

Getting Started with Adobe Illustrator CS2

A Faculty Exploratory/Knowledge Navigation Center Workshop

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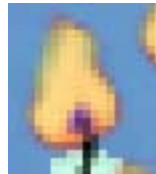
What's Illustrator Good For?

Adobe Illustrator is a graphic editing program well-suited to creating graphics from scratch. It is significantly different from many other graphics programs because it deals primarily with **vector graphics**. Most people are more familiar with bitmap (raster) graphics, such as what PhotoShop produces.

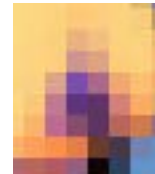
Bitmap imaging: uses a grid full of tiny squares called pixels to store image information. Bitmap images are good for continuous and/or irregular shadings and colors (such as in photographs), but do not resize well.



100%



300%



800%

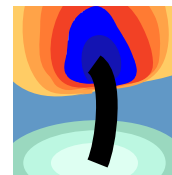
Vector imaging: uses mathematics of points and lines (vectors) to store image information. Generally much smaller files than bitmap graphics. The resulting file is made up of lines and patches of color. It can handle smooth gradients, but does not do well with irregular shadings. When vector images are resized (smaller or larger), there is no loss of quality.



100%



300%



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When to Use Illustrator

Types of documents you might choose Illustrator to create:

Simple line art; logos, buttons, and other images with clear areas of solid color.

Maps and diagrams.

Single-page document juxtaposing text and images – a handout for a class; a poster for a conference.



Why to Use Illustrator

It may be difficult to convince yourself to spend the amount of time necessary to learn Illustrator, when similar work can be done in Photoshop. However, for many images, especially of the types listed above, Illustrator produces a MUCH smaller file, that looks better on screen *and* prints much more clearly than a similar document created in Photoshop!



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Getting Started: The Workspace



Like most Adobe products, Illustrator makes use of a Toolbox and several Palettes. The Toolbox appears to the left of your Illustrator workspace, while most Palettes appear to the right.

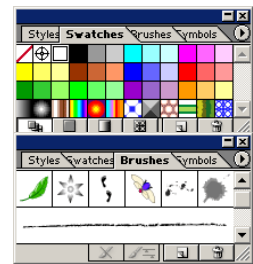


Toolbox

The Toolbox contains tools that allow you to create, edit, and view your files. **Any tool icon that has a small, black arrow in the lower right corner actually contains several related tools.** Click-and-hold on a tool icon to see all the related tools.

Palettes

You'll soon get acquainted with several important Illustrator palettes. Many of the palettes (such as Swatches and Brushes, shown at right) share a single window. You may have to click a tab within a palette box to show the particular palette you wish to use.

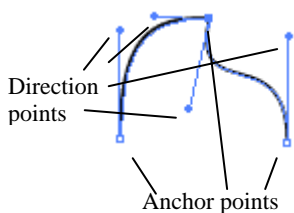
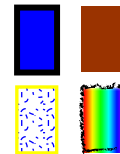


To show or hide any palette, go to the Window menu, and choose the palette by name from the pull-down list.

Illustrator Concepts: Paths, Objects, Stroke and Fill



When you create artwork in Illustrator, you do so by drawing lines and shapes that combine to form a whole picture. Each item you create is called an **object**. For each object, there is an outline, called a **path**, made up of points and lines (see example at left.) Each shape you create can have a **fill** (filling in the space inside the path) and a **stroke** (tracing the path). At right are a few examples of that rectangle with different fills and strokes. Note that you may choose to use no stroke (as at upper right) to fill with a **pattern** (lower left) or a **gradient** (lower right), and even to use special **brushes** on the stroke (lower right).



If a line changes direction at a point, it may do so either as a **corner point** (as in the rectangle above) or as a **smooth point**. Smooth points and corner points are both used to create curved lines and shapes, and consist of an **anchor point** (the white boxes we have already seen), and one or more **direction points** (indicated by slightly smaller circles). The shape of a curve is determined by the angle and distance of the direction points.

