



Adobe Illustrator® CS6

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Adobe Illustrator CS6

Module 2

(Colors, Curves, and Effects)

Apply Colors

Patterns and Gradients

Object Appearance and Effects

Drawing with the Pen Tool

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1.) Applying Colors

Changing Color Modes in the Color Palette

You can create colors with the Color palette using one of five models: CMYK, RGB, Web Safe RGB, HSB, or Grayscale. With each color model, you can specify a color in any of these ways:

- Adjusting one or more color sliders
- Entering color information numerically
- Clicking in the color bar at the bottom of the palette

Choose the **Color Mode** you wish to use from the Color palette menu. Additionally, you can set the color mode for the document by choosing File > Document Color Mode > CMYK Color/RGB Color.

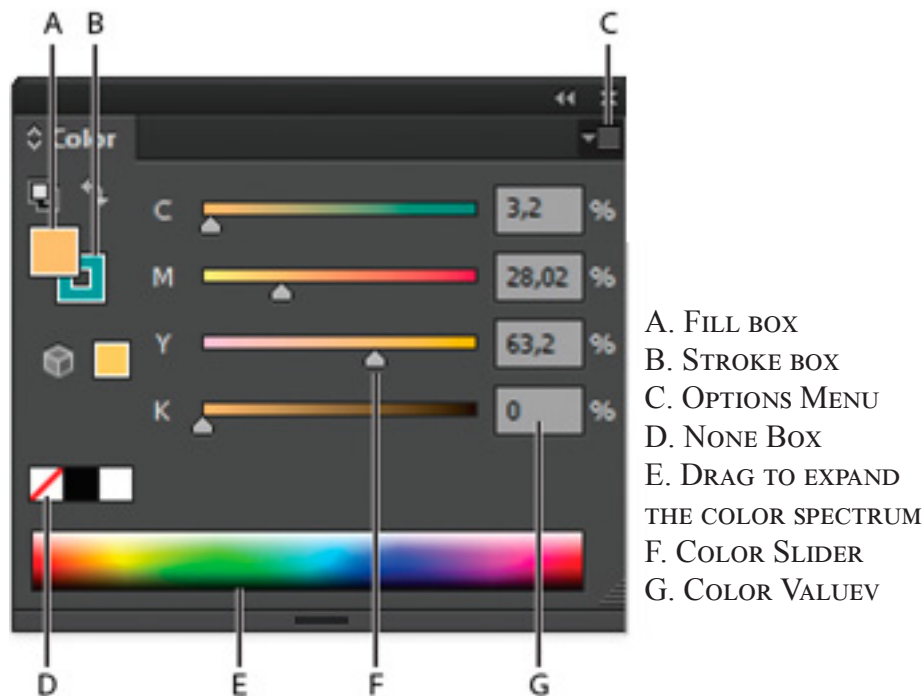


FIGURE 1 – THE COLOR PALETTE WITH OPTIONS MENU

The color bar offers a full spectrum of colors available for each color model, as well as swatches for white, black, and none.

CMYK Color

In the **CMYK** (cyan, magenta, yellow, and black) color model, cyan, magenta, and yellow are referred to as the primary subtractive colors, since they combine together to form black (the absence of color), in theory (See Figure 2). However, in reality, they combine to make a dark muddy brown, so black ink is added to solidify dark colors and to print pure black. CMYK colors can be specified using values from 0% to 100% of each ink color. This color model is used for most professional color printing.

RGB Color

The RGB color model combines red, green, and blue components to create colors. Your monitor uses red, green, and blue phosphors to project the color to the screen. Red, green, and blue are called the primary additive colors, because when projected (as on your monitor), they combine to make white (See Figure 2).

