



Adobe Illustrator® CS6

Notes by: Tamer Ibrahim Hassan. Ph.D.

THE VISUAL ALPHABET



point



line



angle



arc



spiral



loop



oval



eye



triangle



rectangle



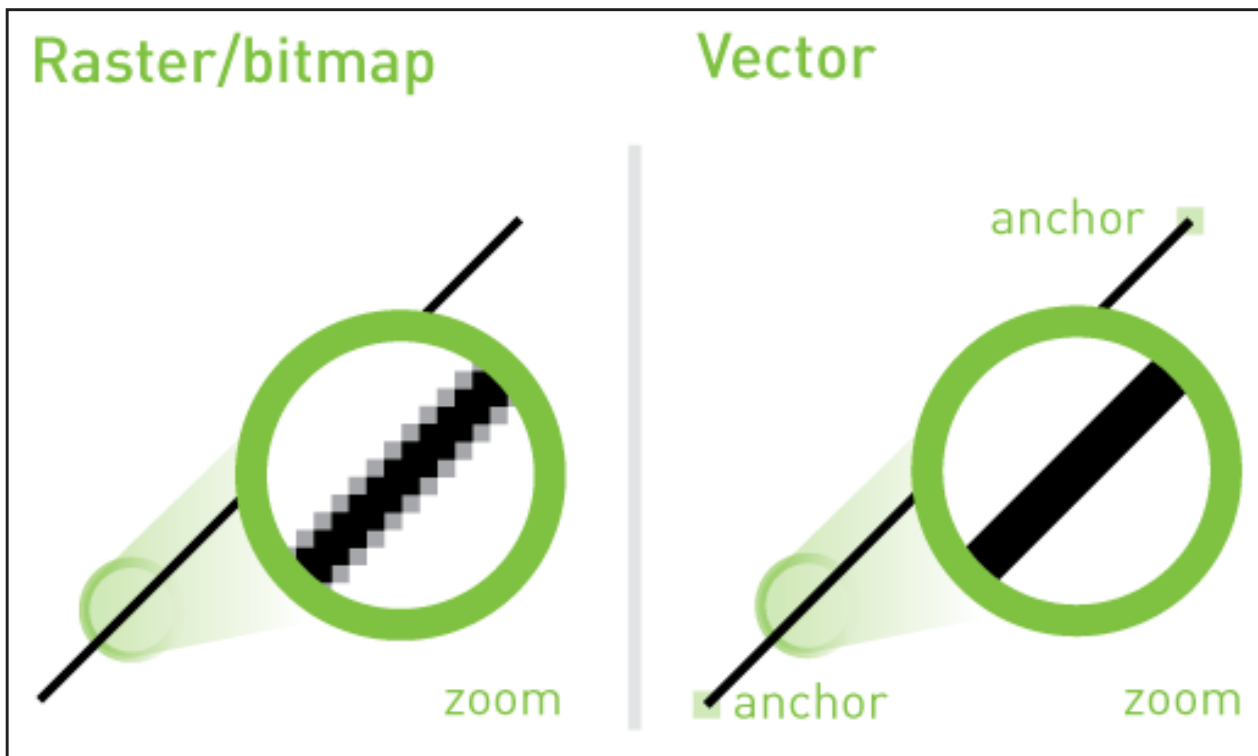
house



cloud

VECTOR VERSUS BITMAP GRAPHICS

Illustrator creates vector graphics, also called draw graphics, which contain shapes based on mathematical expressions. Vector graphics consist of clear, smooth lines that retain their crispness when scaled. They are best for illustrations, type, and graphics that need to be scaled to different sizes, such as logos.



(LEFT) GRAPHIC IS RASTERIZED AS BITMAP ART AND LOSES ITS DEFINITION WHEN ENLARGED.

(RIGHT) GRAPHIC IS DRAWN AS VECTOR ART, WHICH RETAINS ITS CRISPNESS WHEN SCALED TO A LARGER SIZE

Bitmap graphics, also called raster images, are based on a grid of pixels usually measured in pixels per inch (ppi). They are created by image-editing applications such as Photoshop. When working with bitmap images, you edit groups of pixels rather than objects or shapes. Because bitmap graphics can represent subtle gradations of shade and color, they are appropriate for continuous-tone images, such as photographs, or for artwork created in painting programs. A disadvantage of bitmap graphics is that they lose definition and appear jagged when scaled up.

In deciding whether to use Illustrator or a bitmap image-editing program such as Photoshop for creating and combining graphics, consider the elements of the artwork and how the artwork will be used.

In general, use Illustrator if you need to create art or type with clean lines that looks good at any magnification. In most cases, you'll also want to use Illustrator for laying out a single-page design, because Illustrator offers more flexibility than Photoshop when working with type and when reselecting, moving, and altering images. You can create raster images in Illustrator, but its pixel-editing tools are limited. Use Photoshop for images that need pixel editing, color correcting, and other special effects. Use Adobe InDesign for laying out anything from a postcard to a multiple chapter book, such as this notes.

Adobe Illustrator CS6

Module 1 *(Drawing Basic Shapes)*

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Changing Views
Drawing Shapes
Scaling Shapes
Fill and Stroke

