you to create posters and flyers as well as multi paged documents such as brochures, magazines and books.



The Workflow

Although every design & layout job is different most require the creation or manipulation of several elements. In almost all cases you will be supplied with a logo, or may need to create one.

Adobe Illustrator is the software for this work.

You will also be supplied with imagery - either as hard copies - books or magazines which you will need to scan, or as digital files.

These images will generally require resizing in order print at good sharp quality and may also require some cleaning up or even collaging / clipping out from backgrounds.

Adobe Photoshop is the man for this job!

Once all of your elements are ready for use you need to create your layouts - whether you are designing a Poster or a more complex multi-page document such as a Magazine you need a programme where you can place and style all of the text content along with your images and logos.

Adobe InDesign is the professional choice here.

Vector and Raster

There are two kinds of computer graphics - raster (composed of pixels) and vector (composed of paths). Raster images are more commonly called bitmap images.

A raster / bitmap image uses a grid of individual pixels where each pixel can be a different colour or shade. They are composed of pixels.

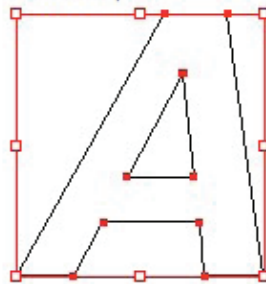
Vector graphics use mathematical relationships between points and the paths connecting them to describe an image. Vector graphics are composed of paths.

The image to the left below is representative of a bitmap and the image to the right is representative of a vector graphic. They are shown at four times actual size to exaggerate the fact that the edges of a bitmap become jagged as it is scaled up:

Bitmap Image:



Vector Graphic:



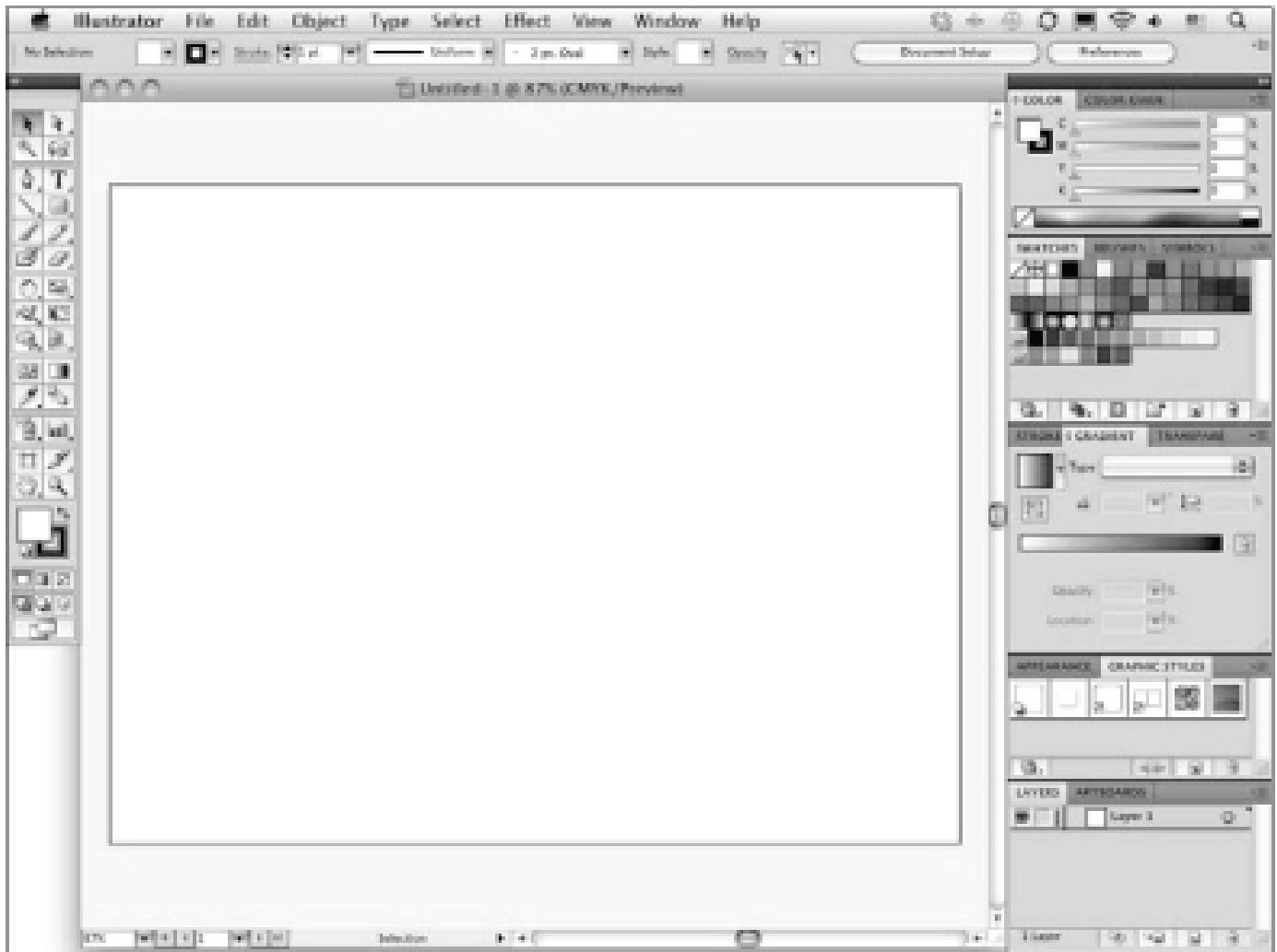
Any image scanned or taken on a digital camera will naturally be a Raster image - made up of pixels. These pixels are inherent within the supplied digital file and you, the designer, cannot 'add' any more pixels to the file - sometimes therefore it is required to ask for a different, larger image or a better quality version of the one supplied in order to achieve good final results - if you just enlarge a small file you've been given it will pixelate and look very poor in the final Pdf or print.

Logo and text work should always be created within Adobe Illustrator - It is a vector programme and you can scale your work up infinitely without using quality.

Take note though - if you place a raster image into Illustrator it is still a Raster image - only vectors created within Illustrator are infinitely scalable.

Adobe Illustrator - Overview

...Looks like this!



Illustrator windows act like windows in most other programs. You use the title bar at the top of the window to move the window around your screen. On the title bar is the name of the document. If you've not yet saved your document, the name of the document is Untitled-1, with the number changing for each new document you create. **(Hint: Save it as soon as you create it!)** Next to the title of the document is the current viewing percentage relative to actual size.

Understanding the artboard

The artboard is the area of your document that prints. The area of the artboard doesn't have to be the same as the printed document. The artboard is designated by black lines that form a rectangle in the document window and shows the largest area in which you can print. To set the size for the artboard, click the Artboard tool, which allows you to change the size of the artboard by dragging handles just as you would with the Bounding Box (where you also drag the handles to resize length and width of a selection). If you don't want to see the artboard (perhaps because you're working on a large document that doesn't entirely fit on the Artboard), choose View > Hide Artboard. To show the artboard again, choose View > Show Artboard. Hiding the artboard doesn't impact your art. It remains in view when the artboard is hidden.

Adobe Illustrator - The Tools Panel

The Tools panel, as shown here contains all the tools that you use to draw objects in your documents. The Tools panel normally appears as a panel on the left edge of the document window.

To close the Tools panel, you can either click the Close button (the x on a Windows computers or the little circle on a Mac) at the top of the Tools panel or choose Window > Tools. You make the Tools panel visible by placing a check mark next to the Window menu's Tools menu item. You hide the Tools panel by clicking the checkmarked item so that no check mark appears next to the Tools menu item.

If you drag the Tools panel to the right of its sticky panel location, it becomes a floating panel. To turn it back into a panel, drag it to the left edge of the document.

Any tool with a popup option also has a tearoff tab on the right side. A small black arrow in the corner means that it contains variables of this tool nested beneath it - just click and hold on the arrow and it will display the other tool options.

Viewing the tool tips

What if you forget the function of a specific tool or you can't tell the difference between the various tools in Illustrator? No problem! Illustrator comes equipped with a handy tool tips feature that identifies tools quickly and easily.

When you have tool tips activated (and it is by default), you simply move your cursor over the element you want to identify, and a yellow text box pops up and tells you its name. For example, when you place your cursor over the Type tool, a box appears with the words Type Tool (T). The letter within the parentheses indicates the keyboard shortcut for the tool. In this example, if you press T, you activate the Type tool without clicking it.