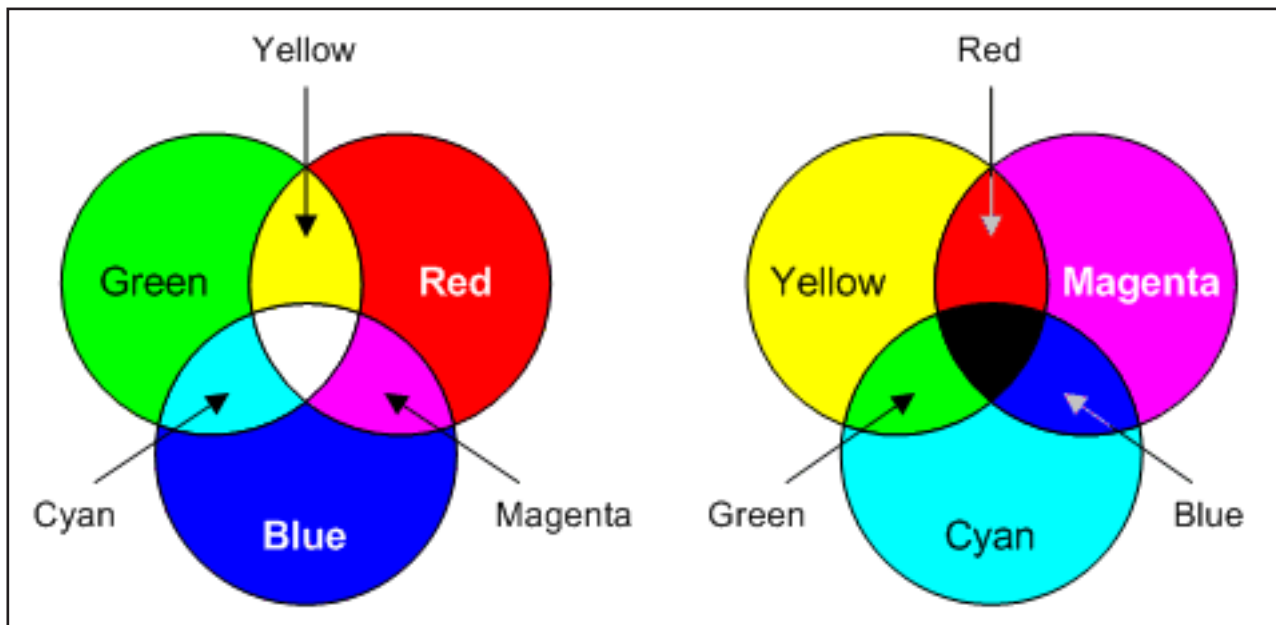


FIGURE 2 – [THE RGB (ADDITIVE “LIGHT”) LEFT] - AND
[CMYK (SUBTRACTIVE “PAINT”) RIGHT] COLOR MODELS

The **RGB** color model can create much brighter colors than can be printed with CMYK inks. For example, a bright blue would appear much brighter on screen than it would if it were printed using CMYK inks. For that reason, Illustrator warns you if you choose a color out of CMYK’s range of printable colors, or gamut. If you are choosing colors that will only be viewed on screen, such as for a Web page or .pdf documents to be distributed on the World Wide Web and viewed electronically, then you can ignore Illustrator’s warning.

***Note**: Most desktop or ‘inkjet’ style printers use RGB color so documents intended to be printed on this type of device should be set up in RGB color. Professional print houses use machines that work with the 4-color process and require CMYK set-up.*

Web Safe RGB Color

The **Web Safe RGB** color model is similar to regular RGB, but is designed with Web safe colors in mind. ‘Web safe’ refers to colors that appear the same on both Windows and Macintosh computers when viewed on 256-color displays. Since you do not know what computers will be used to access images you post on the internet, choosing Web safe colors assures the creator that the image will be accurately reproduced on a viewer’s monitor, even on a 256-color display. Web designers typically choose from the Web safe palette for large solid color areas to ensure they’ll display properly on both platforms.

HSB Color

The **HSB** color model defines a color based on its hue, saturation, and brightness. The hue is the basic color, saturation is the intensity of the color, and brightness is the amount of white in the color. The hue values range from 0 degrees to 360 degrees, while the saturation and brightness values range from 0% to 100%.

Grayscale Color

Grayscale uses tints of black to represent an object. Every grayscale object has a brightness value ranging from 0% (white) to 100% (black). Images produced using black-and-white or grayscale scanners are typically displayed in grayscale.

Grayscale also lets you convert color artwork to high-quality black-and-white artwork. In this case, Adobe Illustrator discards all color information in the original artwork; the gray levels (shades) of the converted objects represent the luminosity of the original objects.

When you convert grayscale objects to RGB, the color values for each object are assigned that object’s previous gray value. Likewise when converting to a CMYK object.

Spot Colors

You may wish to use spot colors in your document as well as process colors. Unlike process colors, each spot color is printed using a single ink. This is usually used for four reasons:

- If you need an exact color match, you can rely on spot colors since they are not mixed at the printing press.
- Swatchbooks displaying spot ink colors are available, so you know exactly what the color will look like when printed. Colors never display perfectly accurately on your monitor, even if it has been calibrated to match the printed output.
- Specialty inks, such as shiny metallic colors, can be specified as spot colors.
- If you need fewer than four colors (including black), it is less expensive to print spot colors, since fewer printing plates need to be made. If you need more than four colors, or if the printed piece contains continuous tone images (such as color photographs), you should use process colors.

Spot colors can be created from the Swatches palette.

The Color Picker

The Color Picker lets you select an object's fill or stroke color by choosing from a color spectrum, defining colors numerically, or clicking a swatch.