Updated 15/04/2016

1.) **Interface Elements**

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Applying Strokes

1.) Interface Elements

The Illustrator Workspace

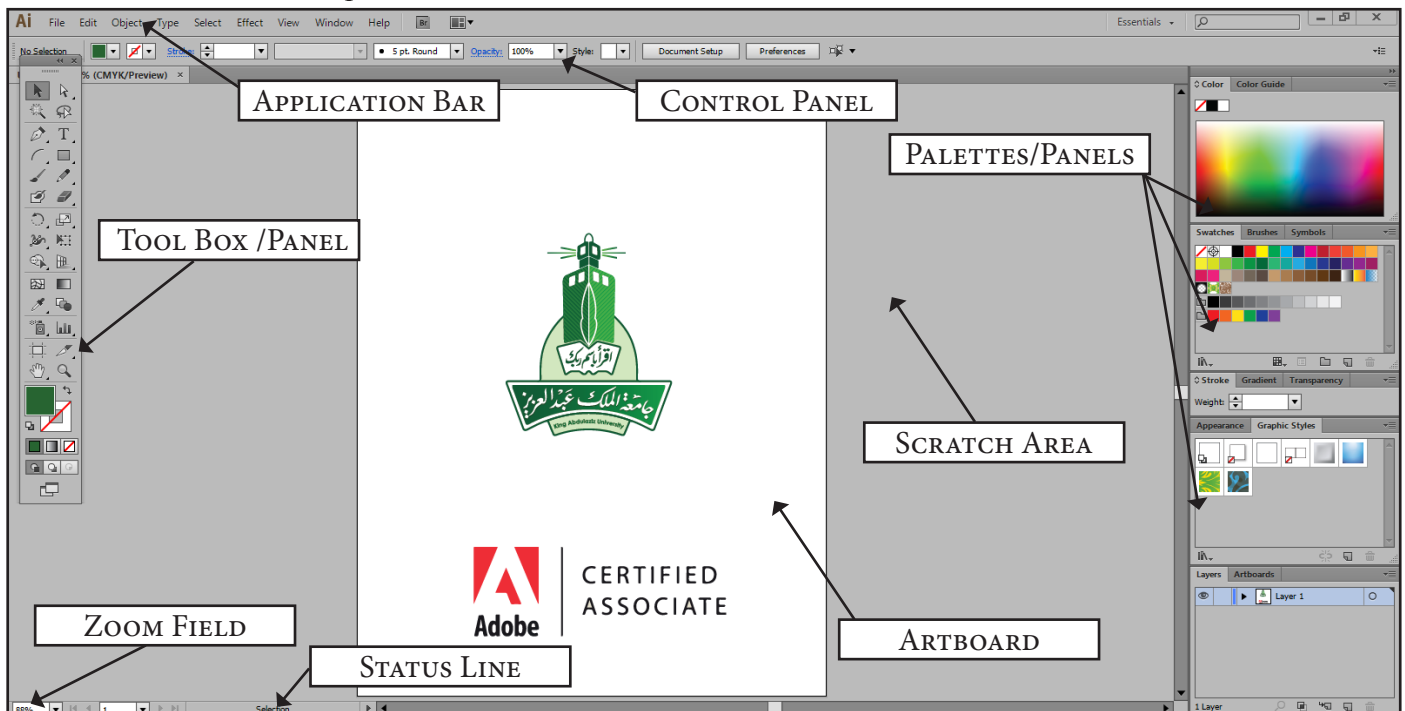


FIGURE 1 – ILLUSTRATOR CS6 WORKSPACE

Application bar

across the top contains a workspace switcher, a menu bar (Windows only, depending on screen resolution), and application controls.

Artboard

The Artboard represents the entire region that can contain printable artwork. This is where you create your art. Everything visible inside the Artboard will be printed. The Artboard is represented by the black rectangle displayed by default in your document.

Scratch Area

The scratch area is the area outside the Artboard that extends to the edge of the window. The scratch is a space on which you can create, edit, and store elements of artwork before moving them onto the Artboard. Objects placed on the scratch area are visible on-screen, but they do not print.

Status Line

The status line at the bottom left edge of the window can show you various pieces of information: the current tool in use, the current date and time, or the number of actions you can undo or redo.

Zoom Field

The Zoom field at the left of the status line indicates a document's current magnification level. You can type any magnification level from 3.13% to 6400% or choose a preset magnification level by clicking on the Zoom drop-down list.

Palettes

Illustrator has a number of floating palettes that give you information about your objects and allow you to perform various editing and formatting tasks. The palettes can be docked, regrouped, repositioned and hidden at your discretion.

Control Palette

The Control palette displays options based on the type of object you select. For example, when you select a text object, the Control palette displays text-formatting options in addition to options for changing the color, placement, and dimensions of the object.

THE TOOLBOX

The Toolbox (See Figure 2) contains tools for creating and manipulating Illustrator objects, as well as icons for applying colors options for displaying the Illustrator window. Some of the tools in the Toolbox hide other tools of a similar nature. These are represented with a small black triangle to the lower right of the tool icon. Hold your mouse button down with your cursor over one of these tools to see the other tool choices. You can also display tool groups as individual tear-off toolbars by holding down the mouse button on a tool in the Toolbox then dragging to select the tear-off tab at the end of the group of tools.