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A Simple Text-and-Images Layout

Setting up your document

It's best to compose an image at the same size you intend to print it; however, if you are working on a physically large file such as a poster, that relies heavily on high-resolution bitmap images (scans or photographs) your computer may run fairly slowly.

In Illustrator, go to **File > New**. The New Document dialog box will appear. Choose your document **Size** (it's at the top of the list), and *inches* (or whatever you prefer) as your **Units**, choose your document **Orientation** (*landscape* or *portrait*), and then type in the size you want your poster to be.


CMYK color mode is best for printed documents, since **Cyan**, **Magenta**, **Yellow**, and **Black** are the colors of ink used in computer printers and full-color lithographic printing.

RGB color mode is most useful for images to be used on computer screens, such as web graphics. **Red**, **Green**, and **Blue** are the colors of light used to make all the colors you see on any electronic screen.

Adding Text to the Page


In Illustrator, if you want text to appear over or in a background shape, you must create them as two separate objects. First, let's set up a background box.

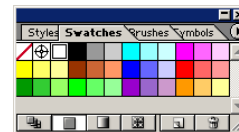
Drawing a shape


Select the Rectangle Tool () , and click and drag on your workspace. Thin lines will appear indicating the outline of your shape, and the shape will be completed when you release the mouse button.

The colors your shapes take on are determined by the colors selected in the Stroke and Fill area of your Toolbox. Remember, **Stroke** refers to the outline (path) of your object; **Fill** refers to the color filling in that outline.

To change Stroke or Fill color:

1. Click on the Stroke or Fill icon to bring it to the forefront.
2. Find the Swatches Palette. Click the color you want to use.
3. To use no color at all, select the None button () either under the Stroke and Fill controls, or in the colors palette. Applying None to Stroke will give you a patch of color with no bordering line. Applying None to Fill will give you a line with no fill color (this setting is frequently used with the Pencil tool).




Use the Selection Tool () to select objects to change their Stroke and Fill properties. If an object is selected at the time that you change stroke and fill colors, the changes will be applied to that object. If no object is selected, the next object that you draw will have these properties.

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Creating a Text Box

Select the Type Tool (), then *click and drag* on the Workspace to define a text box, and start typing.

IMPORTANT NOTE: if you simply click once and start typing, you get a very different type of text than if you click and drag, and then start typing. Both types of text are useful, but sometimes you need one and not the other.

Text properties (size, font, stroke and fill properties) can be changed if you highlight pieces of text with the Type Tool, OR if you use the Selection Tool to select the whole text object. Once you've selected the text you want to change you can go to the **Type** menu for formatting options, or go to **Window > Type > Character** to pop up a very useful floating **Type Palette**.

IMPORTANT NOTE: fonts used in an Illustrator document can only be displayed and printed correctly when the viewer has those fonts installed on their computer. If working on more than one computer, you may have to carry font files on a disk with your Illustrator file.

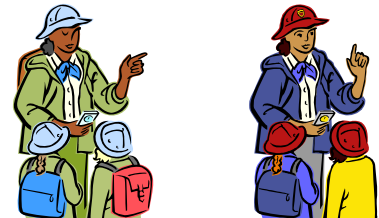
Placing an Existing Image

Bitmap images

To insert an image, go to **File > Place...**, then choose the file you wish to insert. It will appear in the center of your poster. Adding a lot of bitmap images (digital photos or scanned images) to your document will make the file a lot bigger.

Office Clipart






First, insert the clipart image into an Office document. Then select the image, and copy it (**Edit > Copy**). Open a new Illustrator document and paste in the clipart (**Edit > Paste**). Use the Direct-Selection tool to select individual items in the picture, and change their color, shape, etc.



Original Office Clipart

Edited in Illustrator

Drawing Your Own Simple Images

The easiest thing to draw in Illustrator is an enclosed shape, such as a rectangle, ellipse, or polygon. Click the Shape tool (usually set to Rectangle ) to begin drawing, or select another shape: Rounded Rectangle () , Ellipse () , Polygon () , or Star () .

To draw the shape, just click and drag on your workspace. Thin lines will appear indicating the outline of your shape, and the shape will be completed when you release the mouse button. **Note:** holding down the *Shift* key as you draw a Rectangle or Ellipse will restrict you to a perfect square or circle!

