

Introduction to Illustrator

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Vector Graphics

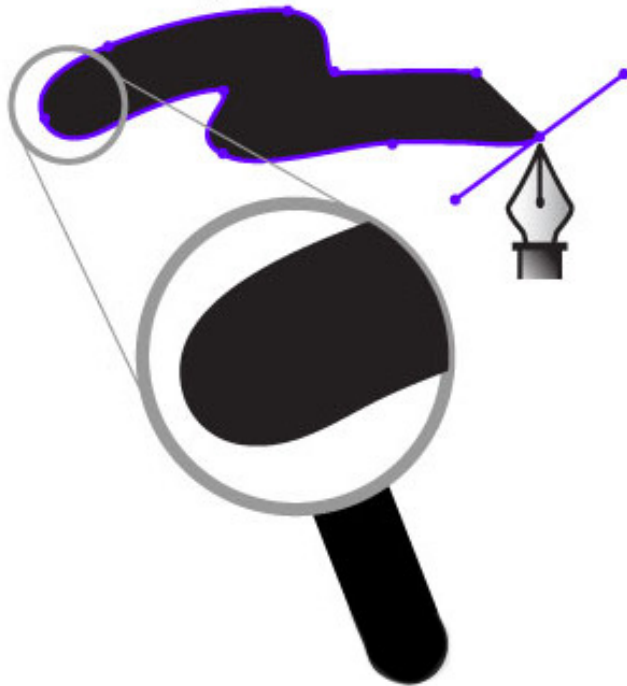


Intro to
Illustrator

2 Types of Graphics

Vector

drawing with vectors



Bitmap

painting with pixels



Examples of vector art



Vector Graphics

- Vector graphics are created from mathematical formulas used to define lines, shapes, and curves
- Best for Large Scale printing
- Can be scaled infinitely, without any loss of quality or fidelity.
- Watch this video:
 - <https://helpx.adobe.com/illustrator/how-to/what-is-illustrator.html?set=illustrator--get-started->



Raster (PNG)

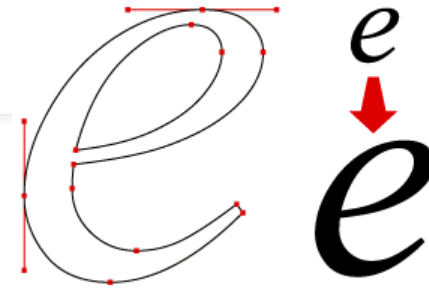


Vector (SVG)