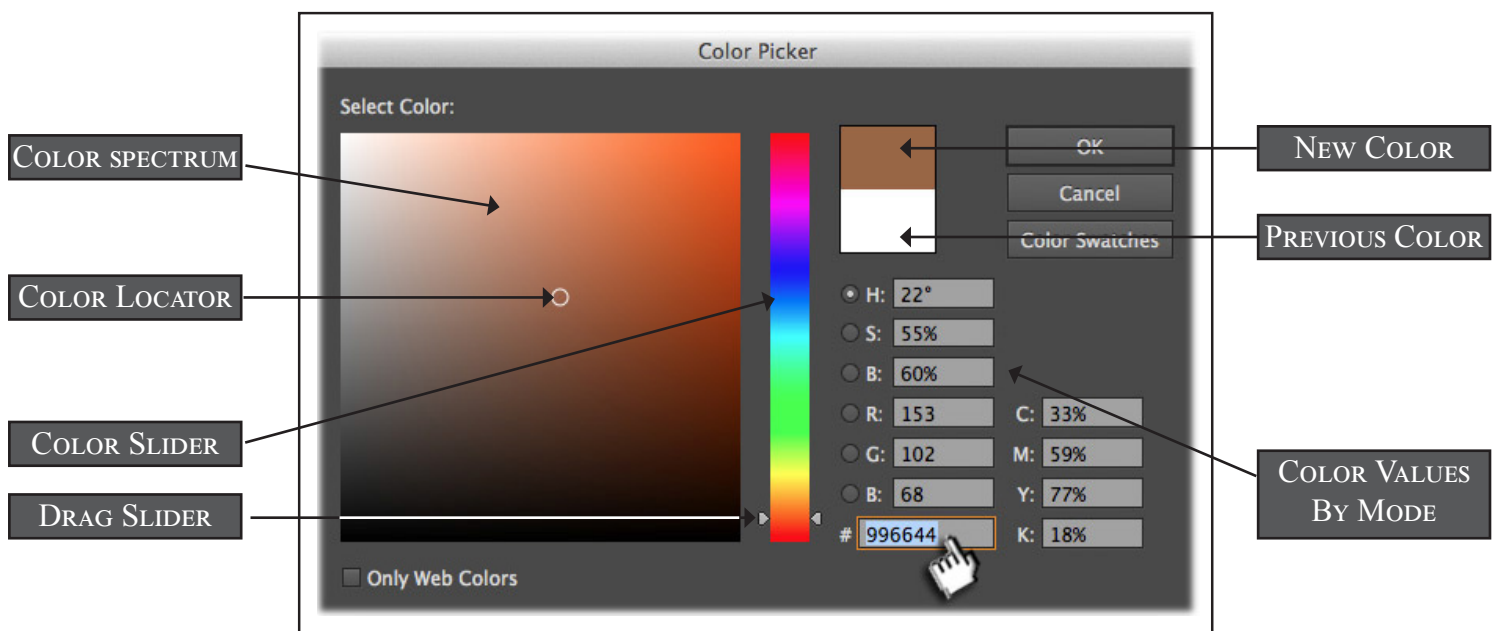


FIGURE 3 – THE COLOR PICKER


To apply color to an object using the Color Picker:

- Select the desired object.
- Double-click the fill or stroke color box in the Toolbox or Color palette to open the Color Picker.
- To change the color spectrum displayed in the Color Picker, click a letter: H (Hue), S (Saturation), B (Brightness), R (Red), G (Green), or B (Blue). The default color spectrum is Hue.
- Drag the Color Slider triangle to the desired range of colors.
- Use the Color Locator to click in the Color Spectrum on the color you wish to use. The color you click on will be displayed in the New Color box to the right of the Color Slider. Locate a different color if you wish to change it.
- You may also choose to display only web-safe colors by checking the Only Web Colors box.

If you want more specific control over the color(s) you choose, you have options:

- View color swatches instead of the color spectrum by clicking the Color Swatches button. Click Color Models to return to view the color spectrum.
- If you know the specific values for the color you want, you may type them in using any of the available color modes: **HSB**, **RGB**, **CMYK**, or **Hexadecimal** values.

COLOR AND SWATCHES PANEL

Color panel icon () on the right side of the workspace. Click the double-arrow to the left of the word “Color” in the panel tab to expand the panel, if necessary. The Color panel displays the current color of the fill and stroke.