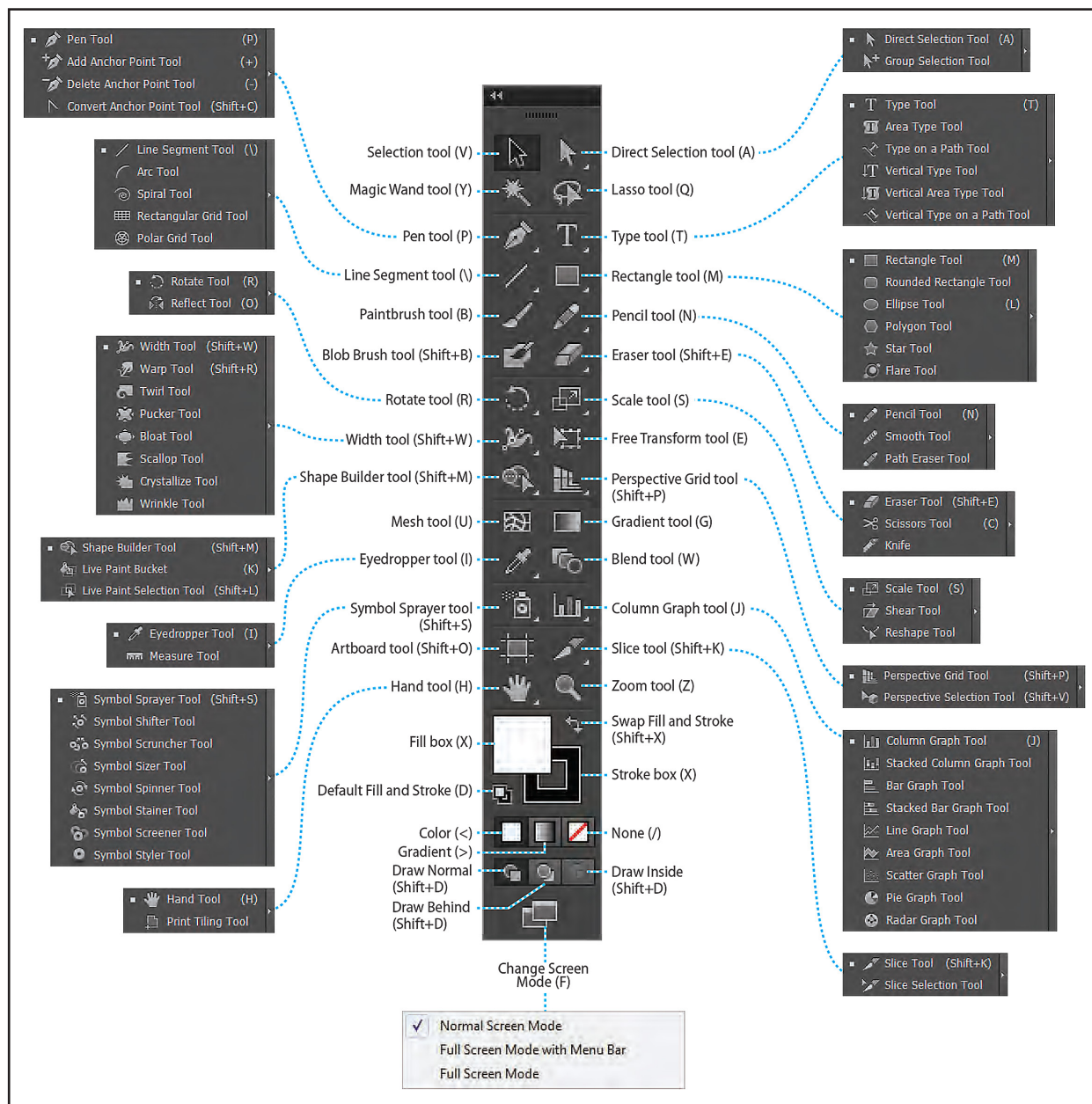


FIGURE 2 – TOOLBOX

You can select any tool by typing a keyboard shortcut. Simply point the cursor to any tool in the Toolbox, and Illustrator displays a tool tip containing the tool's name and shortcut letter.

MULTIPLE ARTBOARDS

Illustrator allows for multiple artboards within a single file to create a multi-page document so that you can have collateral pieces like a brochure, a postcard, and a business card in the same document.

Multiple artboards can be added when you initially create an Illustrator document by choosing **File > New**. You can also add or remove artboards after the document is created using the Artboard tool in the Tools panel.

The artboards in a document can be arranged in any order, orientation, or artboard size—they can even overlap. Suppose that you want to create a four-page brochure. You can create different artboards for every page of the brochure, all with the same size and orientation. They can be arranged horizontally or vertically or in whatever way you like.

You can navigate multiple artboards using the Artboards panel, Choose **Window > Artboards** to expand the Artboards panel on the right side of the workspace. The Artboards panel lists all artboards in the document. This panel allows you to navigate between artboards, rename artboards, add or delete artboards, edit artboard settings, and more.

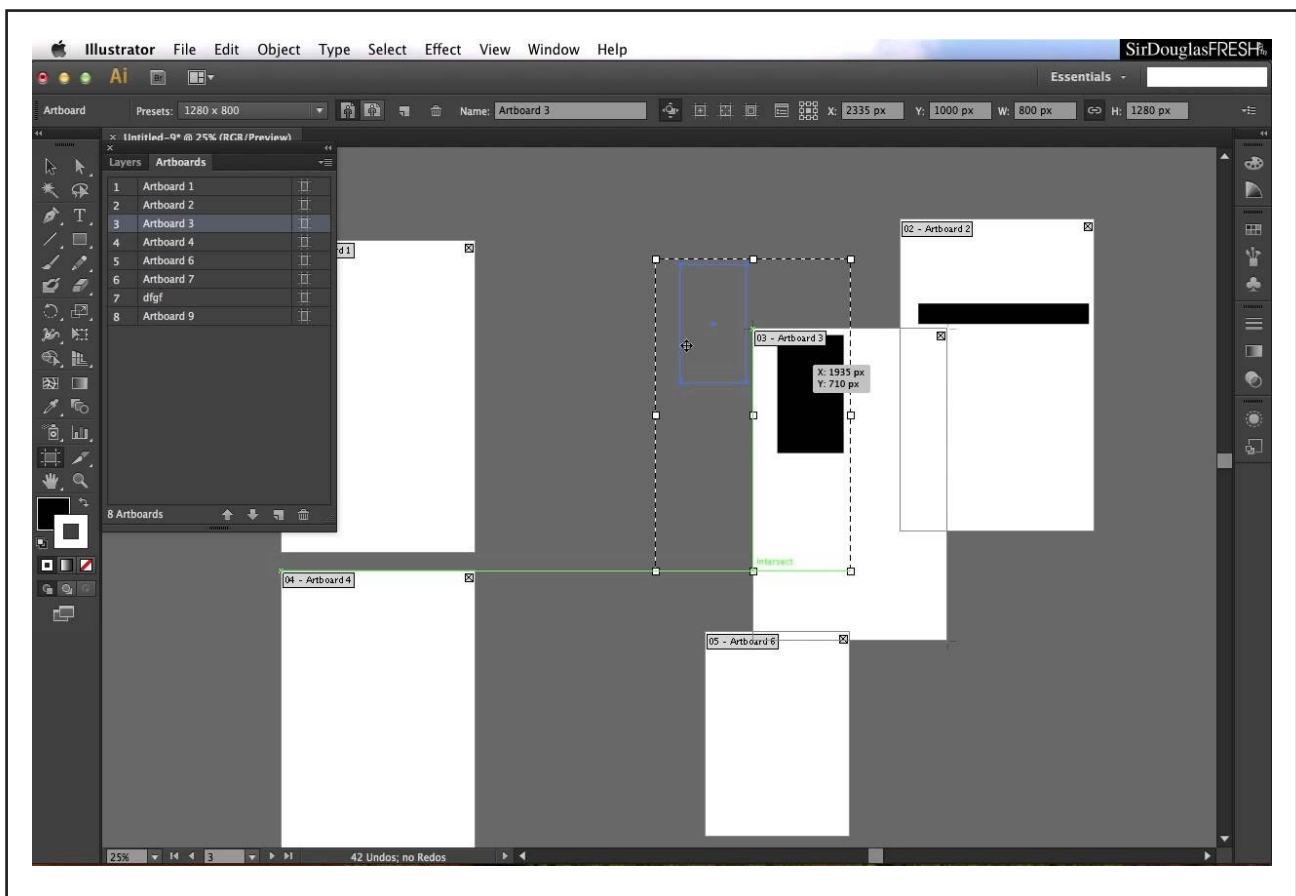


FIGURE 3 – ARTBOARDS

2.) Changing Views

Preview and Outline Modes

By default, Illustrator sets the view so that all artwork is previewed in color. However, you can choose to display artwork so that only its outlines (or paths) are visible. Viewing artwork without paint attributes speeds up the time it takes to redraw the screen when working with complex artwork.

In Outline mode, linked files are displayed by default as outlined boxes with an X inside. To view the contents of linked files, choose **File > Document Setup**, In **Bleed and View Options** section, check the box for **Show Images In Outline Mode** to Show Images In Outline.



FIGURE 4 – AN IMAGE VIEWED IN OUTLINE MODE

- To view all artwork as outlines, choose **View > Outline**.
- To return to previewing artwork in color choose **View > Preview**.