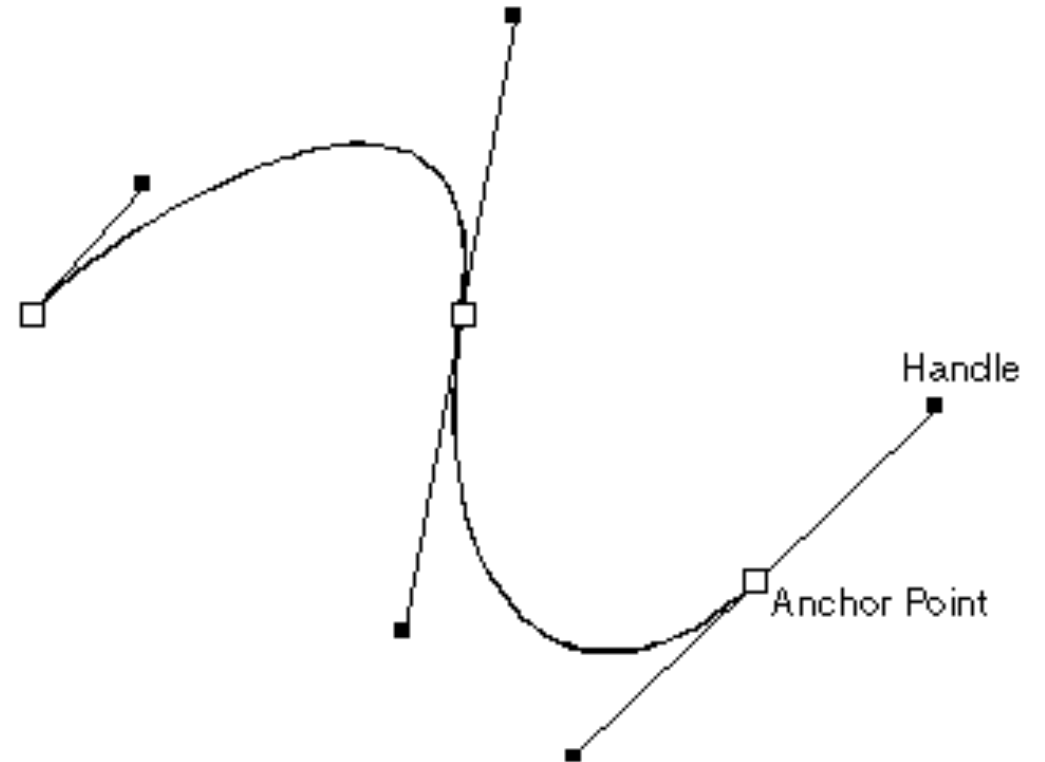
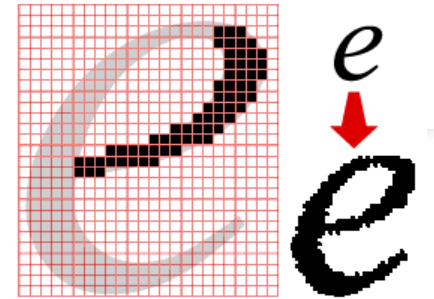
Vector Graphics

- Edited in Drawing programs
 - ex. Adobe Illustrator or CorelDraw
- Shapes can be edited by moving points called nodes or drawing points

VECTOR GRAPHICS



BITMAPMED (RASTER) GRAPHICS





Uses of vector graphics

- Logos
- Icons
- Web Graphics
- Print Projects
- Cartoons/Clip Art
- Fonts



Why Use Vector graphics?

- Small File Size
 - Easily transferred via the internet
- Resolution Independent
 - No matter how much you scale a vector graphic up or down, the quality of your graphic stays clear and sharp



Disadvantages of vector

- Not good for Photographic images
- Lower color quality than raster images
 - Don't support as many colors

Vector file formats

- .AI – Adobe Illustrator
 - Industry standard file type used to develop vector graphics, contains layers
- EPS – Encapsulated Postscript
 - Vector graphic format that can be opened by any computer running different software and/or versions
 - Can be edited
 - Preferred format for logos and illustrations

Vector file formats

- .PDF - Portable Document Format
 - All computers can open this file type while maintaining the vector imaging
- .SVG - Scalable Vector Graphic
 - Vector graphic format that can be opened by any computer running different software and/or versions
 - For 2D graphics