Illustrator provides tool tips for every tool in the Tools panel as well as for the panel controls. If you find the tool tips annoying or if you know the tips well enough not to need them, you can disable tool tips in the General screen of the Preferences dialog box. To open the Preferences dialog box, simply choose Edit (Illustrator) > Preferences > General and then deselect the Show Tool Tips option.

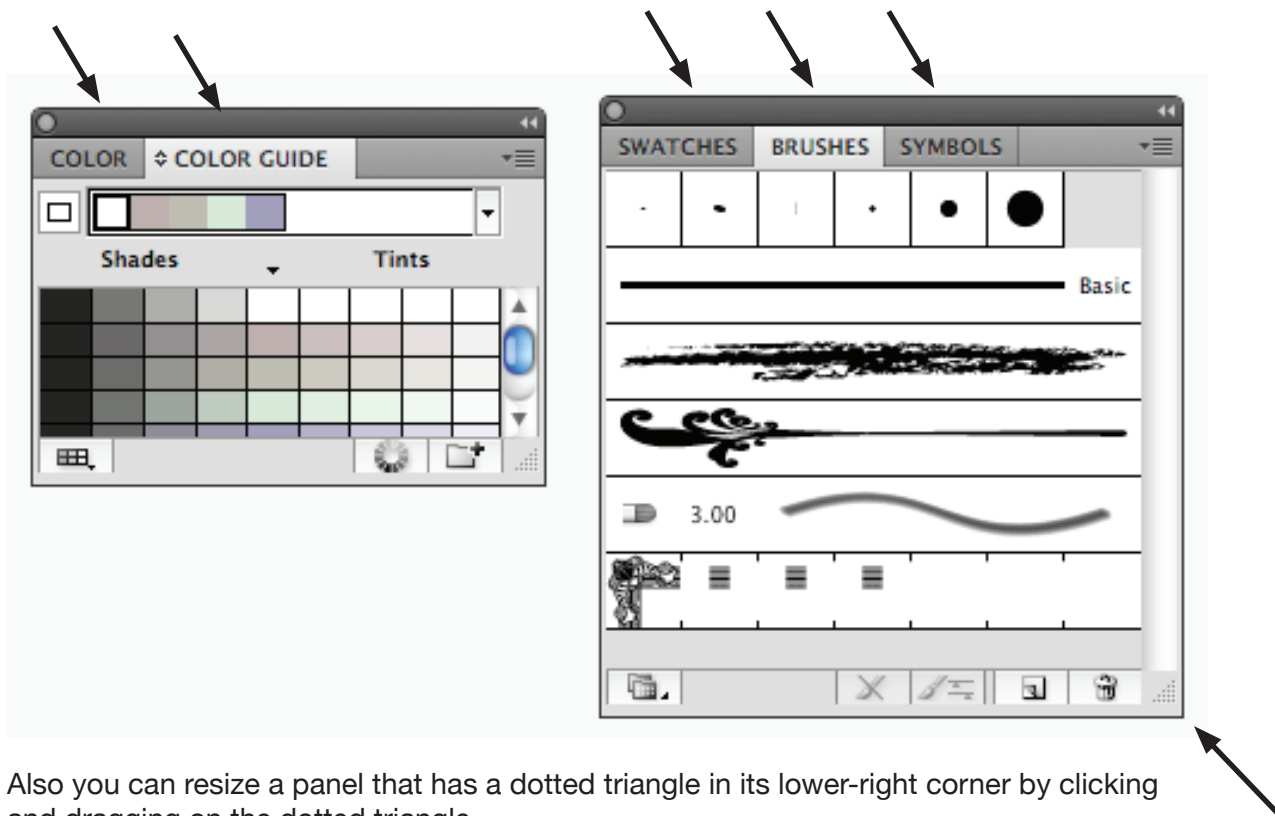


Adobe Illustrator - Using Panels

Panels are small windows that are similar to dialog boxes. Panels can float or be docked. Panels allow you to control virtually every aspect of the Illustrator drawing environment. Illustrator has 34 standard panels and an unlimited number of library panels (for swatches, symbols, brushes, styles, and more), all of which can remain open while you work on your document panel.

You can place panels together in different combinations by tabbing and docking them. Tabbing stacks the tabs for several panels into a single panel. Docking aligns the panels without stacking them into the same space.

Each panel (except for the Tools panel) has a name tab on it. Clicking the tab of a panel brings it to the front. Dragging a tab from one panel to another moves that panel into another panel. Dragging a tab out of a panel makes the panel separate from the previous panel. The image below shows two sets of panels that have been tabbed together. When you create a sets of panels like this, they stay grouped together even if you quit Illustrator and relaunch.

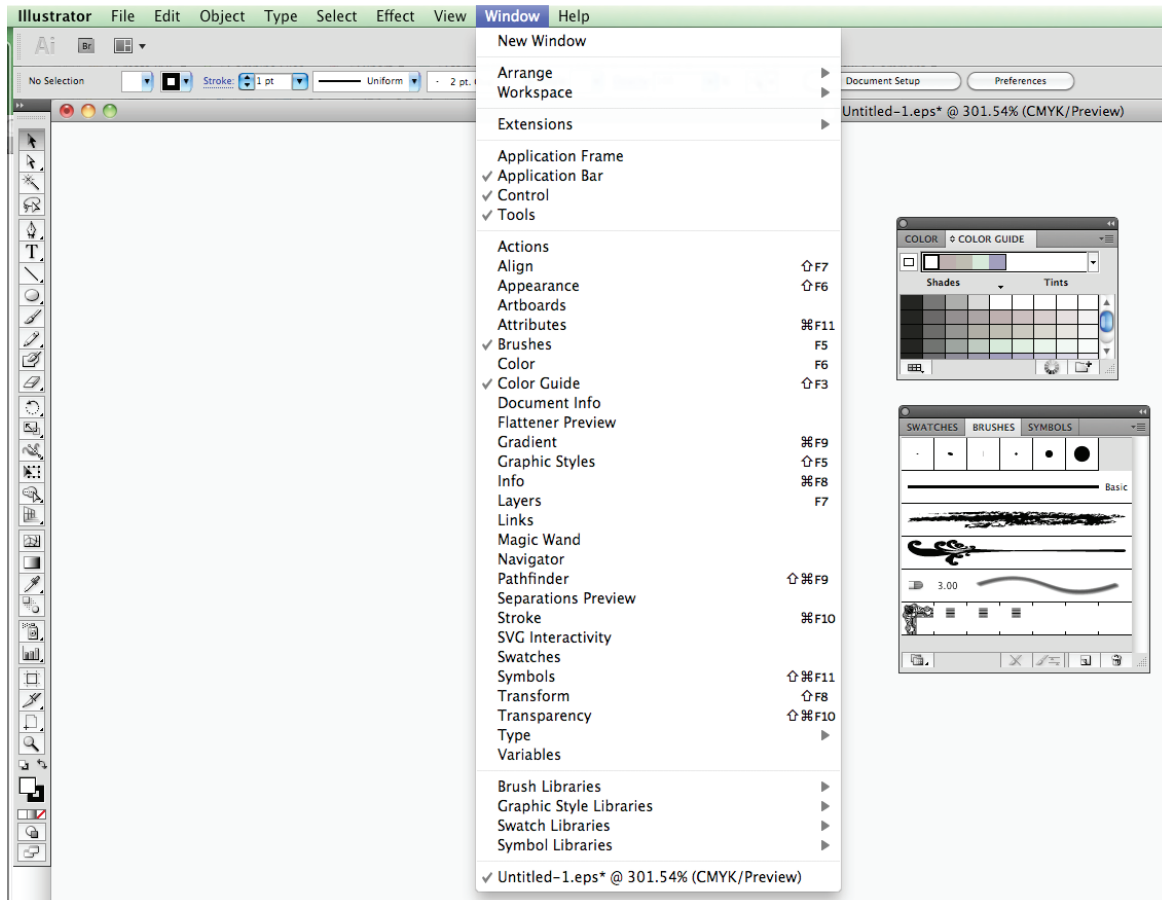


Also you can resize a panel that has a dotted triangle in its lower-right corner by clicking and dragging on the dotted triangle.