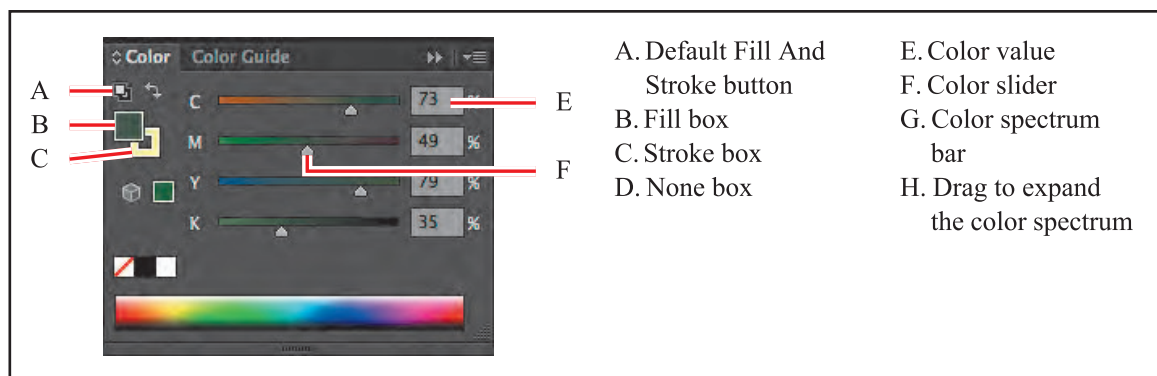


FIGURE 4 – THE COLOR PANEL

Swatches are named colors, tints, gradients, and patterns. The swatches associated with a document appear in the **Swatches palette**. In addition, you can open libraries of swatches from other Illustrator documents and various color systems. Swatch libraries appear in separate palettes and are not saved with the document.

SWATCH LIBRARIES

Swatch libraries are collections of preset colors, including PANTONE®, HKS, Trumatch, FOCOLTONE, DIC, TOYO, and web colors. To open a swatch library, choose Window > Swatch Libraries or choose Open Swatch Library from the Swatches palette menu.

When you open a swatch library, it appears in a new palette (not the Swatches palette). You select, sort, and view swatches in a swatch library the same as you do in the Swatches palette. However, you can't add swatches to, delete swatches from, or edit the swatches in swatch libraries.

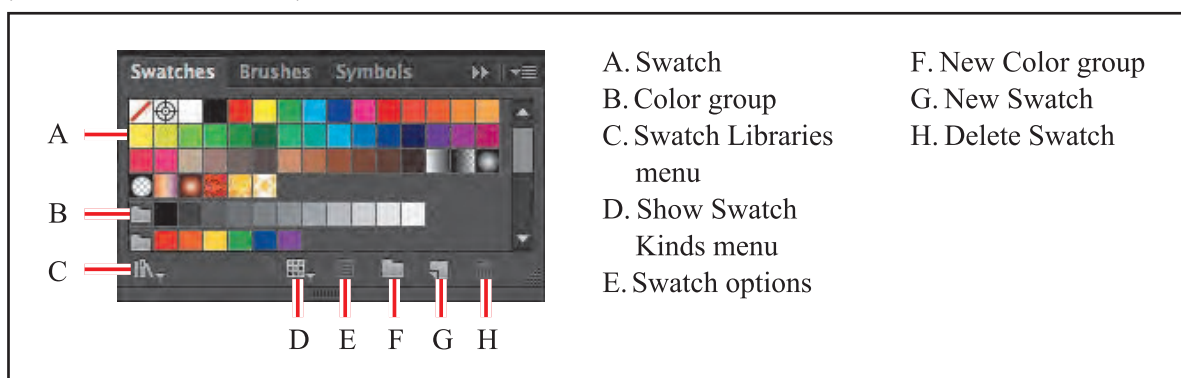



FIGURE 5 – THE SWATCHES PANEL

the Swatches panel icon () on the right side of the workspace. You can name and save document colors, gradients, and patterns in the Swatches panel, for instant access. When an object has a fill or stroke that contains a color, gradient, pattern, or tint applied in the Swatches panel, the applied swatch is highlighted in the panel.

- To change the order of swatches, select a sort option from the Swatches palette menu: Sort By Name or Sort By Kind. You can also drag a swatch to change its location.
- To select a swatch by name, select Show Find Field from the Swatches palette menu. Then type the first letter or letters of the swatch's name in the Find text box at the top of the palette. You can also use this method to select a Pantone swatch by entering the Pantone number.

To apply a swatch color to an object:

- Select the object.
- Make sure to choose the fill or stroke box in the Toolbox or Color palette to determine where the swatch color will be applied.
- Click on the desired swatch in the Swatches palette.

There are several ways to create a new swatch:

- Clicking the New Swatches button at the bottom of the Swatches palette will create a new swatch based on the current selected stroke or fill color. If you use this method, you may want to choose the color first using the Color palette or Color Picker and then simply created a swatch based on that color.
- Drag the color from the Toolbox or Color palette to the Swatches palette.
- Select New Swatch from the Swatches palette menu. This will open the New Swatch (Swatch Options) dialog box.

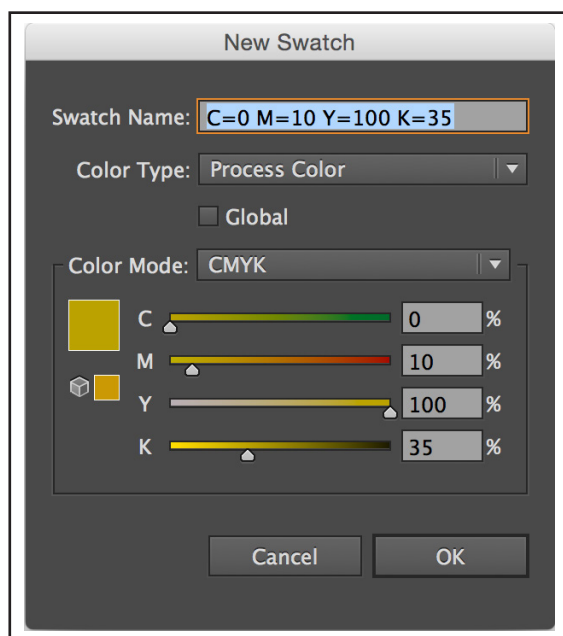


FIGURE 6 – THE SWATCHES OPTIONS

You can access the Swatch Options dialog box to make changes to any swatch by double-clicking on the swatch in the Swatches palette.