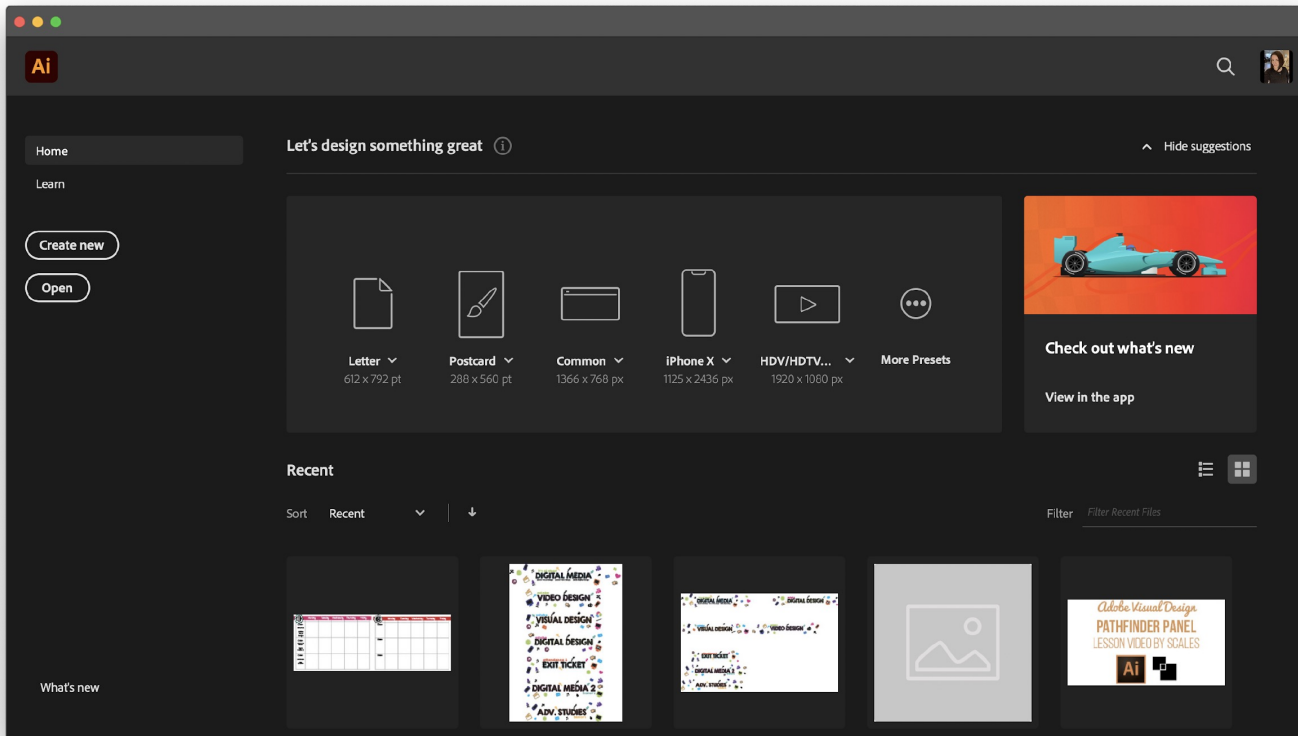


The Interface



Adobe
Illustrator

The Home Screen



- Create a New Document: There are two ways to create a new document. 1.) Click "Create New" after the program loads. 2.) File > New (using the menu bar at the top of your screen)
- Open a File: There are two ways to open a file. 1.) Click "Open..." after the program loads. 2.) File > Open (using the menu bar at the top of your screen)
- Recent: Displays your recent images and projects as tiles in a grid format. The tiles show a preview of what the project looks like.

Creating a New Document

Project Name

The title of your project. When you save, it will default to the Project name and add the proper file extension to it.

Image Size

Determines the size and resolution of your artboard. You can change units of measure (i.e. pixels, inches, picas, etc.) in the drop down to the right.

Orientation

Portrait is when the image is taller than it is wide. Landscape is when the image is wider than it is tall.