Adobe Illustrator - Using Panels

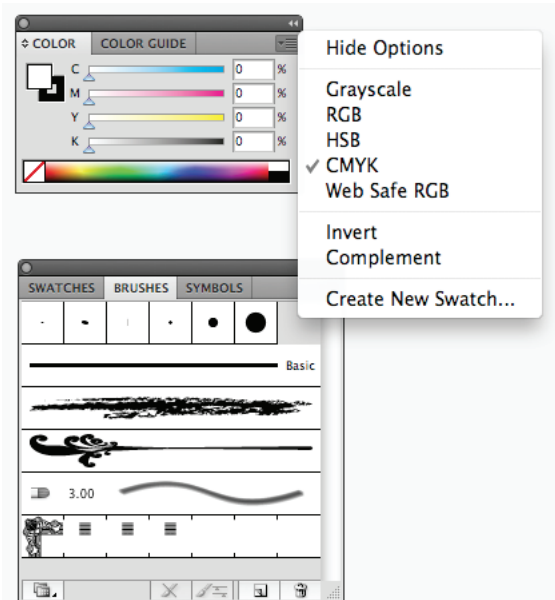
Panels are even more useful when you can reveal and hide them to suit your needs. Under the Window menu, you can choose which panels show and which ones hide. Simply click the check box next to a panel to show it, and deselect the check box next to the panel to hide it.

Some panels use a keyboard shortcut to access them, and others are accessed through the Window menu. To see the shortcuts, look to the right of the panel name. Under the Window menu, you can see what panels are visible by the check mark next to them.



Panel menus

Not only does the main document window have menus, but panels have menus, too. You can find a variety of features and options to meet your creative needs. To open these menus, simply find and click the triangle located in the top-right corner of most panels. This image on the right gives an example of the options you have available when you access the Colour panel's menu. These options and features change with each panel.



Adobe Illustrator - Navigating Your Document

Illustrator requires the use of a mouse for selecting items, pulling down menus, moving objects, and clicking buttons. Learning to use the mouse efficiently requires patience, practice, and persistence.

You use the mouse to perform five basic functions in Illustrator:

Pointing: Move the cursor around the screen by moving the mouse around your mouse pad.

Clicking: Press and release the left mouse button (or the only button on some Mac mice) in one step. You click to select points, paths, and objects and to make windows active.

Dragging: Press the mouse button and keep it pressed while you move the mouse. You drag the cursor to choose items from menus, select contiguous characters of text, move objects, and create marquees (dotted rectangles used for zooming the view).

Double-clicking: Quickly press and release the mouse button twice in the same location. You double-click to select a word of text, highlight a text field with a value in it, access a dialog box for a tool, and run Illustrator (by double-clicking its icon).

Right-clicking (Ctrl+clicking): This displays a context-sensitive menu when you click the right mouse button (or Ctrl+click on a Mac lacking a two-button mouse).

The cursor is the little icon (usually an arrow) that moves in the same direction as the mouse. In Illustrator, the cursor often takes the form of the tool that you're using. When the computer is busy, an hourglass (Windows) or a spiralling circle (Mac) takes its place.

Keyboard commands are as important to an Illustrator user as the mouse is; with a little practice, you can learn them quickly. Besides, many of the default keyboard commands are the same from programme to programme, which makes you an instant expert in software that you haven't used yet!

Good examples of this are the Cut/Copy/Paste, Select All, and Save commands:

Cut/Copy/Paste: You activate these by pressing Ctrl+X (Cmd+X), Ctrl+C (Cmd+C), and Ctrl+V (Cmd+V), respectively.

Select All: You can select everything in a document by pressing Ctrl+A (Cmd+A).

Save: You can quickly save your work by pressing Ctrl+S (Cmd+S).

Scrolling with the Hand tool

The Hand tool improves on the scroll bars. The Hand tool — which looks like a hand — is located at the bottom of the Tools panel. Instead of being limited to only horizontal and vertical movements, you can use the Hand tool to scroll in any direction, including diagonally. The Hand tool is especially useful for finding your way around a document when you're viewing it at a high magnification level. The higher the magnification level, the more you're likely to use the Hand tool.

To quickly access the Hand tool, press H or press and hold the spacebar. Clicking and dragging the page moves the document around inside the document window while the spacebar is pressed. If you release the spacebar, you return to the previous tool. This works for all tools, except the Type tool which works a little differently.

Adobe Illustrator - Undo & Redo

Undoing and redoing

You can keep undoing in Illustrator until you run out of either computer memory or patience.

Choosing Undo from the Edit menu undoes the last activity that was performed in the document.

Successive undos undo more and more activities, until the document is at the point where it was opened or created or you've run out of memory.

Using the Redo option works in the same fashion.

You can Undo and Redo infinitely while your file remains (even after saving) open but once you close your file down you cannot undo or redo anything... you are essentially beginning a new session.

While working on your document you can also at any point revert to the last version of the file that you saved - File > Revert.

This will revert to the file as it was the last time you saved it and this wipes out any Undo or Redo capabilities.

Adobe Illustrator - Setting Up Your Document

Opening up a new document: Upon opening Illustrator go to File > New

The New Document dialog box, as shown below, offers several settings you can set before you start working on a new document:

Name: You can type a name for your new document.

New Document Profile: This is a named set of all the settings in this box. By choosing a different named set, all the values below will update.

Number of Artboards: The first field lets you set how many artboards will appear initially when you create your document. The buttons to the right of this field control how the artboards are positioned relative to each other.

Size: This allows you to choose standard preset dimensions, such as Letter or Legal, for your document.

Width and Height: Instead of selecting a preset size, you can specify exact dimensions in the Width and Height text fields.

Units: You can select the units you prefer to work in. Most choose millimetres, but some prefer working in picas, inches, points, centimetres, or pixels.

Orientation: You can choose the orientation of the page. The orientation options are portrait (meant to be viewed vertically) and landscape (meant to be viewed horizontally).

Bleed: This controls the bleed settings for the document (how far outside the edges of the defined document artwork will print).

Colour Mode: You can choose from the CMYK and RGB colour modes.

Raster Effects: This is the resolution that raster-based effects (like drop shadows) will use. Print documents should have at least 150 (although 300 is preferred), while Webbased documents should use 72.

Preview Mode: You can choose to automatically preview your document in Pixel Preview mode (showing pixels at 100% or closer) or Overprint Preview mode (showing the results of objects set to Overprint).

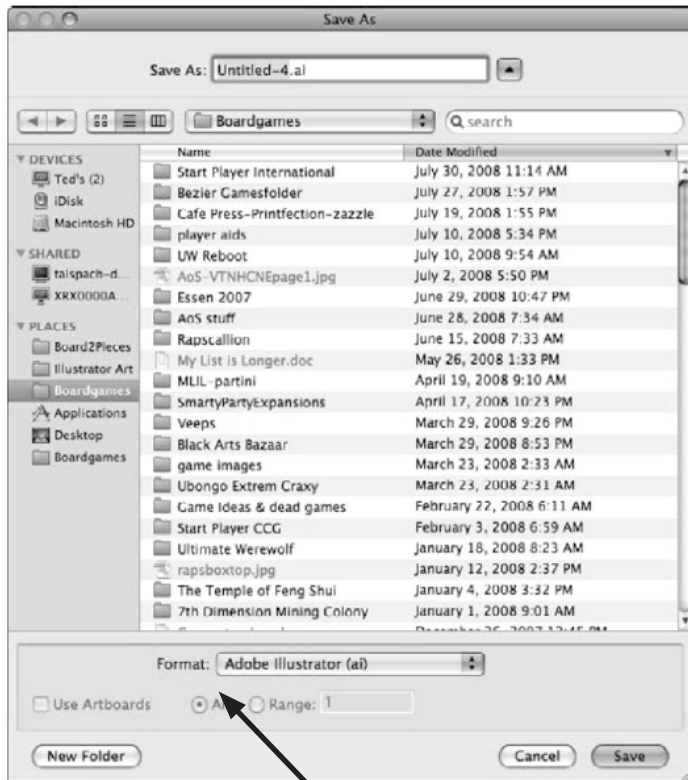
Align New Objects to Pixel Grid: If you select this option, all objects will be automatically aligned to the pixel grid.

The screenshot shows the 'New Document' dialog box in Adobe Illustrator. The 'Name' field is set to 'Untitled-5'. The 'New Document Profile' is set to '[Custom]'. The 'Number of Artboards' is set to 6, with buttons for grid, row, column, and single artboard layouts. 'Spacing' is 7.06 mm and 'Columns' is 1. 'Size' is set to A4, with 'Width' at 210 mm and 'Height' at 297 mm. 'Units' are set to Millimeters. 'Orientation' is set to Portrait. 'Bleed' is set to 0 mm for Top, Bottom, Left, and Right. The 'Advanced' section is expanded, showing 'Color Mode' as CMYK, 'Raster Effects' as High (300 ppi), and 'Preview Mode' as Default. The 'Align New Objects to Pixel Grid' checkbox is unchecked. On the right, there are buttons for 'OK', 'Cancel', and 'Templates...'. Below these buttons, it displays 'Color Mode: CMYK', 'PPI: 300', and 'Align to Pixel Grid: No'.