Here is a description of the various swatch options:

Swatch Name determines the name of the swatch displayed in the Swatches palette.

Color Type determines if the swatch is a process color or spot color.

Global creates a global process-color swatch.

Color Mode determines the color mode of the swatch.

Note: After you select the color mode you want, you can use the color sliders to adjust the color. If you select a color that is not web-safe, an alert cube appears below the color box. Click the cube to shift to the closest web-safe color (which is displayed to the right of the cube). If you select an out-of-gamut color, an alert triangle appears. Click the triangle to shift to the closest CMYK equivalent (which is displayed to the right of the triangle).

2.) Patterns and Gradients

Patterns

Patterns are repeating (tiled) paths, compound paths, or text with solid fills or no fill, or are designed from scratch with any of the tools in Illustrator.

Illustrator comes with many patterns that you can access in the Swatches palette and in the Illustrator Extras folder on the Illustrator CD. You can also design patterns from scratch with any of the Illustrator tools and customize existing patterns. There are basically two types of patterns:

- **Fill Patterns** are patterns intended for filling objects.
- **Brush Patterns** are patterns intended to be applied to a path with the Brushes palette.

For best results, use fill patterns to fill objects and brush patterns to outline objects.

Pattern Swatches

Click on the Show Pattern Swatches button at the bottom of the Swatches palette to see the existing pattern swatches. You can download more pattern swatches from the internet, from the Illustrator CD, or you can create your own patterns and save them as swatches.

To apply a pattern swatch to an object:

- Select the object and choose the fill or stroke button from the Toolbox or Colors palette.
- Click on the desired pattern in the Patterns section of the Swatches palette.
- The pattern will repeat by tiling to fill the designated object.

To create your own pattern swatches:

- Create the artwork for the pattern using any of Illustrator's design tools.
- Use the Selection tool to select the artwork that will make up the pattern tile.
- Edit > Define Pattern will open the New Swatch dialog box. Name the swatch and click OK.

Gradients

In addition to applying solid colors and patterns to an object's fill or stroke, you can apply gradients, which cause smooth transitions between multiple colors. You will create and apply several gradient effects.

Gradient Types

There are two types of gradients in Illustrator:

Linear gradients blend colors in a linear pattern. You can edit the gradient to alter the colors, the number of colors, and the speed of the transition.

Radial gradients blend colors from the center outward in a circular fashion.

You can choose which type of gradient you want to apply from the Type drop-down menu in the Gradient palette.

The Gradient Palette

You can use the Gradient palette to create and modify gradients (See Figure 7).

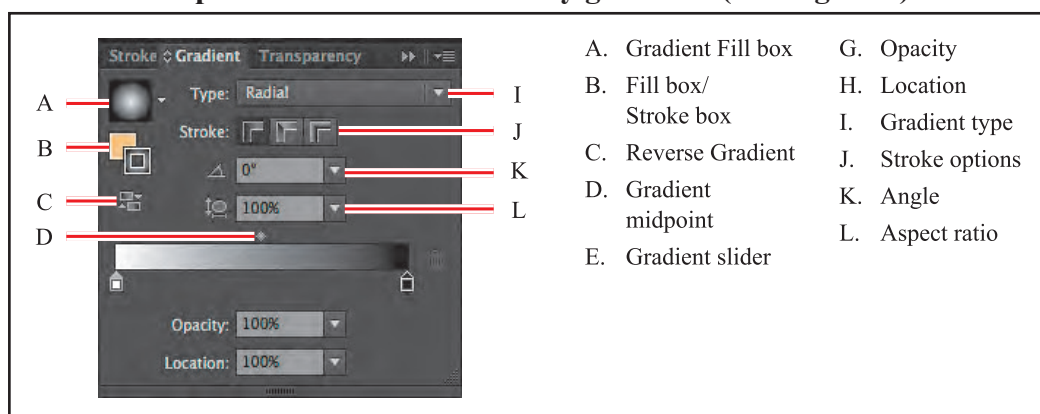


FIGURE 7 – THE GRADIENT PALETTE

E: At the bottom of the Gradient palette is the gradient slider. **D** is The diamond symbol above the gradient slider controls the midpoint of the gradient. The midpoint is where there are equal amounts of the two colors in the gradient. If a gradient is made up of more than two colors, additional midpoints are added automatically to separate each pair of colors.