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Making New Color Choices


The colors in the default Swatches Palette are fairly limited, but you can select new colors.




Double-click on a color in the Stroke/Fill area to access the Color Picker. Adjust the slider in the “rainbow” bar to choose the hue you want, then pick the desired shade from the large box. You can enter numerical color values (from a web page, or other digital image) in the text boxes.

You can add your new color to your swatches, for easy re-use. Simply click the New Swatch icon () in the Swatches palette. To remove a color from your Swatches, click on that swatch, then click the Trash icon ()

Color Gradients

A **gradient** mixes two or more colors together in the fill area of an object. If only solid color swatches are visible, click the Gradient Swatches button () to view gradients.

To apply a gradient, select the object, and click on the swatch for the gradient you want to use. Once a gradient has been applied, use the Gradient Tool () and Gradient Palette (located under the Stroke Palette) to modify the gradient – changing it from linear to radial, and changing the direction and length of the transitions from one color to another.

If you particularly like a modification you have made to a gradient, click on the gradient box in the Gradient Palette, and drag it to the Swatches Palette. A new swatch will be created for your gradient.





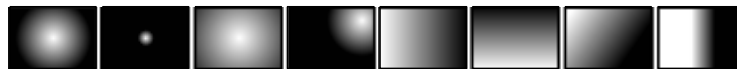
Exercise: Applying Colors and Gradients

1. Create a new color. Add it to your Swatches Palette
2. Draw a shape. Copy and paste it several times. Try to replicate the following versions of the object:

- a. regular stroke and fill
- b. new color stroke, no fill
- c. colored fill, no stroke
- d. gradient fill, new color stroke




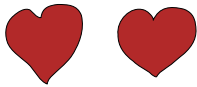
3. Draw a new shape. Fill it with a simple two-color gradient ( or ). Use the Gradient Tool and Gradient Palette to replicate these variations:



Getting a Bit More Artistic


Pencil Tools

Use the Pencil tool () to create free-flowing lines and shapes. As you draw, a thin lines will appear indicating the outline of your shape, and the shape will be completed when you release the mouse button.





Re-tracing an existing shape with the Pencil tool to redraw sections of the line, or the whole thing. At left, an original heart, and a version revised with the Pencil tool.

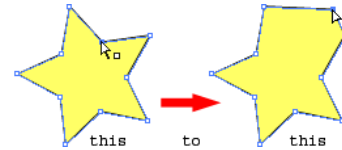


Alternatively, you can use the Smooth tool () to automatically smooth zigs and zags out of your lines. At left, a freehand-drawn line, and a version revised with the Smooth tool. The Smooth tool is located under the Pencil tool in your toolbox. Click-and-hold on the Pencil tool to see the icon for the Smooth tool.

Selection Tools

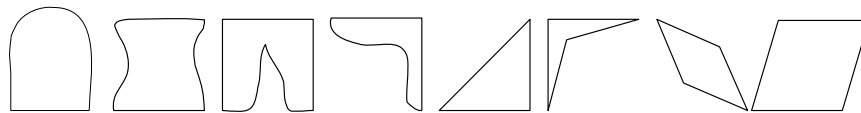
Once you have created an object, the Selection tool () lets you select the entire object for further manipulation.

The Direct-Selection tool () lets you select parts of an object, individual anchor points, direction points, and segments. Use the Direct-Selection tool to “morph” shapes, or to adjust direction points.



Exercise – Drawing with Shapes, Pencil, and Selection Tools

1. Draw a basic square, then see how many of these shapes you can replicate, using only the Pencil and Direct-Selection tools.



Strokes

In addition to the color of a line, you can also change several other properties. The Stroke Palette lets you change a number of things about your Stroke:

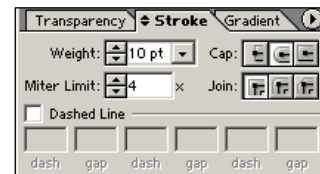
Weight: how thick your line appears

Cap: how the ends of your line appear

Join: how your line joins at corners

Miter Limit: how far the joined lines project at corners

Dashed Line: check this box to create a dashed line. In the boxes below, specify how long each dash should be, and how long the gaps between dashes should be.