To view all artwork in a layer as outlines, Ctrl-click the eye icon for the layer in the Layers palette. Ctrl-click it again to return to previewing artwork in color. The eye icon has a hollow center when Outline view is enabled and a filled center when Preview view is enabled.

To view all unselected items in the Layers palette as outlines, Alt+Ctrl-click the eye icon for the selected item. Alternatively, select Outline Others from the Layers palette menu.

You can return all items in the Layers palette to Preview mode by choosing Preview All Layers from the Layers palette menu.

In addition to that, there are two different options for viewing artwork which are:

Overprint Preview

Choose **View > Overprint Preview** to view any lines or shapes that are set to overprint. This view is helpful for those in the print industry who need to see how inks interact when set to overprint. You may not actually see much of a change in the logo when you change to this mode.

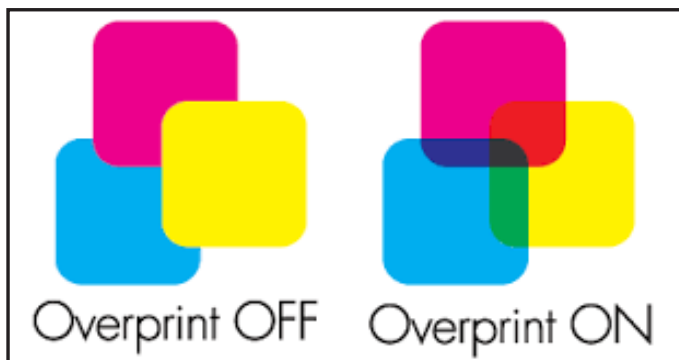


FIGURE 5 – OVERPRINT PREVIEW

Pixel Preview

Choose **View > Pixel Preview** to see how the artwork will look when it is rasterized and viewed on-screen in a web browser. Choose **View > Pixel Preview** to deselect pixel preview.

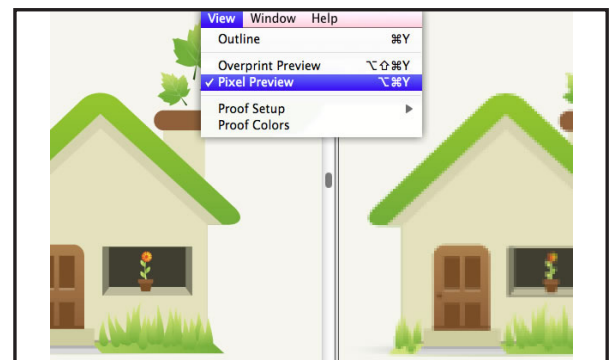


FIGURE 6 – PIXEL PREVIEW

2.) Changing Views

Screen Modes

The Illustrator work area consists of an illustration window (Artboard and Scratch area) where you do your work, a toolbox, menus and palettes.

You can rearrange the work area to best suit your needs by moving, hiding, and showing palettes; zooming in or out of artwork; scrolling to a different area of the illustration window; and creating multiple windows and views. You can also change the visibility of the illustration window and menu bar using the Screen Mode buttons at the bottom of the toolbox:

- **Standard Screen Mode** displays artwork in a standard window, with a menu bar at the top and scroll bars on the sides.
- **Full Screen Mode with Menu Bar** displays artwork in a full-screen window with a menu bar but with no title bar or scroll bars.
- **Full Screen Mode** displays artwork in a full-screen window, with no title bar, menu bar, or scroll bars



FIGURE 7 – SCREEN MODES

3.) Drawing Shapes

Document Creation

Choose File > New to open a new, untitled document. In the New Document dialog box, change the Name to your selected name, choose Print from the New Document Profile menu (if it isn't already selected), and change the Units to Centimeters. When you change the units, the New Document Profile automatically changes to [Custom].

Using document profiles, you can set up a document for different kinds of output, such as print, web, video, and more. For example, if you are designing a web page mockup, you can use a web document profile, which automatically displays the page size and units in pixels, changes the color mode to RGB, and changes the raster effects to Screen (72 ppi).

To Create different pages, you can change the number of Artboards option.