Adobe Illustrator - Saving Files

Saving and backing up Illustrator documents are some of the most important Illustrator tasks you can perform.

To save a file, choose File > Save or press Ctrl+S (Cmd+S). If you've previously saved the file, updating the existing file with the changes that you've made takes just a fraction of a second. If you've not yet saved the file, the Save As dialog box like the one below opens.



At the bottom of the Dialog Box you'll see an option to choose the Format you would like to save your file as.

Illustrator files are best saved as AI files (with the .ai extension) because this is the native Illustrator format, which preserves all Illustrator-specific information.

When saving files, remember these tips and tricks:

Decide where to save the file: Ensure that the name of the folder where you want to save the file is displayed above the file list window. Saving your working files in a location other than the Illustrator folder is a good habit. Otherwise, you can have trouble figuring out which files are yours, which files are tutorial files, and so on.

Name the file something distinctive: If you look for a file six months from now, you may not recognize it. Avoid using Untitled-1, Untitled-2, and so on. Such names are nondescriptive, and you can too easily replace the file at a later date with a file of the same name. For the same reasons, don't use Document 1, Document 2, and so on.

Adobe Illustrator - Saving Files

Here are your formatting choices for saving an Illustrator file:

Adobe Illustrator Document: For use when passing between users who have Adobe Illustrator.

Illustrator EPS (eps - Encapsulated PostScript): For use when sending or passing files between users who may not have Illustrator, but can place or open the files in another program, such as InDesign or Photoshop.

Adobe PDF (pdf - Portable Document Format): For use in sending the file to anyone who has or can download Adobe Reader or Acrobat Standard or Professional.

Illustrator Template (ait): For use in creating templates that you can use as guides for future drawings.

SVG Compressed (svgz): For use when creating a Web page. This option generally produces smaller files than the uncompressed SVG format.

SVG (svg): For use when creating a Web page. SVG stands for Scalable Vector Graphics and is an XML (eXtensible Markup Language) - based format that can produce much smaller file sizes than the typical bitmap formats, such as JPEG and TIF.

Remember!! Save once - Save Often!

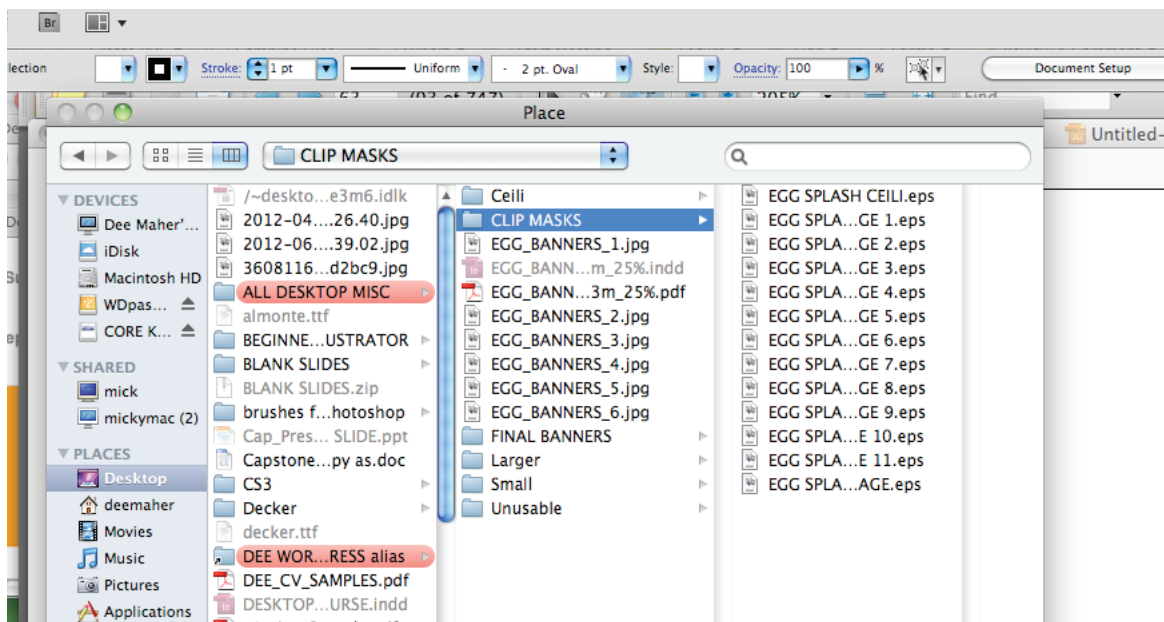
You really cannot save your files too often. Save immediately upon opening your document and then get into the habit of saving every few minutes - there is no greater pain than losing power halfway through a large job and realising that you haven't saved the file you were working on for over an hour!

Adobe Illustrator - Placing Art

It's not necessary to create your entire Illustrator document from scratch if you already have some existing artwork that you want to use. You can use most types of image files in an Illustrator document, including both bitmap and vector-based images.

To place files into an Illustrator document, follow these steps:

1. Choose File > Place. The Place dialog box, as shown below opens.
2. Navigate to the folder containing the file. You can click the drop-down arrows on the popup menu to navigate to your file.
3. Select the files that you want to place bearing in mind that only the files which it'd possible to place will appear. Click your chosen file and these files then appear in the document window.



Adobe Illustrator - Drawing

The most basic element in Illustrator is a path. A path is what Illustrator calls the black line segment that appears when you draw a line. When you select a path, its anchor points appear. A path must have at least two anchor points, which appear as small squares along the path and control which way the path goes. A single anchor point never prints anything.

Anchor points are automatically created as part of a path; no path can exist without anchor points to define it.

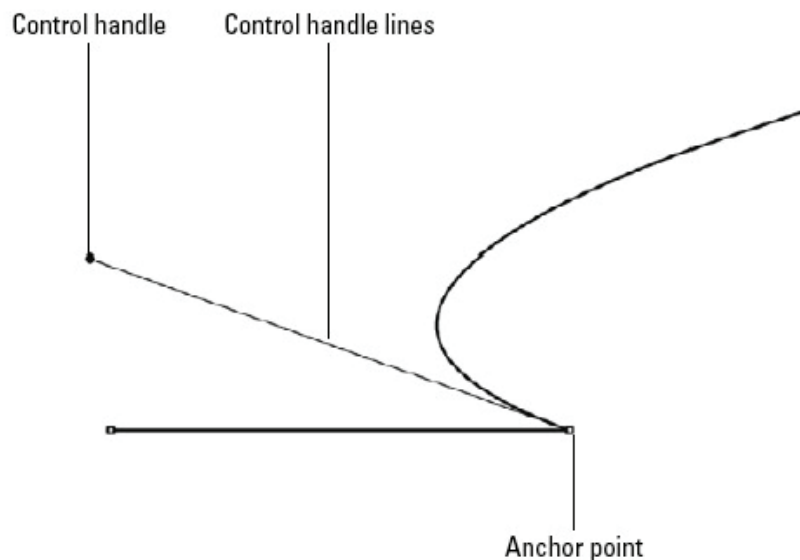
Anchor points consist of control handles and control handle lines. Control handles, which appear as small squares along the path, determine how sharply or gradually the curve bends at each anchor point. Control handle lines run on a tangent along the path and are attached to the path by the control handle. They determine the direction of the curved path.

Anchor points, control handles, and control handle lines don't appear on the printed output of your artwork. In fact, they appear only in Illustrator and Photoshop, never on artwork imported into other applications.

If an anchor point has a control handle coming out of it, the next segment is curved. No control handle, no curve.

This image shows the anchor points, control handles, and control handle lines on a path.

Anchor points, control handles, and control handle lines along a path

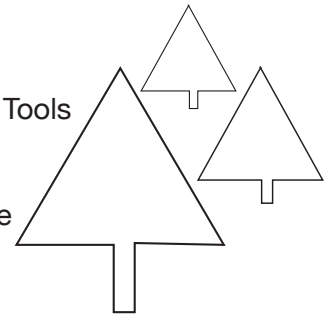


Adobe Illustrator - Drawing Straight Lines

The easiest way to start learning to use the Pen tool is by drawing straight lines. The trees below use only straight lines. The great thing about straight lines drawn with the Pen tool is that you don't have to worry about or fuss over control handles.