Bleed

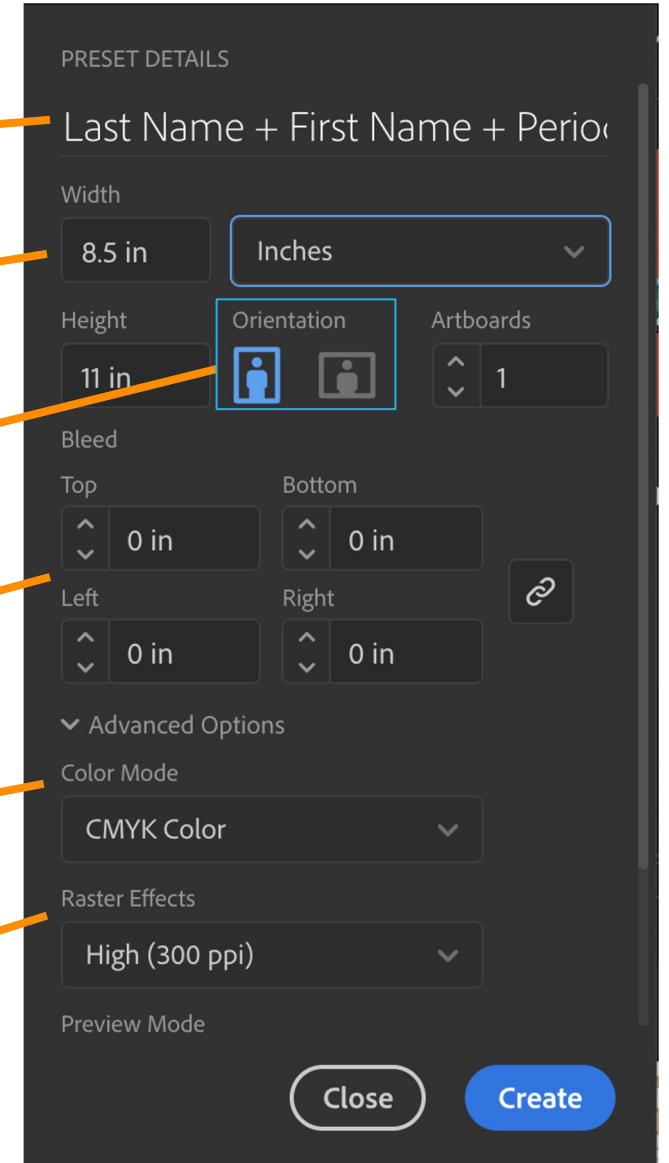
Bleed is the amount of artwork that falls outside the printing area or artboard and will display when printed.

Color Mode

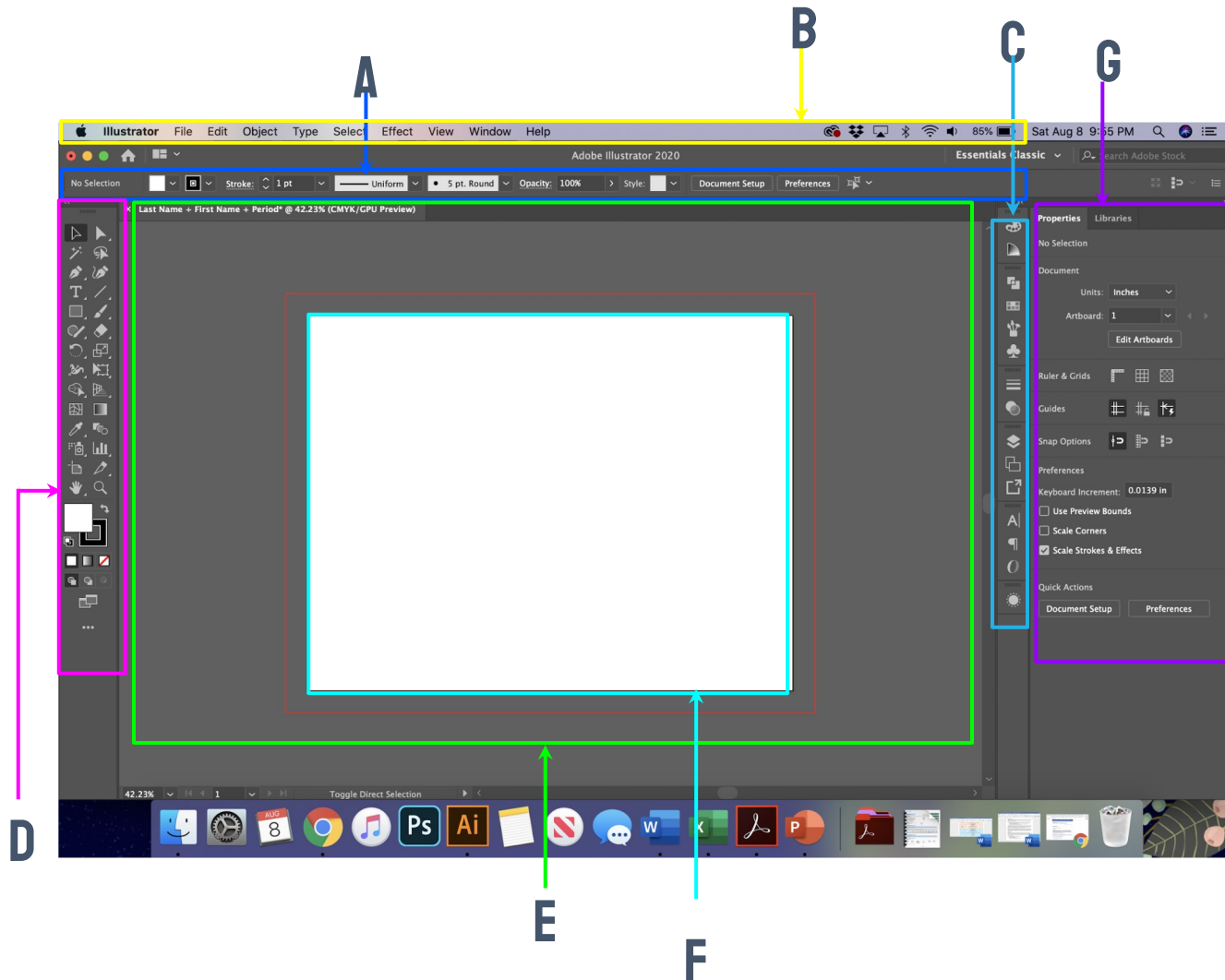
Limits the amount of colors available to match the output settings of your project. For instance, RGB color is meant for screens; whereas CMYK is meant for printers.