Below the gradient slider are two triangles **F**, which are the control points or **color stops** for the gradient. Each control stop represents one of the gradient's colors. You can define a gradient's colors by selecting either of the stops, and then choosing a color using the Color palette or Swatches palette. You can also add colors to the gradient with additional color stops by clicking below the gradient slider at the location where you'd like the new stop to appear. Each time a new color is added to a gradient, an additional midpoint diamond will be displayed above the color slider. You can remove a control stop by dragging it away from the gradient slider.

You can change the duration and weight each color gets in the gradient by dragging the color stops or midpoints horizontally along the Gradient Slider. Additionally you can adjust a gradient's angle within an object by typing an angle in the Angle field **K**.

The Gradient Tool

You can modify a gradient's angle manually using the **Gradient tool** by dragging across the selected object at the angle you want the gradient to use.

In addition to adjusting a gradient's angle, you can use the Gradient tool to control how much of the gradient actually appears within the object. For example, if you position the Gradient tool beyond an object's edge, then drag across the object and beyond its opposite edge, the gradient will span the distance you dragged, so only a portion of the gradient appears within the object itself (See Figure 8).

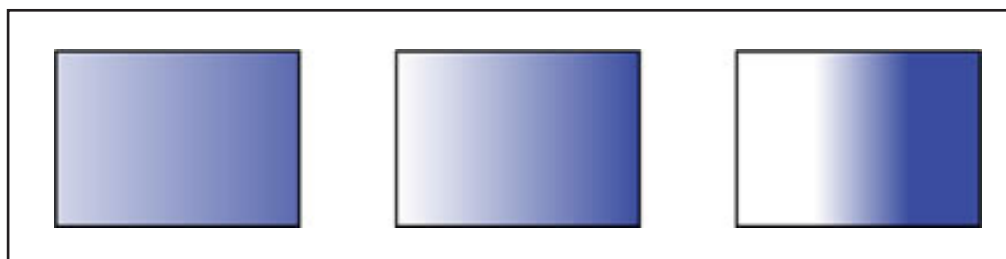


FIGURE 8 – GRADIENT EXTENDING BEYOND OBJECT (LEFT), GRADIENT FITS OBJECT (MIDDLE), GRADIENT SMALLER THAN OBJECT (RIGHT)

Gradient Swatches

To view existing gradient swatches, click the Show **Gradient Swatches** button at the bottom of the Swatches palette. With the Show All Swatches button selected, gradient swatches will be shown along with color swatches.

You can apply a gradient swatch to a selected object's fill or stroke simply by clicking on the gradient swatch in the Swatches palette.

You can create a gradient swatch in a number of ways:

- Click the New Swatches button at the bottom of the Swatches palette.
- Drag the gradient from the toolbox or Color palette to the Swatches palette.
- Select New Swatch from the Swatches palette menu. Enter a swatch name, and click OK.

3.) Object Appearance and Effects

Make Objects Transparent

You can create hundreds of effects using different transparency techniques in Illustrator. The simplest of which is to change the opacity of an object. This can be done in a number of ways:

- Select an object and adjust the Opacity slider in the Control palette. As the slider moves to the left, the object becomes more transparent (or less opaque).
- Use the Opacity slider in the **Transparency palette** (Window > Transparency).

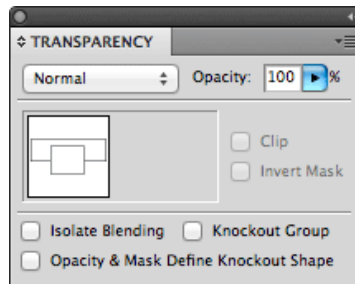


FIGURE 9 – THE TRANSPARENCY PALETTE

Effects

Effects change the look of an object. Effects are live, which means that you can apply an effect to an object and then modify or remove it at any time, using the Appearance panel. Using effects, it's easy to apply drop shadows, turn two-dimensional artwork into three-dimensional shapes, and much more.

The **Effect menu** commands alter the appearance of an object without changing the base object. Applying an effect automatically adds the effect to the object's appearance attribute. You can apply more than one effect to an object. You can edit, move, delete, or duplicate an effect at any time in the Appearance panel. To edit the points that the effect creates, you must first expand the object.

There are two types of effects in Illustrator: **vector effects and raster effects**. In Illustrator, click the Effect menu item to see the different types of effects available.

- **Illustrator effects:** The top half of the Effect menu contains vector effects. You can apply these effects only to vector objects or to the fill or stroke of a bitmap object in the Appearance panel. The following vector effects can be applied to both vector and bitmap objects: 3D effects, SVG filters, Warp effects, Transform effects, Drop Shadow, Feather, Inner Glow, and Outer Glow.
- **Photoshop effects:** The bottom half of the Effect menu contains raster effects. You can apply them to either vector or bitmap objects.