To draw straight lines, follow these steps:

1. Click the Pen tool. This tool is located on the third row of the first column in the Tools panel and looks like an old-fashioned ink pen tip.
2. Click and release where you want the first endpoint to appear. This becomes the beginning of your line.
3. Click and release where you want the second endpoint (the end of the line) to appear. A line appears between the two points.
4. To draw another separate line, first click the Pen tool in the Tools panel or hold Ctrl (Cmd) and then click on the artboard. Either action tells Illustrator that you're finished drawing the first line.
5. Clicking and releasing again in one spot and then another draws a second line with two endpoints. Be careful not to drag when clicking the Pen tool to form straight lines. If you drag the mouse, you create a smooth point and the path curves. Paths drawn with the Pen tool, like the Pencil tool, may cross themselves. The only strange result you may see involves the fills for objects whose paths cross. In open paths created with the Pen tool, fills may look unusual because of the imaginary line between the two endpoints and any paths that the imaginary line crosses.



Closing paths with the Pen tool

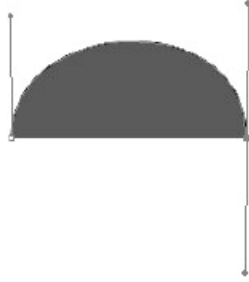
If you want to create a closed path (one with no endpoints), after you finish whatever you're drawing, hover over the first anchor point in that segment. As the Pen tool crosses over the beginning anchor point, the cursor changes to a pen with a circle in the lower-right corner. Click the mouse on this anchor point to close the path. After you create a closed path, you don't need to click the Pen tool again. Instead, the next click of the Pen tool in the document automatically begins a new path.

Note! By holding the Shift key as you draw your line it will keep it perfectly straight and constrains the angle to 45°.

Adobe Illustrator - Drawing Curved Lines

Initially, you may find the whole process of drawing curves with the Pen tool rather disorienting. You actually have to think differently to grasp what the Pen tool is doing. To draw a curve, you need to drag with the Pen tool rather than click and release when you draw straight lines.

The simplest curved form you can start with is a bump! Follow the steps below to practice this.



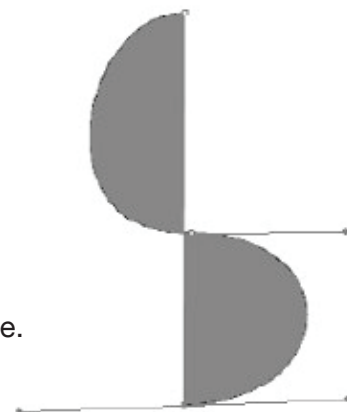
You can create a basic bump curve like the one above in five simple steps.

1. Click with the Pen tool and then drag up about 1/2 inch. You see an anchor point and a control handle line extending from it as you drag.
2. Release the mouse button. When you do so, you see the anchor point and a line extending to where you dragged, with a control handle at its end.
3. Position the cursor about 1 inch to the right of the place you first clicked.
4. Click with the mouse and then drag down about 1/2 inch. As you drag, you see a curve forming that resembles a bump.
5. Release the mouse. The curve fills with the current fill colour. You also see the control handle you just dragged.

Before you try to draw another curve, remember that the Pen tool is still in a mode that continues the current path; it doesn't start a new one. To start a new path, hold Ctrl (Cmd) and then click on an empty area on the artboard. The next time you use the Pen tool, you can draw a separate path.

To create an S shape, one more set of steps is needed. With these steps, you can create the S shape, as shown in below

1. Click and drag with the Pen tool about 1/2 inch to the left. An anchor point and a control handle line appear as you drag.
2. Release the mouse button. You should see the anchor point and the control handle that you just drew, with a control handle line between them.
3. Position the cursor about 1 inch below where you first clicked.
4. Click and drag to the right about 1/2 inch.
5. Release the mouse button.
6. Position the cursor about 1 inch below the last point you clicked.
7. Click and drag to the left about 1/2 inch. Now you have an S shape.



Adobe Illustrator - Closing Paths

Closing curved paths with the Pen tool

The majority of the paths you draw with the Pen tool will be closed paths, not the open ones you've drawn so far. Like open curved paths, any closed curved path must have at least two anchor points, just as paths with straight corner points need three distinct points to create a closed path.

When the Pen tool is placed over the starting point of the path you've drawn, a little circle appears to the right of the pen shape. This indicates that the path becomes a closed path if you click this anchor point.

Of course, to ensure that the initial anchor point remains a smooth point, you need to click and drag on the initial anchor point. Simply clicking produces a combination corner point, which has only one control handle associated with it.

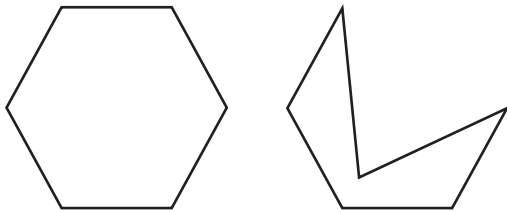
Adobe Illustrator - Shapes

Drawing the most basic shapes—rectangles, ellipses, polygons, and stars—is precisely what a computer is for. Try drawing a perfect circle by hand!

Illustrator exemplifies the true power of object-oriented drawing programming. Everything you draw within Illustrator is completely editable - and infinitely scalable. You can move objects to different areas within your composition, rotate them, reflect them, you can change the colours both inside and out and do a huge range of other things to even the most basic of shapes.

Using the Pathfinder tools adds to the seemingly never ending array of options using shapes.

And after you create the shape, you can move, rotate, scale, and manipulate it in any way you want. The image below shows an illustration drawn one way and then modified in a matter of seconds by moving existing an anchor point.



Seeing stars

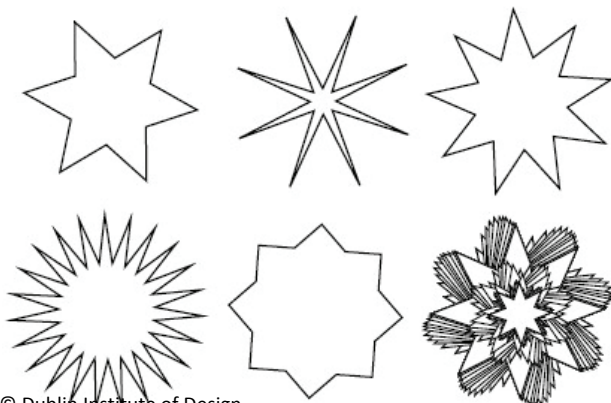
To create stars, click the Star tool, which is in the Rectangle tool slot, and then drag in the document. As you drag, a star is created.

Pressing Shift aligns the star to the Constrain Angle, the spacebar moves the star around, and the tilde (~) key makes lots more stars. The up and down arrows add and remove entire points. So, in a way, they're actually adding two edges.

Pressing Alt (Option) positions the inner points relative to the outer points to produce a star with a corresponding side lying along the same line. Illustrator refers to them as fixed stars.

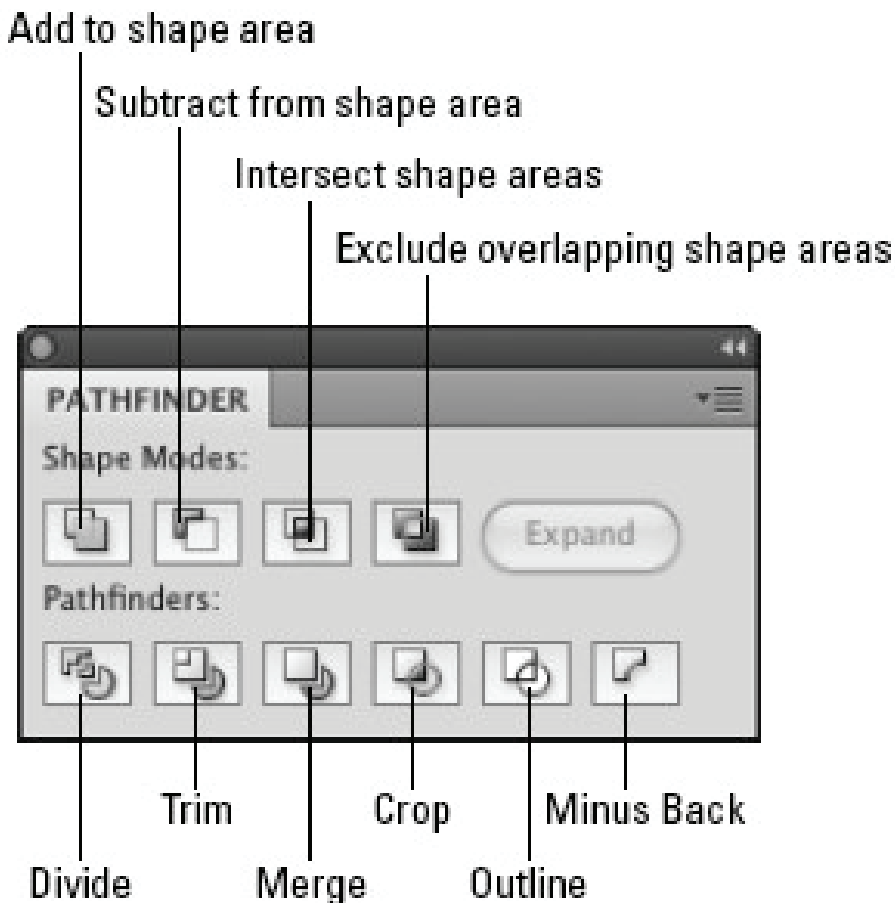
When you hold Ctrl (Cmd), only the outer points are extended; the interior points remain fixed. Using this feature allows you to build stars with long, thin points.