Raster Effects

The resolution your art will be created in. This can be adjusted to High, Medium, Low, and for Complex Art



Illustrator Layout:



A. Control panel
displays options for the currently selected tool.

B. Menu Bar
gives you access to a wide range of functions and extra commands.

C. Collapsed Panel Bar
a series of useful panels which provide extra functionality and give you quick access to many tools that make modifying artwork easier.

D. Toolbar
contains tools for creating and editing images, artwork, page elements, and so on. Related tools are grouped.

E. Document Window
displays the file you're working on. Document windows can be tabbed and, in certain cases, grouped and docked.

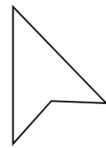
F. Artboard
where you design your art, artboards can be adjusted, and you can have multiple artboards.

G. Properties panel
this will change based on the tool you are using and give you a variety of useful options and commands.

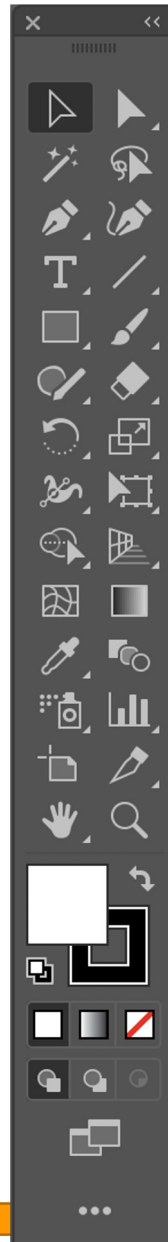
Cursor examples:



Selection Tool



Direct Selection Tool



The Toolbar

Illustrator has a lot of tools that you can use. These tools can be accessed through the "Tool Bar" [usually found on the left]. If you do not see the toolbar, you can load it by going to Window > Tools at the menu bar on the top of your screen.

Tools are grouped together with similar function. If you click and hold the icon on the toolbar, a dropdown will appear with other possible tools. You can also access these tools using keyboard commands (by holding "Shift" + [the proper keyboard letter]). By doing so it will toggle between all of the tools in that category. The default tools are defined in the next page.

Each tool changes the "Control" panel options (located above your "Document Window"). You can also see a change in the cursor icon to let you know what tool is being used [as well as the cursors size & shape]

You can add or remove tools as needed by clicking on the 3 dots at the bottom of the tool bar.