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Brushes

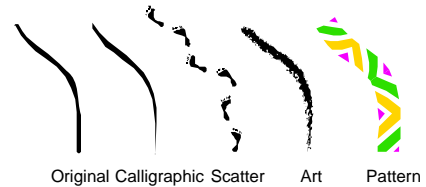
Brushes can be applied to the stroke of any object, to significantly change the appearance of the line. There are four basic types of brushes.

Calligraphic: makes your lines resemble those drawn with a calligraphy pen

Scatter: scatters copies of an object along your line

Art: stretches a single copy of an object along your line

Pattern: applies a repeating pattern to your line



You can create new brushes yourself, when you become more familiar with Illustrator.

Styles


Styles are similar to brushes, but change the stroke, fill, and special effects of your objects. Select an object, and choose a **Style** from the **Styles Palette** (located with **Swatches**) to see the radical changes. If you find a combination of stroke and fill effects that you like and want to use again, select an object on your workspace, and drag it to the **Styles Palette** to create your own new **Style**!


NOTE: any new swatches, styles, or brushes you create are saved only within your document. To re-use with a new document, drag and drop from an old document to a new one!

Attention to Details

Transforming Objects

You've already seen how the **Direct-Selection Tool** can be used to move individual points of an object, and the **Selection Tool** can manually scale or re-size any object. There are also several built-in options for transforming objects. The two easiest options are the **Transform** menu and the **Transform Tools**. To use the basic **Transform Tools**, select an object, then the tool.

Rotate  – dragging with the **Rotate Tool** rotates the object around a point; by default, the center point. You can move the point of rotation, by clicking before you begin dragging. Hold down the shift key to rotate in 15-degree increments.

Reflect  – click once, then again in a different location to indicate a line over which to reflect the object.

Scale  – drag to resize the object. Hold down the shift key to maintain original proportions.

Shear  – drag to skew the object. Hold down the shift key to stick to 15-degree increments.

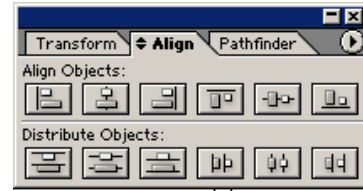
To apply transformations to an object using the menus, select the object, then go to **Object > Transform** on the menu. The advantage of the menus is that numeric values can be specified – Scale 150%, Rotate 32°, etc.

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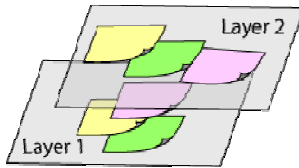
Aligning and distributing objects

Go to **Window > Align** to see the **Align Palette**. Now you can use your Selection Tool to select multiple objects (either by dragging a selection box around them, or by shift-clicking on each object.) Then click the appropriate button on the **Align Palette** to Align or Distribute the objects.



Ordering objects

Illustrator has a lot more control over the stacking order of objects than PowerPoint does. Like Photoshop, Illustrator allows you to create **Layers** within your document. Think of each layer as a sheet of transparency paper. Multiple layers stack on top of each other, and you can control that stacking order in the Layers Palette.



Think of the objects you draw as Post-It notes stuck to a transparency (or Layer). You can move those Post-It notes around, and you can rearrange their stacking order. Any object in a higher layer is automatically above any object in a lower layer. Within one layer, objects may be rearranged as well.

To change the stacking order of an object within a layer:

1. Select the object.
2. Under the **Object** menu, choose **Arrange**. On the pulldown menu, select an option:
 - a. **Bring to Front/Send to Back** – brings the currently selected object to the top of all the objects on the layer, or sends it all the way to the bottom.
 - b. **Bring Forward/Send Backward** – brings the currently selected object one level up or down in the layer.