When you press the tilde key (~) and draw, several shapes appear rapidly. As the image below shows, these techniques can create all sorts of interesting designs.



Adobe Illustrator - Pathfinder

The most powerful path functions in Illustrator are in the Pathfinder panel. They do tasks that would take hours to do using Illustrator's traditional tools and methods. The image below shows the Pathfinder panel.



Everything that the Pathfinder options do can be done manually with other Illustrator tools, but the Pathfinder options do them much more quickly. Common activities, such as joining two paths together correctly and breaking a path into two pieces, are done in a snap.

The Pathfinder options change the way that two or more paths interact. The little symbols on the Pathfinder options are supposed to tell you what each option can do, but the pictures are small, and most don't accurately depict exactly how each option works.

If you have the Show Tool Tips check box selected — it's selected by default, but if it's deselected, choose **Edit > Preferences > General** (Illustrator > Preferences > General on the Mac) and then click the Show Tool Tips check box — the name of each of the Pathfinder options appears when you hold your cursor over its option symbol. However, these names can be a little confusing. The names were undoubtedly chosen to signify what each of the Pathfinder options can do, but most of them can't be defined easily with just one word.

Adobe Illustrator - Pathfinder

Adding to a shape

The Add to Shape area mode unites the selected objects if they're overlapping. A new path outlines all the previously selected objects. There are no paths where the original paths intersected. The new object takes the paint style attributes of the topmost object.

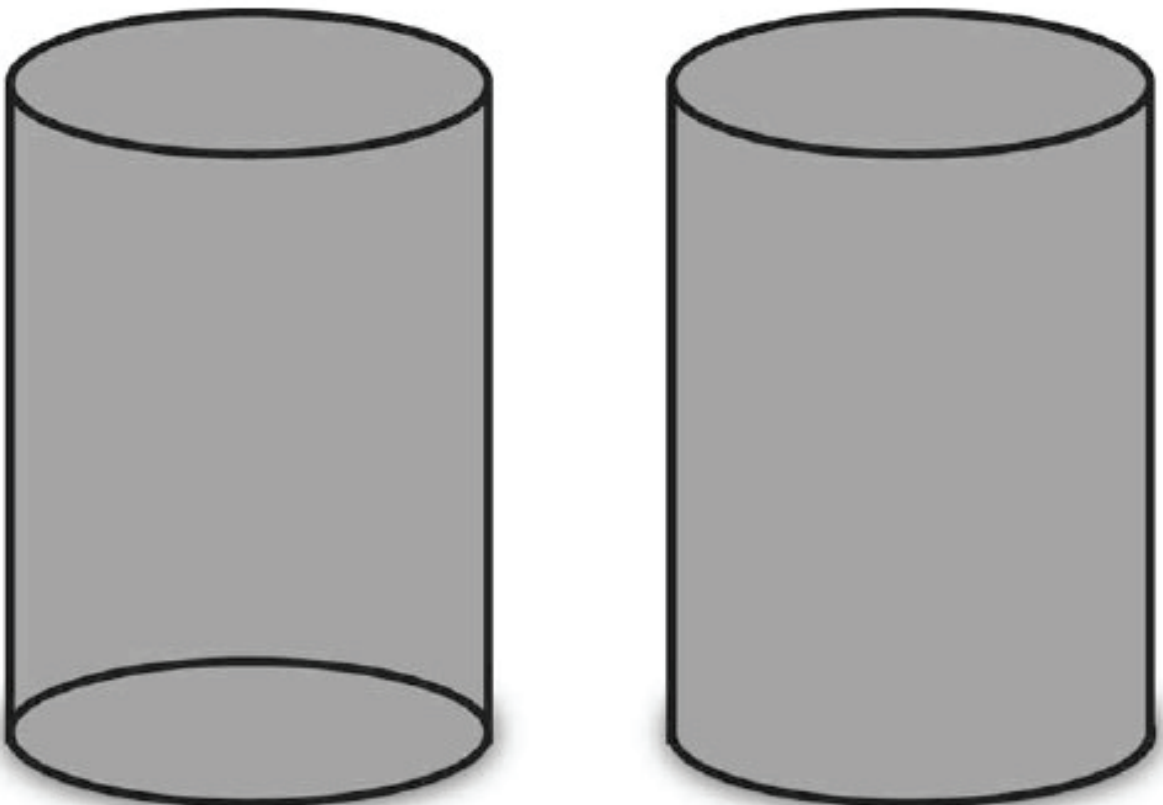
If any objects are within other objects, those objects are assimilated. If there are holes in the object, the holes become reversed out of a compound path.

You'll find that Add to Shape area is one Pathfinder option that you'll use often. Play with combining various paths for a while so you know what to expect, and you develop a sense of when using Add to Shape area is a better option than doing the same tasks manually.

Add to Shape area combines two or more paths into one path, as described in these steps:

1. Select the objects to which you want to apply the Add to shape area mode. In the example below the artwork is a rectangle with two ellipses resembling a can shape. Pathfinders work only with paths.
2. Choose Add to Shape area from the Pathfinder panel. Any overlapping artwork is united into one path. The colour of the united path is always the colour of the path that was the topmost selected path before you used Add to shape area.

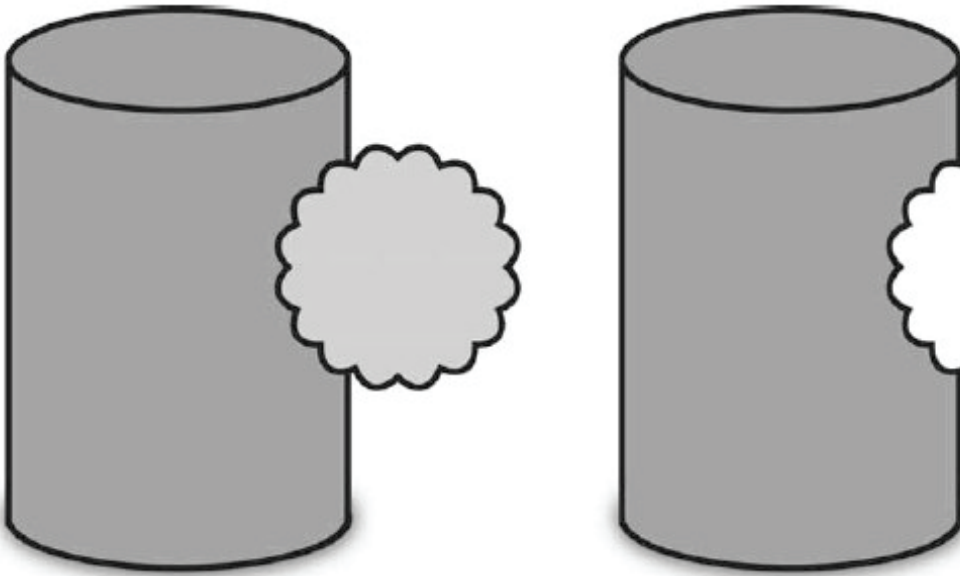
Two of the three objects on the left (the rectangle and the bottom ellipse) were selected and then Add to Shape area was clicked on the Pathfinder panel to create the cylinder on the right.



Adobe Illustrator - Pathfinder

Subtracting from a shape

The Subtract from shape area mode does the opposite of Add to shape area. The topmost objects are subtracted from the bottom object. The image below shows an object before (left) and after (right) using Subtract from shape area. The object retains the style (fill and stroke attributes) of the bottommost object.