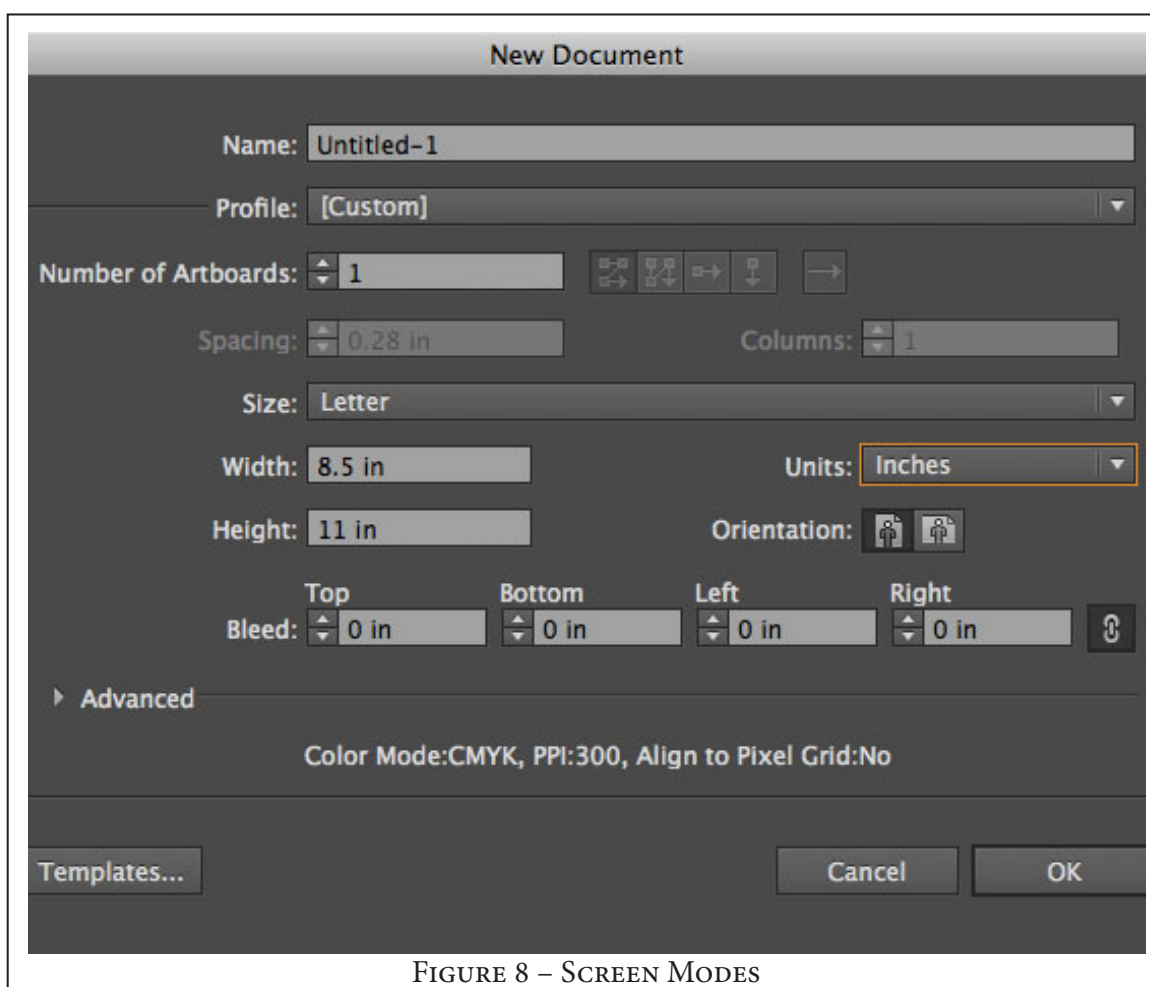


FIGURE 8 – SCREEN MODES

In the Bleed section of the Document Setup dialog box, you can set the value in the Top field to 3 mm (typical bleeds for printing), either by clicking the up arrow to the left of the field once or by typing the value, and all four fields change. The red line that appears around both artboards indicates the bleed area.

3.) Drawing Shapes

Simple Shapes

The Rectangle Tool

The Rectangle tool draws squares and rectangles. Simply select the tool (your cursor will display a cross-hairs) and drag out a rectangle on the Artboard.

- To create a square, hold the Shift key when dragging out your rectangle to constrain the vertical and horizontal proportions.
- To draw your rectangle or square from the center rather than from a corner, hold the Alt key as you drag.
- To re-position the shape as you are creating it, press the Space Bar on your keyboard as you are creating the shape. Release the Space Bar to continue resizing the shape.

The Rounded Rectangle Tool

The Rounded Rectangle tool works just the same as the Rectangle tool except you can control the roundness of the corners as you create the shape.

- To adjust the roundness of the rectangles corners while you are dragging out the shape, use the up/down arrow keys on your keyboard to increase/decrease the roundness of the corners.

The Ellipse Tool

The Ellipse tool allows you to easily create circles and ellipses. Simply select the tool (your cursor will display a crosshairs) and drag out an ellipse on the Artboard.

- To create a circle, hold the Shift key when dragging out your shape to constrain the vertical and horizontal proportions.
- To draw your ellipse or circle from the center rather than from a corner, hold the Alt key as you drag.
- To re-position the shape as you are creating it, press the Space Bar on your keyboard as you are creating the shape. Release the Space Bar to continue resizing the shape.

The Polygon Tool

The Polygon tool allows you to easily create shapes with any number of sides. Simply select the tool (your cursor will display a crosshairs) and drag out your shape on the Artboard.

- While dragging out the shape, use the up/down arrows on your keyboard to increase/decrease the number of sides in the shape.
- Polygon shapes are automatically created with constrained dimensions between all sides. They can later be altered to distort or scale individual axis.
- Polygon shapes are always drawn from the center point.
- To re-position the shape as you are creating it, press the Space Bar on your keyboard as you are creating the shape. Release the Space Bar to continue resizing the shape.

The Star Tool

The Star tool allows you to create stars with any number of points. Simply select the tool (your cursor will display a crosshairs) and drag out your shape on the Artboard.

- While dragging out the shape, use the up/down arrows on your keyboard to increase/decrease the number of points to the star.
- Stars are automatically created with constrained dimensions between all points.
- Stars are always drawn from the center point.
- To re-position the shape as you are creating it, press the Space Bar on your keyboard

The Flare Tool

The Flare tool creates flare objects with a bright center, a halo, and rays and rings. Use this tool to create an effect similar to a lens flare in a photograph.

- Flares include a center handle and an end handle. Use the handles to position the flare and its rings. The center handle is in the bright center of the flare—the flare path begins from this point.

3.) Drawing Shapes

Lines

The Line Segment Tool

The Line Segment tool draws individual straight line segments. There are two easy ways to create lines with this tool:

1. With the tool selected, click and drag on the Artboard to create your line. Holding the Shift key down will lock the angle of the line in to 45° increments.
2. With the tool selected, click once on the Artboard to display the Line Segment dialog box. Fill in the length and angle you wish for the line and click OK (See Figure 8).

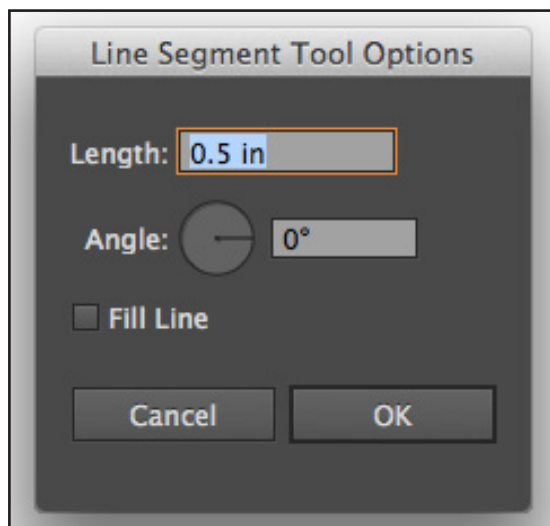


FIGURE 9 – LINE SEGMENT OPTIONS

The Arc Tool

The Arc tool draws individual concave or convex curve segments. There are two easy ways to create smooth curve segments with this tool:

1. With the tool selected, click and drag on the Artboard to create your arc. Holding the Shift key down will constrain the lengths of both sides of the curve.
2. With the tool selected, click once on the Artboard to display the Line Segment dialog box. Fill in the X and Y axis lengths, the base axis and the amount of Concave or Convex curve you wish, and click OK (See Figure 9).

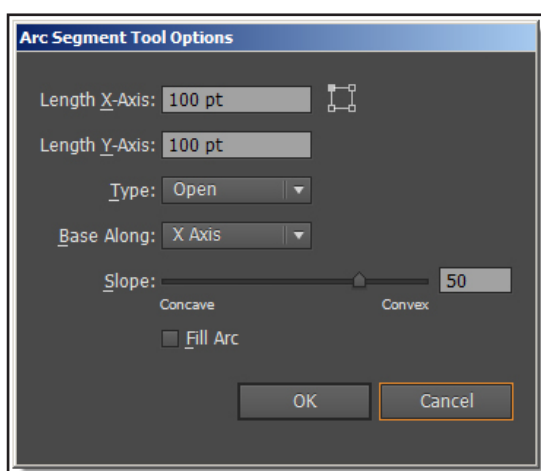


FIGURE 10 – ARC SEGMENT OPTIONS

3.) Drawing Shapes

Lines

The Spiral Tool

The Spiral Tool is often used to create vines and floral graphics. You can use the Swirl Tool for other things too.