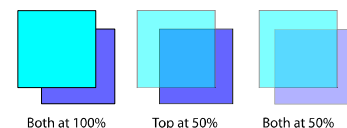
Bring to Front	Ctrl+Shift+]]
Bring Forward	Ctrl+]]
Send Backward	Ctrl+[[
Send to Back	Ctrl+Shift+[[

Opacity of Objects and Layers

Each layer, and each object within a layer, can vary from 100% opaque (solid), to 0% opaque (completely see-through). Opacity is additive – two black objects that are each at 50% opacity (appearing gray) will create 100% black wherever they overlap.

To change opacity of a layer, click on the small circle to the right of the layer name in the Layers Palette. Then change the Opacity setting in the Transparency Palette.

To change opacity for a single object, simply select the object and adjust its Opacity in the Transparency Palette.

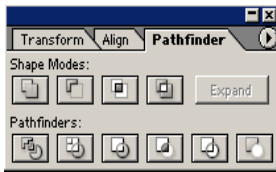


Drawing Complex Shapes



Grouping objects

Grouping is the simplest way to make two or more objects behave as one. Simply select one object, then hold down the *Shift* key as you click on one (or several) more object(s), until you have selected everything you want in the group. Then go to the **Object** menu, and select **Group**. All lines and fills are preserved in a Group, and individual component objects can be selected with the Direct-Selection Tool.

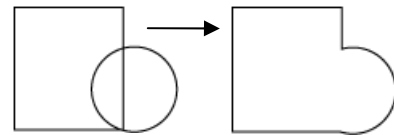
Pathfinder Palette



For more complex effects, you may wish to use the **Pathfinder**. The Pathfinder Palette is another tab on the *Align Palette*. If you do not see the Align, Transform, or Pathfinder palette tabs, go to **Window > Pathfinder** to turn it on.

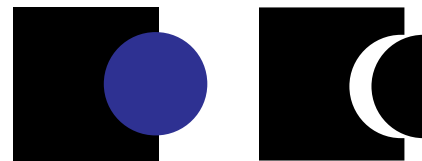
The most useful thing you can do with the Pathfinder is to add shapes together, or subtract one shape from another. To add shapes, select two shapes, and click on the Add to shape area button () . You will see the two shapes become one. To subtract one shape from another, select both (making sure that the shape you want to take away is on top!) and click on the Subtract from shape area button () .

When using these Pathfinder buttons, the original two shapes are still preserved, and can be selected with the Direct-Selection tool. To make your Pathfinder changes *permanent*, select the changed objects, and click the Expand button.

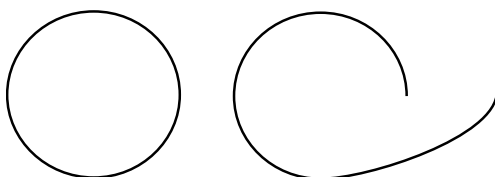



Using Objects as “Cookie Cutters”

Place one object above another, select it, and go to **Object > Path > Divide Objects Below**. The edges of the upper shape will be used as a “cookie cutter” to sever any objects below into pieces.



Cutting Lines with the Scissors Tool





Draw an object, or select it with the Selection tool. Then select the Scissors tool () , and click on an anchor point of the line to break the line at that point.

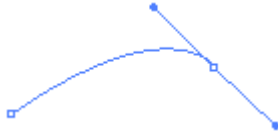
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Pen Tool

Click multiple times in your document with the Pen Tool () to create a freehand polygon shape. Each new click defines a new anchor point in the polygon. As you near the point where you began the shape, the cursor will change, indicating it is ready to complete the shape by adding a small closed circle at lower right (). When you see this “close” cursor, you can click once to close the shape.

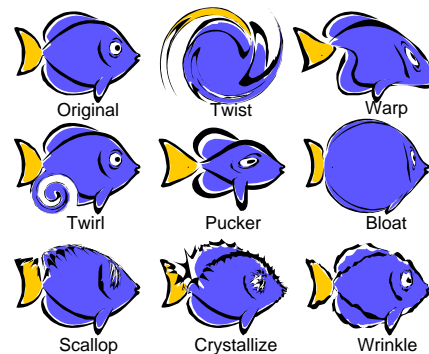
When you click to add a new anchor point with the Pen Tool, you may choose to click and drag instead of clicking once. This turns a sharp corner into a smoothly curved one.