Applying an effect

Effects are applied using the Effect menu or the Appearance panel and can be applied to objects or groups. The Appearance palette is designed to manage and apply live effects easily. Once you apply an effect to an object, the Appearance palette lists the effect and enables you to edit the effect, move it, duplicate it, delete it, or save it as part of a graphic style.

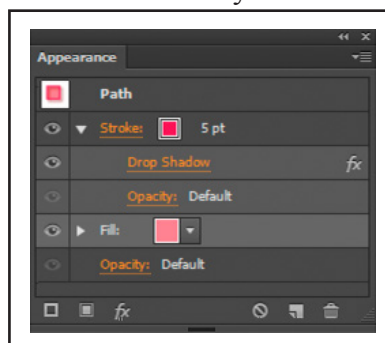


FIGURE 10 – THE APPEARANCE PALETTE

As you can see in Figure 10, besides listing the effects applied to an object, the Appearance palette also gives you quick access to modify the object's stroke, fill and transparency. Double-click on an effect in the Appearance palette to modify its properties.

There are many different styles and variations that can be applied using Illustrator. Below are instructions on applying two common filters or effects: drop shadows and feathering.

Adding a Drop Shadow

- Select an object or group of objects (or target a layer in the Layers palette).
- Choose **Effect > Stylize > Drop Shadow**
- Set options for the drop shadow (below), and click OK.

Drop Shadow Options:

- **Mode** specifies a blending mode for the drop shadow.
- **Opacity** specifies the percentage of opacity you want for the drop shadow.
- **X Offset** and **Y Offset** specify the distance you want the drop shadow to be offset from the object.
- **Blur** specifies the distance from the edge of the shadow where you want any blurring to occur.
- **Color** specifies a color for the shadow.
- **Darkness** specifies the percentage of black you want added for the drop shadow.

Feathering

In old versions of Illustrator, creating the illusion of feathering could only be done with planning and effort – in other words, you would need to apply it as you created each object. Now feathering is built into the Effect menu, so applying it is much easier and less time consuming.

To Feather the edges of an object:

- Select an object or group of objects (or target a layer in the Layers palette).
- Choose **Effect > Stylize > Feather**.
- Set the distance over which the object fades from opaque to transparent, and click OK.

4.) **Drawing with Pen Tool**

Working with Document Grid

The grid allows you to work more precisely by creating a grid behind your artwork in the Document window that objects can snap to, and it does not print. To turn the grid on and use its features, do the following:

- To use the grid, choose View > Show Grid.
- To hide the grid, choose View > Hide Grid.
- To snap objects to the gridlines, choose View > Snap To Grid, select the object you want to move, and drag it to the desired location. When the object's boundaries come within 2 pixels of a gridline, it snaps to the point.
- To specify the spacing between gridlines, grid style (lines or dots), grid color, or whether grids appear in the front or back of artwork, choose Edit > Preferences > Guides & Grid (Windows) or Illustrator > Preferences > Guides & Grid (Mac OS).

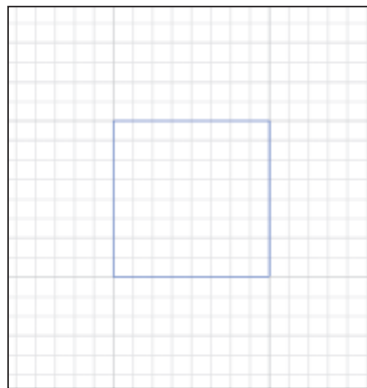


FIGURE 11 – DOCUMENT GRID

PEN TOOL AND PATH LINE TYPES

The Pen tool draws straight or curved lines to create objects. The Pen tool is used by clicking to create individual anchor points which are automatically connected by line segments. When you are finished creating your shape and want to create a new one, click on the Pen tool again in the Toolbox or press P on your keyboard.

Straight Lines

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.

- Select the Pen tool from the Toolbox.
- Position the Pen tool where you want the straight segment to begin, and click to define the first anchor point.
- If direction lines appear, you accidentally dragged the Pen tool; choose Edit > Undo and click again.
- Click once again where you want the segment to end.
- Continue clicking the Pen tool to create additional straight segments.
- The last anchor point you add appears as a solid square, indicating that it is selected. Existing anchor points become deselected as you add more anchor points.
- Close the path by clicking again on the first (hollow) anchor point (a small circle appears next to the Pen tool when it is positioned correctly).
- To leave the path open, Ctrl-click anywhere away from all objects, choose Select > Deselect, click on the Pen tool in the Toolbox again (or press P on your keyboard), or select a different tool in the Toolbox.

Curved Lines

Curved line segments are created by adding Bezier handles to the anchor points. This is done by dragging as you click to create an anchor.