Intersecting and excluding shapes

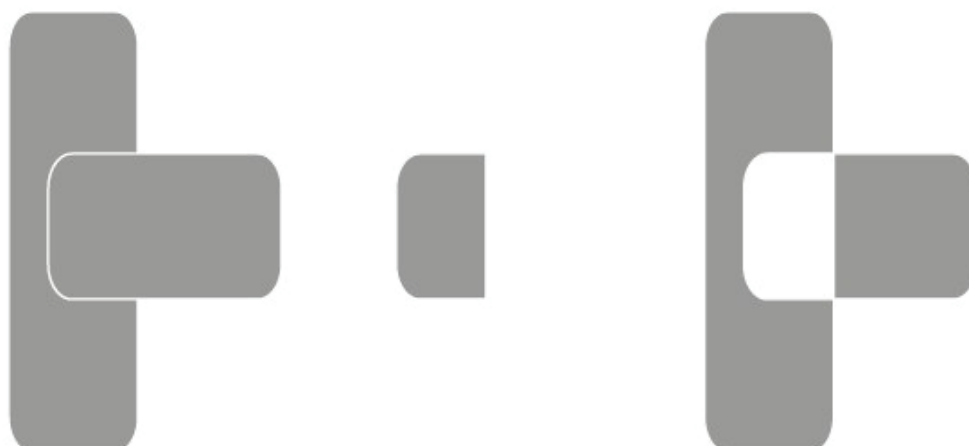
The Intersect shape areas and Exclude overlapping shape areas modes are opposites.

The Intersect shape areas mode creates only the intersection of the selected paths. Any part of a selected path that doesn't intersect is deleted. If two paths are intersecting and selected, only the area that's common to both paths remains. If you select three paths, the only area that remains is the area where all three selected paths overlap each other.

The Exclude overlapping shape areas mode is pretty much the opposite of Intersect. Choosing Exclude deletes the intersecting areas, grouping together the outside pieces.

If you use Exclude, only the areas that don't overlap remain. The colour of the intersected or excluded path is always the colour of the path that was the topmost selected path before you used Intersect or Exclude.

Below see an image showing 2 shapes on the Left and then the results of Intersecting and Excluding Shapes.



Adobe Illustrator - Pathfinder

Using the Expand button

The Expand button in the Pathfinder panel is used to ungroup the original objects to which you applied a Pathfinder function. To use this button, first select a set of paths that had a Pathfinder function applied to them and then click the Expand button. The resulting paths form a new group.

Dividing paths

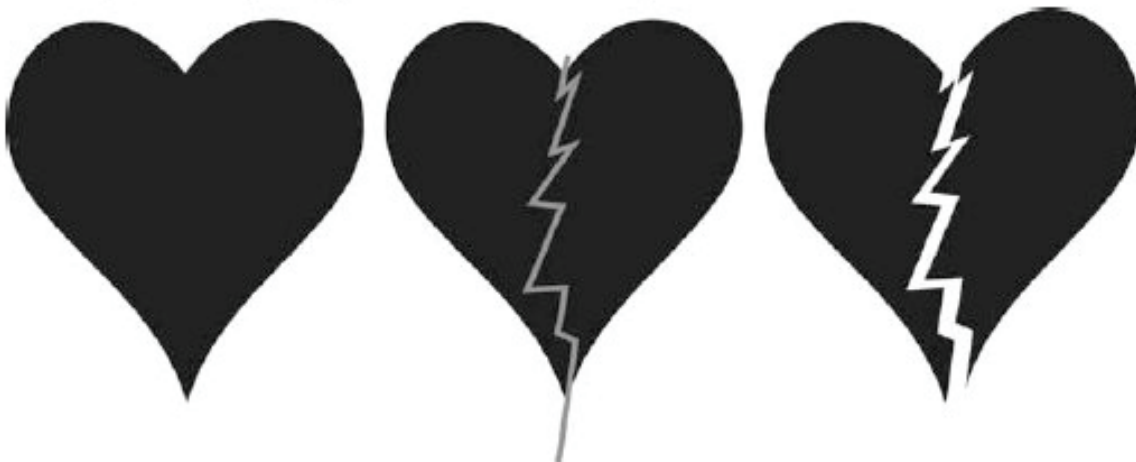
The Divide button in the Pathfinder panel checks to see where the selected paths overlap and then creates new paths at all intersections where the paths crossed, creating new paths if necessary. Fills and strokes are kept. In the process, the Divide command also groups the pieces of the fill together. Divide also keeps the original colours in the new paths; the illustration appears to look the same even if it previously had strokes.

To keep the strokes, copy the paths before using Divide and then choose Edit > Paste In Back, which places a copy of the paths directly behind the original paths.

Simply put, Divide divides overlaying paths into individual closed paths, as described in the following steps and shown in image below:

1. Create the artwork that you want to divide into sections.
2. Create a path or paths where you want to divide the object.
3. Select all paths, both artwork and dividing paths, and then choose the Divide option in the Pathfinder panel. The resulting paths are grouped, so either ungroup them or use the Direct Selection tool to move them apart.

Breaking a heart by using the Pathfinder Divide option



Trimming paths

The Trim button removes sections of paths that are overlapped by other paths. Frontmost paths are the only ones that remain. This Pathfinder is very useful for cleaning up complex overlapping illustrations, although it can take a bit of time to complete.

Adobe Illustrator - Pathfinder

Merging paths

The Merge button combines overlapping paths that have an identical fill applied to them. Even if the fill is different by as little as 1%, Merge creates two separate paths. This Pathfinder is much more efficient than Add to shape area for making areas of the same colour into one object.

The following steps describe how to use Merge:

1. Create the artwork for which you want to use Merge.
2. Select the artwork you want to merge.
3. Choose the Merge option in the Pathfinder panel. Illustrator removes all overlapped paths, leaving only the paths that have nothing in front of them. All adjacent areas that contain identical colours are united.

Cropping paths

The Crop button works in much the same way as masks work, except that anything outside the cropped area is deleted, not just masked. The image below shows the original objects on the left and the cropped (and grouped) object on the right. The topmost object acts as the mask on the object(s) underneath.

Follow these steps to use the Crop command:

1. Bring the object that you want to use as a cropper (in this case, the drawing of the tree) to the front.
2. Select all the paths you want to crop as well as the cropper itself.
3. Select the Crop option in the Pathfinder panel. Illustrator deletes everything outside the cropper. The objects that were cropped are grouped together in the shape of the crop.



Adobe Illustrator - A little bit about colour

Within Illustrator you have the whole world of colour at your fingertips... but first you need to decide where you're artwork is going to be used.

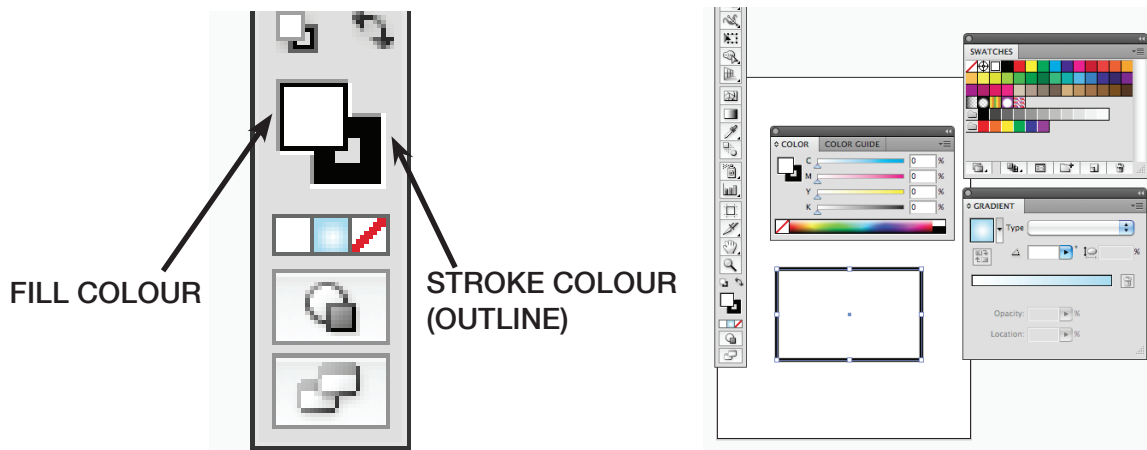
For any work that will be used on-screen - be it websites, video games or in-house presentations - you must work in RGB colour mode.

RGB Colour is known as additive colour, and is made up of red, green and blue lights, which when combined produce white light.

For any work which is going to be professionally printed you must work in CMYK Colour Mode. This is known as subtractive colour because each colour printed on to a stock (paper) subtracts from white and if the three primaries overlap the result will be black. When a commercial printer goes to print a CMYK job he will output each colour range onto separate film - these are known as separations and so it is crucial that every element within your artwork is CMYK so that it can be separated into 4 corresponding layers.