The Pen Tool is very useful for creating freehand smooth curves. You can combine single-click anchor points (sharp corners) with click-and-drag anchor points (smooth corners) to create complex shapes that are more precise than freehand Pencil drawing.


Liquify Tools

A number of tools are available to “liquify” your objects. When using these tools, objects become malleable, like wet paint. Experiment with these tools to find out what they do. All are located under the Warp Tool.



Live Paint

When you have a group of objects, and want to color parts of those objects, LivePaint is a terrific feature.

Draw several objects that overlap, then select the Live Paint tool (). Click on the group of objects once to “convert to a Live Paint group”. Then you can select fill colors in the Swatches palette, and click with the Live Paint bucket to fill areas of that group with colors.

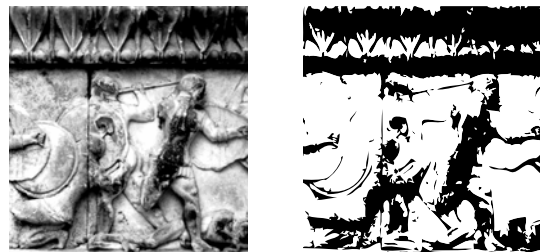
The best part about Live Paint is that you can still move the objects within the Live Paint groups, and they’ll keep their Live Paint colors as you move them around!

Live Trace

You can turn a bitmap image into a vector image very easily in Illustrator CS2. All earlier versions of Illustrator lack this capability.

Place the bitmap file, then select it. Go to **Object > Live Trace > Make**.

If you don’t like your results, check the settings under **Object > Live Trace > Tracing Options...**



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More Options for Text in Illustrator

Illustrator is not great as a word-processing tool. Almost all longer pieces of text should be edited in a word processing program such as Word, and then brought into Illustrator.

For medium-length text, you can just cut from Word and paste into a text box in Illustrator.

Longer documents can be “placed” into Illustrator in their entirety – go to **File > Place**, and select your text file to place it on the page.

Placed documents often have strangely overlapping text – select the whole object with the Selection tool () and set the Font Size to any value you like, then set the Leading to “Auto” – this should fix the overlap problem.



Linking Text Boxes

Text boxes in Illustrator can be linked together. Once linked, text from one box will spill over into the next box. You can re-size any one of the linked boxes, and text will re-spill itself from one box to the next.

Once you have placed text from Word, you will probably find that your text box has a red plus sign at the bottom right corner (this is called the “out port”) – this indicates that there is more text in the box than can be displayed at the current text box size.



To link objects

1. Use the selection tool to click the red plus sign.
2. The cursor will change to the Loaded Text icon ()
3. Click elsewhere on the screen to make a new text box the same size and shape as the original.
4. Or move the cursor over an existing object (the cursor icon will change to ) , and click to place the text in the existing object.

Shaping Text

Wrapping Text Around an Object




You can wrap text around any object. Make sure that the object you want to wrap around is above the text you want to wrap (you may need to select the object and bring it to the front). Then select both the text and the object, and go to the menu and choose **Object > Text Wrap > Make Text Wrap**.

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Useful Tips and Tricks

- With the Selection Tool selected, drag a box on the work area to select all objects inside the box. With the Zoom Tool () selected, drag a box on the work area to zoom to the size of that box.
- Go to **View > Show Rulers** to see rulers on the top and left edges of your document. The units on the rulers are the units you specified when creating the document; you can change them under **Edit > Preferences > Units & Display Performance...**
- Once the rulers are visible, click and drag from either ruler to display a vertical or horizontal **Guide** line. These Guides are not part of your artwork. They can be moved around the screen, but you may have to go to **View > Guides > Lock Guides** to unlock them. You can remove Guides by dragging them back to the ruler they came from, or by going to **View > Guides > Clear Guides**.
- Go to **View > Show Grid** to show a grid behind your artwork. **View > Snap To Grid** or **View > Snap to Point** will help your artwork line up.
- Try drawing a box around part of your shape and then choosing **Object > Crop Area > Make** to save images of just that area of the drawing. You can release crops by going to **Object > Crop Area > Release**.