- Select the Pen tool.
- Position the Pen tool where you want the curve to begin, and press down the mouse button.
- The first anchor point appears, and the Pen tool pointer changes to an arrowhead.
- Drag to set the slope of the curve segment you're creating, and then release the mouse button (See Figure 12 – point A).
- In general, extend the direction line about one third of the distance to the next anchor point you plan to draw.
- Position the Pen tool where you want the curve segment to end.
- Note: Straight and curved segments can be combined in a single shape by alternating curved and straight anchor points.
- To create a “C”-shaped curve, drag in a direction opposite to the previous direction line (See Figure 12 – point B). Then release the mouse button.
- To create an “S”-shaped curve, drag in the same direction as the previous direction line (See Figure 12 – point C). Then release the mouse button.
- Continue clicking and dragging with the Pen tool to create additional curved segments.
- The last anchor point you add appears as a solid square, indicating that it is selected. Existing anchor points become deselected as you add more anchor points.
- To close the path, position the Pen tool over the first (hollow) anchor point. A small circle appears next to the Pen tool pointer when it is positioned correctly. Click or drag to close the path.
- To leave the path open, Ctrl-click anywhere away from all objects, choose Select > Deselect, click on the Pen tool in the Toolbox again (or press P on your keyboard), or select a different tool in the Toolbox.

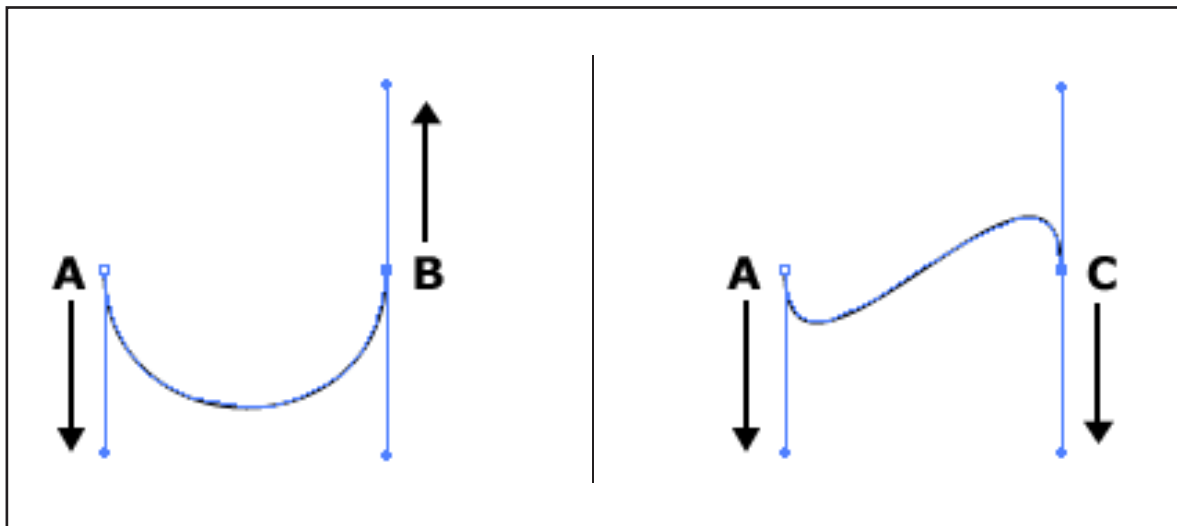


FIGURE 12 – CREATING A CURVED LINE SEGMENT


Note: *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.*


Reshaping Paths

You can modify the shape of a path by moving any of its anchor points or by moving the direction points attached to a curve segment with the Selection tool or Direct Selection tool. Editing existing segments is slightly different from drawing them. Keep the following guidelines in mind as you adjust existing 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 last-used selection tool by holding the Ctrl key so that you can adjust segments you've already drawn.
- When you 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.

Selecting Anchor Points and Path Segments

Make sure the path containing the anchor points is not selected. Move the Direct Selection tool  over the anchor point until the pointer displays a hollow square, and then click the anchor point. Shift+click on additional anchor points to select them.

You can also use the Lasso tool  to drag around multiple anchor points to select them. Shift+drag around additional anchor points to select them to add disjointed segments.

Modifying Curves

When you select an anchor point connecting curved segments, the segments display **direction lines**, which end in **direction points**. These are also known as **Bezier curves**. 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 print.

After selecting an anchor point, the selected point is filled and direction lines appear on any curved segments connected by the anchor point (See Figure 13).

A smooth point always has two direction lines that move together as a single, straight unit. When you drag the direction point of either direction line on a smooth point, both direction lines move simultaneously, maintaining a continuous curve at that anchor point.



FIGURE 13 – DIRECTION LINES AND POINTS
(MIDDLE ANCHOR POINT SELECTED)

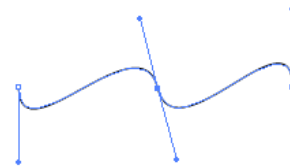


FIGURE 14 – ADJUSTING DIRECTION LINES ON A PATH

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 drag a direction point on a corner point's direction line, the other direction line, if present, does not move.

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 slopes of curves (See Figure 14).

You can show or hide anchor points, direction lines, and direction points by choosing View > Show Edges or View > Hide Edges.