The Rectangular Grid Tool

With the grid tool, you can create complex grids in one click-and-drag motion. You can use either the Rectangular Grid tool or the polar grid tool to create rectangular grids or concentric circles, respectively, of a specified size with a specified number of dividers.

The Rectangular Grid Tool

With the Rectangular grid tool, you can create complex grids in one click-and-drag motion. You can use either the Rectangular Grid tool or the polar grid tool to create rectangular grids or concentric circles, respectively, of a specified size with a specified number of dividers.

The Pencil Tool

The Pencil allows you to draw and edit freehand lines. To draw lines simply select the Pencil tool and draw freely on the Artboard. You will create a line that follows your cursor position.




CUSTOM SHAPES

The Pen Tool

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.

To create curved line segments, click and drag to create an anchor point, rather than just clicking. As you drag, you will create Bezier handles which will be used to control the length, amount and direction of curve in the line segment. A point with a Bezier curve applied to it is called a smooth point, as opposed to corner points which have hard angles. Smooth points and corner points can be combined in a single line segment (i.e. – the first point is smooth and the second one is not, or vice-versa).

EDITING ANCHOR POINTS

- **The Add Anchor Point tool**  adds anchor points to a path simply by clicking on a segment of the path with the tool selected.
- **The Delete Anchor Point tool**  deletes anchor points from a path by clicking on an anchor point with the tool selected.
- **The Convert Anchor Point tool**  changes smooth points to corner points and vice-versa simply by clicking (if converting from smooth to corner) or click-dragging (if converting from corner to smooth) on an existing anchor point.

3.) Drawing Shapes

PEN TOOL AND ANCHOR POINTS

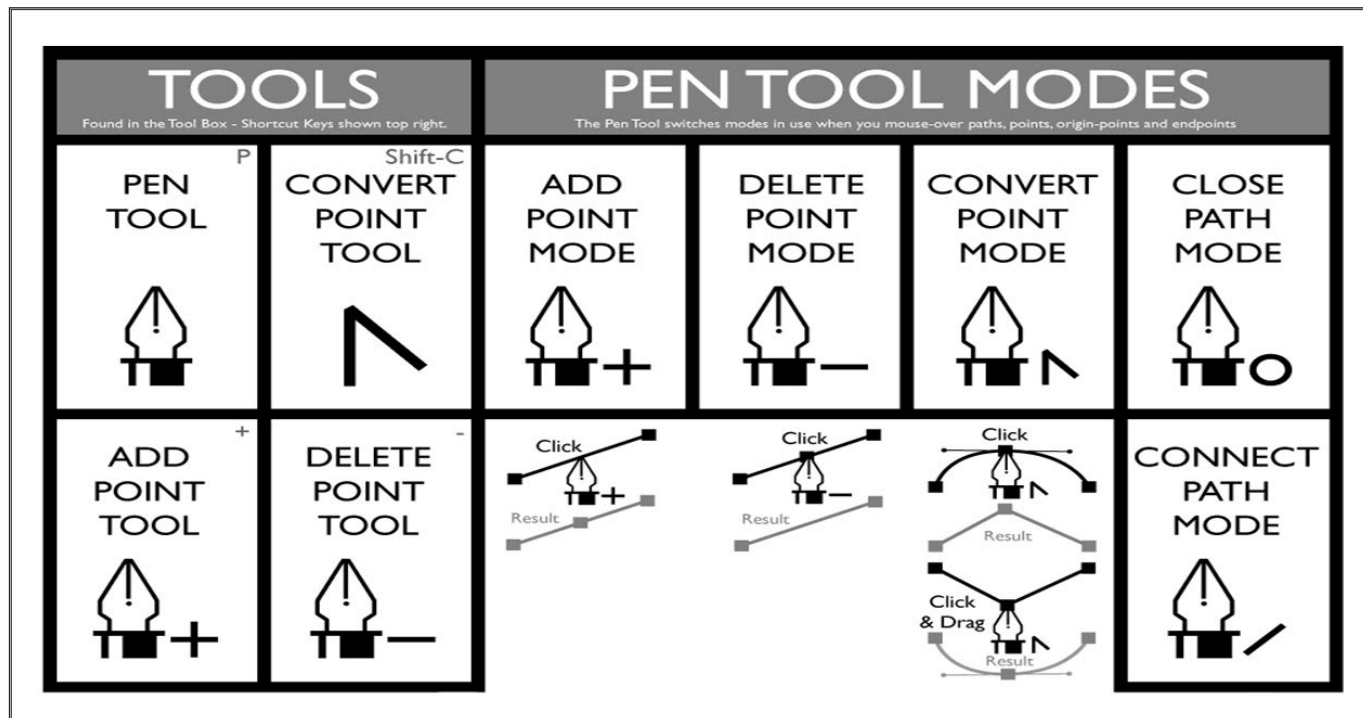


FIGURE 11 – PEN TOOLS AND MODES

Open path vs. closed path

As you draw, you create a line called a path. A path is made up of one or more straight or curved segments. The beginning and end of each segment are marked by anchor points, which work like pins holding a wire in place. A path can be closed (for example, a circle), or open, with distinct endpoints (for example, a wavy line). Both open and closed paths can have fills applied to them.

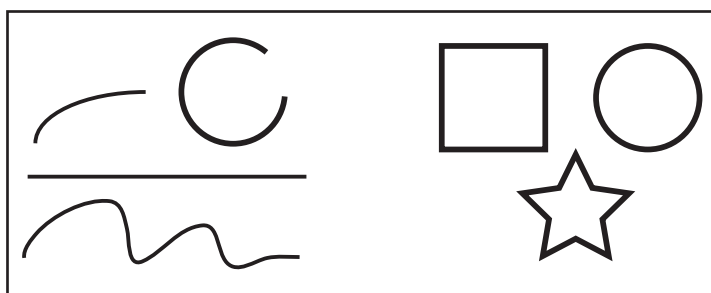


FIGURE 12 – OPEN PATH (LEFT) VS
CLOSED PATH (RIGHT)

4.) Scaling Shapes

When an existing object is selected, Illustrator displays a **Bounding Box** around the object. The bounding box contains eight handles (one on each corner and one in the middle of each span) which allow you to re-size the object vertically, horizontally or diagonally by simply dragging on the appropriate handle.