In professional print sometimes an additional colour, known as a Spot Colour will be used and for this you should use a universal colour matching system known as Pantone. Spot colours are colours in Illustrator that aren't separated into process colours. Instead, they're printed on a different separation. A commercial printer uses special pre-mixed ink (commonly Pantone) for this spot colour. You can locate the Pantone Swatch Books via Window > Swatch Libraries > Colour Books.

When creating your artwork you decide what colour fill and colour stroke (outline) you would like. These are represented by the filled square (top) and the hollow square (bottom) icons located at the end of the tool bar. First click to bring the one you'd like to edit to the top - so if you want to change the fill colour ensure the filled square icon is on top - then click to change the colour. You can access colour options using the Colour Panel, the Swatches Panel and the Gradient Panel.



The Colour Panel (Window > Colour) allows you input the values of any specific colour you want to use in any colour mode, or to use the eyedropper tool to simply dip into the colour wheel and sample one.

The Swatches Panel (Window > Swatches) allows you to create full colour groups and project specific swatches of colour schemes.

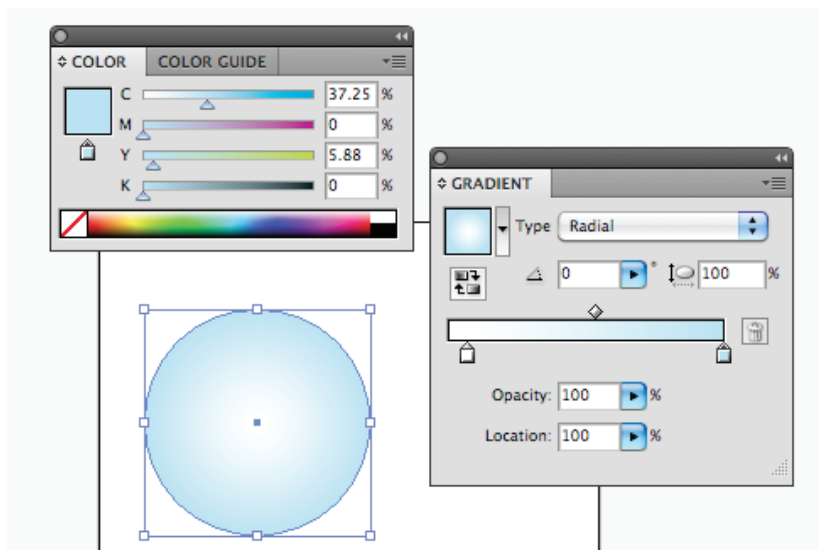
The Gradient Panel (Window > Gradient) allows you to give a more 3-D look to an object by changing the angle and the starting and ending points for a linear gradient as well as the location of the centre and edges of a radial gradient. The tool is also used to offset the highlight on a radial gradient

Adobe Illustrator - Gradients & Symbols

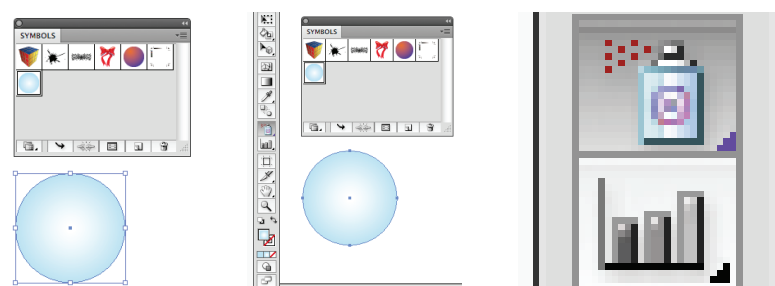
Gradients are a great tool to use when creating objects with a three-dimensional look. Also anything you draw in Illustrator can be simply dragged to the Symbol Panel (Window > Symbols) to create a new symbol which you can spray everywhere using the Symbol Sprayer Tool!

To create a bubble and turn it into a symbol just follow the steps below...

Start out by drawing circles and then using the Gradient tool to change the angle of the gradient. Use the Gradient tool to click where you want the highlight to be, and then drag where you want the darker area to be. You can create a set of random bubbles quite easily using gradients. To create bubbles, follow these steps:



1. Draw a circle using the Ellipse tool while holding Shift.
2. Fill the circle with a radial gradient in a blue colour.
To do this click in the square colour box on the Gradient Panel and then dip the resulting eyedropper tool into your colour bar in the Colour Panel.
3. Use the Gradient tool to change the angle of the gradient.
4. Use the Gradient tool to click where you want the highlight to be, and then drag where you want the darker area to be.
5. Once you are happy with your bubble drag the bubble to the Symbols panel to create a new bubble symbol.
6. Using the Symbol Sprayer tool, first select the bubble in the Symbols panel and then spray out a bunch of bubbles. Use the Symbol Sizer tool to adjust their size.



Adobe Illustrator - Tools

As more and more objects are added to a document, the artwork can very quickly become unmanageable. To address this problem, Illustrator includes many features for organizing the various objects in the document. From locking or hiding objects that you don't want to accidentally move, to grouping a set of objects so they can all move together, these features are keys to success in Illustrator.

Another key way to organize objects covered in this chapter is by using the Layers panel. The Layers panel offers precise control over different objects by placing them on different layers and controlling what effects are applied to them.

Locking and Hiding Objects

All objects in Illustrator can be locked or hidden — including the guides. The process of locking and hiding work is about the same, and the results are only marginally different. In a way, hiding is an invisible lock. Locking the artwork still leaves it visible and printable.

When you hide an object, it's for all intents and purposes gone until you show it again. Locking is great to use when you still need to see the location of the object but don't want to accidentally move or transform it. Hiding works well when you need the object out of the way but not gone.

To lock an object, select it and choose Object > Lock > Selection. To change a locked object, choose Object > Unlock All.

To hide an object, select them and then choose Object > Hide > Selection.

Hidden objects are invisible and unselectable; they still exist in the document, but they don't print. When a document is closed and reopened, hidden objects reappear.

Stacking Objects

Stacking order is a crucial concept that you need to understand in the world of Adobe Illustrator. After you create the first object, Illustrator places the next object you create in front (on top) of the first object. This cycle continues indefinitely, with objects being stacked one in front of another. To make your life easier, Illustrator lets you move objects forward or backward through the stack of objects.

Bring to Front. To move an object to the front, choose Object > Arrange > Bring to Front or press Ctrl+Shift+] (Cmd+Shift+]). Illustrator moves the selected object forward so that it's in front of every other object (but only in that layer).

Bring Forward. To move selected objects forward one object at a time, choose Object > Arrange > Bring Forward or press Ctrl+] (Cmd+]).

Send Backward. To move selected objects backward one object at a time, choose Object > Arrange > Send Backward or press Ctrl+[(Cmd+[).

Send to Back. To move an object to the back, choose Object > Arrange > Send to Back or press Ctrl+Shift+[(Cmd+Shift+[). Illustrator sends the selected object to the back so that it's behind every other object.

Send to Current Layer. Choose Object > Arrange > Send to Current Layer to move the selected object to a different layer. You must first select the object and then select the destination layer in the Layers panel before choosing this command.

Adobe Illustrator - Tools

Grouping objects

In any illustration, objects are much easier to manipulate if they're grouped. Grouping similar areas is helpful for moving entire areas forward or backward as well as for doing any type of horizontal or vertical movement or transformation upon a set of objects.

Suppose that you drew a group of trees. You want to group the trees together so you can edit them all at one time, such as changing the colour or the size.

To group objects together, follow these steps:

1. Select the items you want to group with any of the selection tools.
2. Choose Object > Group or press Ctrl+G (Cmd+G). This command makes the separate objects stay together when you select them. Now, when you select any object in a group with the Selection tool, Illustrator selects all the objects in that group and makes all the points in a path solid (selected).

To Ungroup your objects Select the group and choose Object > Ungroup or press Ctrl+Shift+G (Cmd+Shift+G). Any selected groups become ungrouped.

Layering Your Artwork

Illustrator's layering feature provides an easy and powerful way to separate artwork into individual sections. A layer is a separate section of the document that's on its own level or is above, under, or in between other layers but never on the same level as another layer. You can view these sections separately, locked, hidden, or rearranged around each other. You can name each Layer to make it easier to keep track of what is on each layer.

Having the various elements of your illustration on separate layers helps you organize them. Each area of the illustration has its own layer. You use these layers to create the stacking order as well as to keep the text on one layer for easier editing. Artists use layers to organize the different grouped objects, shadows, borders, and backgrounds.

You can also turn layers off and on to give a client different options on a logo, Web site, or business theme. Using the Layers panel, you can create, control, and manipulate layers to suit your needs. Another use for layers is to trace placed images.