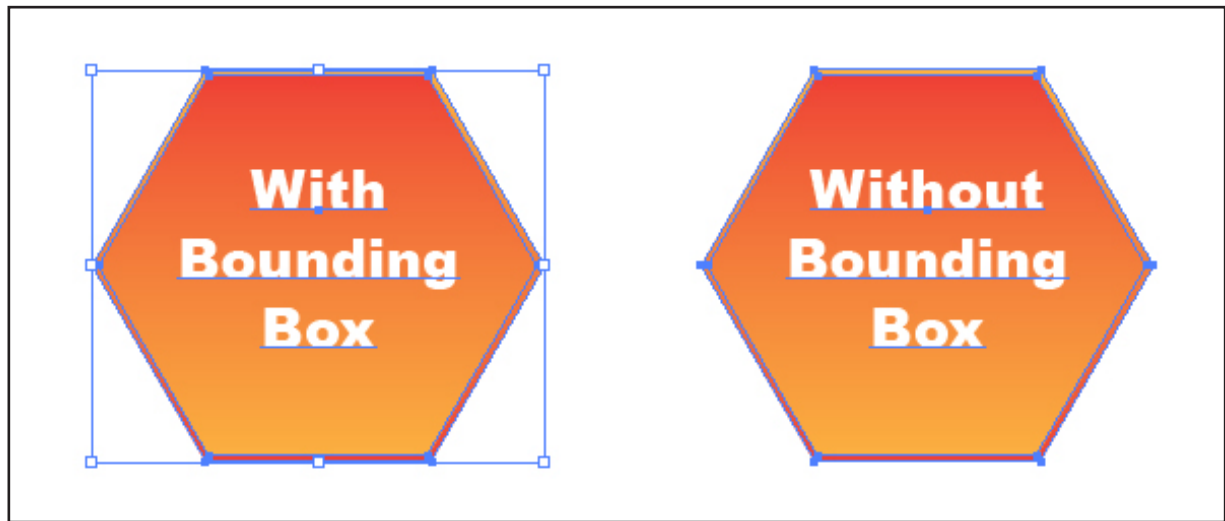


FIGURE 13 – AN OBJECT’S BOUNDING BOX

When you resize by dragging any of the bounding box handles, you can change the relationship of the horizontal and vertical scales, or distort the shape. If you wish to constrain proportions while scaling hold the Shift key while dragging from any of the handles.

The Scale Tool

Select an object and choose the Scale tool from the Toolbox.

- To scale relative to the object’s center point, drag anywhere in the document window until the object is the desired size.
- To scale relative to a different reference point, click where you want the reference point to be in the document window, move the pointer away from the reference point, and then drag until the object is the desired size.
- To maintain the object’s proportions as it scales, hold down Shift as you drag diagonally.
- To scale the object along a single axis, hold down Shift as you drag vertically or horizontally.
- For finer control over scaling, start dragging farther from the reference point.

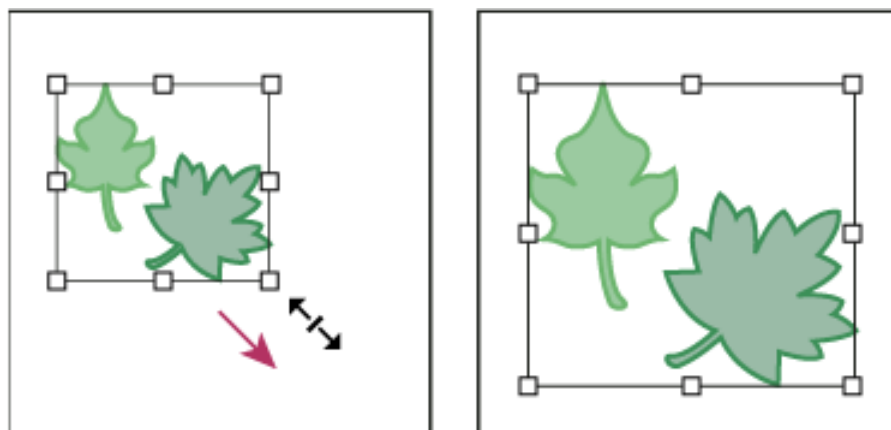


FIGURE 14 – AN OBJECT SELECTED WITH THE SCALE TOOL ACTIVE

4.) Scaling Shapes

***By default** strokes and effects are not scaled along with objects. To scale strokes and effects, choose Edit > Preferences > General, and select Scale Strokes & Effects. If you want to choose whether to scale strokes and effects on a case-by-case basis, use the Transform palette or the Scale command to scale objects.*

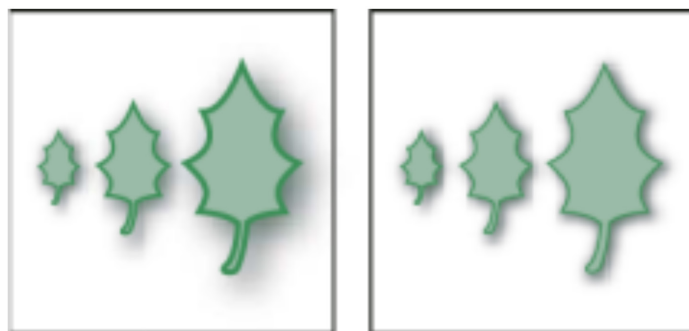


FIGURE 15 – THE SCALE STROKES & EFFECTS OPTION SCALES THE OBJECT, THE DROP SHADOW EFFECT, AND THE STROKE (LEFT); ONLY THE OBJECT SCALES WHEN THIS OPTION IS OFF (RIGHT).

Numerical Scaling

Using the bounding box handles or the Scale tool are both good methods for scaling an object visually. However, there may be times when you wish to resize an object numerically to a specific unit value or percentage.

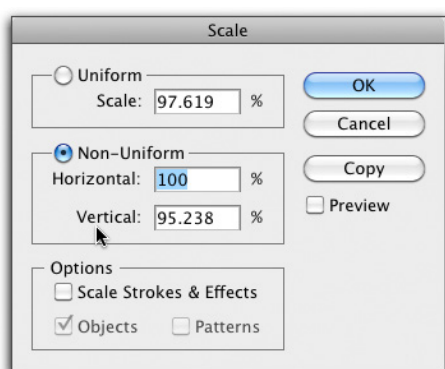


FIGURE 16 –NUMERICAL SCALING USING THE SCALE TOOL OPTIONS

Or you can use the Transform palette to do this.

- Select the shape you wish to resize.
- Open the Transform palette – Window > Transform
- The X and Y fields indicate the object's horizontal and vertical distance from the ruler origins (zeros).
- The W and H indicate the object's current width and height.
- Simply type the desired values into the Width and Height boxes and press Enter.

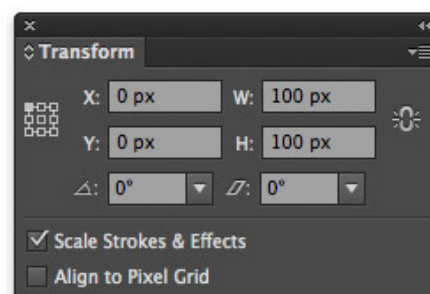


FIGURE 17 –THE TRANSFORM PALETTE

5.) Fill and Stroke

About Fills and Strokes

A Fill is a color, pattern, or gradient inside an object. You can apply fills to open and closed objects and to faces of Live Paint groups.

A Stroke is the visible outline of an object and the edges of a Live Paint group. You can control the width and color a stroke. You can also create dashed strokes and paint stylized strokes using brushes.



FIGURE 18 – AN OBJECT WITH FILL AND STROKE (LEFT), FILL ONLY (CENTER), AND STROKE ONLY (RIGHT) APPLIED

Every object in your artwork can have one or more fills and strokes, or none at all. The current fill and stroke colors are displayed in the toolbox.

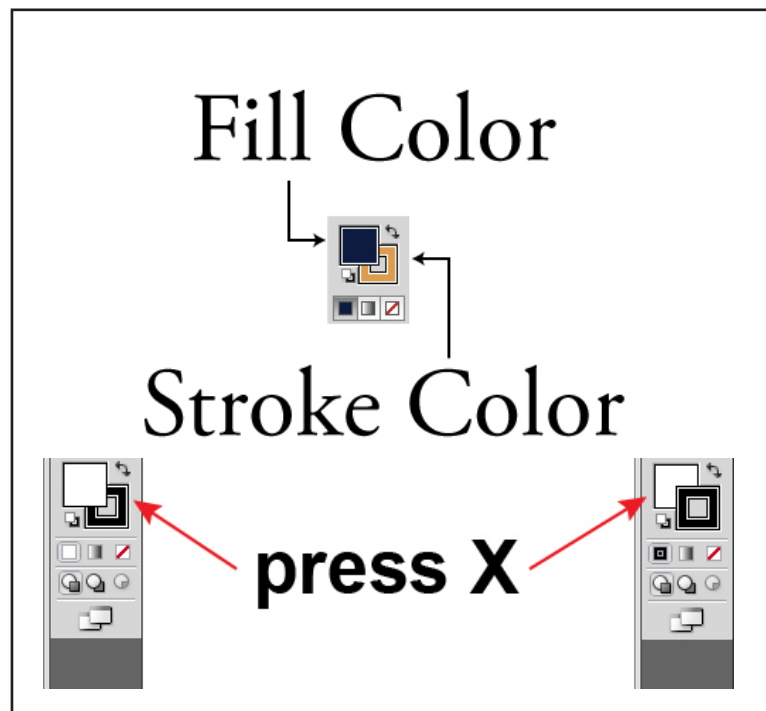



FIGURE 19 – FILL AND STROKE BOXES


4.) Scaling Shapes

Applying Fills

Select an object using the Main Selection tool

- Click the Fill box in the Toolbox or in the Color palette. Note that when you select Fill or Stroke from the Toolbox it is also reflected in the Color palette and vice-versa.
- Select a color from the Color bar at the bottom of the Color palette. The object will automatically be filled with the color.
- You can also choose a color from the Swatches palette.
- Alternatively, you can double-click a Fill box to select a color using the **Color Picker**. Click the “Unh-uh” or None button  in the Toolbox or in the Color palette to remove the fill from an object.

Applying Strokes

- Select an object using the Main Selection tool
- Click the Stroke box in the Toolbox or in the Color palette. Note that when you select Fill or Stroke from the Toolbox it is also reflected in the Color palette and vice-versa.
- Select a color from the Color bar at the bottom of the Color palette. The object will automatically be stroked with the color.
- You can also choose a color from the Swatches palette.
- Alternatively, you can double-click a Stroke box to select a color using the **Color Picker**. Click the “Unh-uh” or None button  in the Toolbox or in the Color palette to remove the stroke from an object.

Once a stroke is applied to an object, you can use the Stroke palette to customize the stroke properties including the stroke weight, dashed line options, and the styles of joins and line caps (See Figure 18).

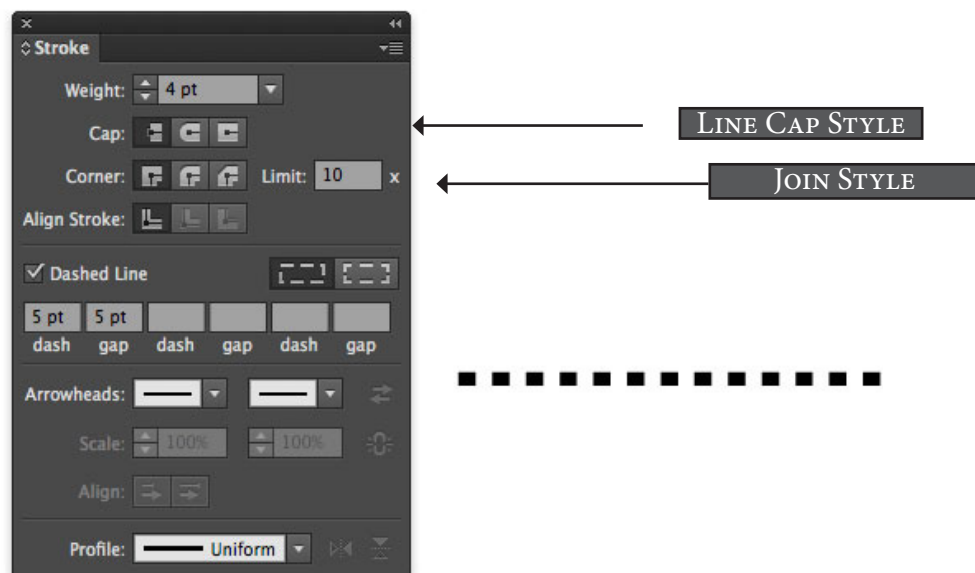


FIGURE 20 – THE STROKE PALETTE

More about Stroke and Fills will be covered as we get deeper into modifying objects. For example, in the next module we will learn how to stroke and fill objects with custom effects such as gradients, textures and patterns.