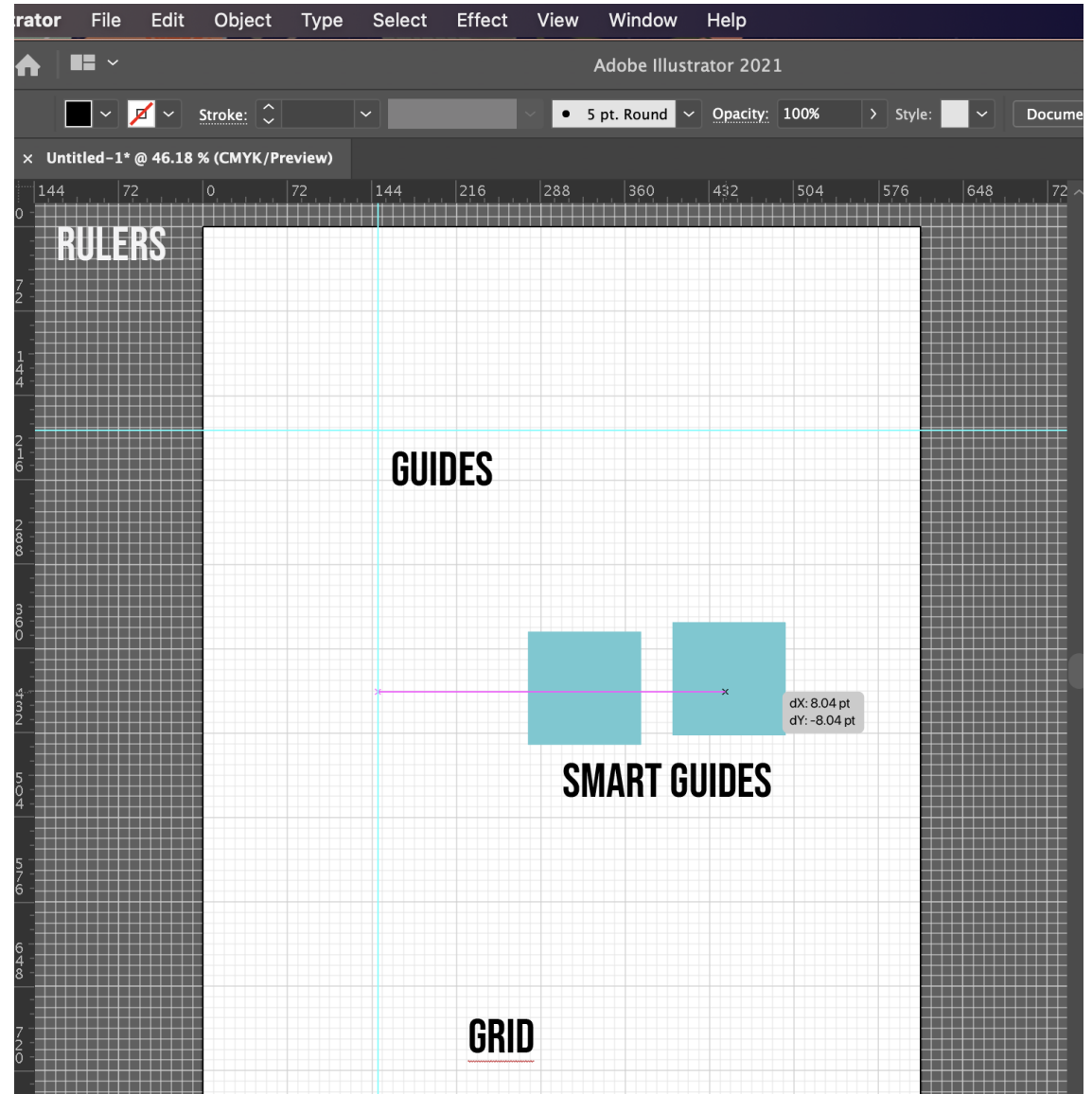
The Tools Panel

- Tools grouped and hidden similar to Photoshop.
- Note new Illustrator tools.

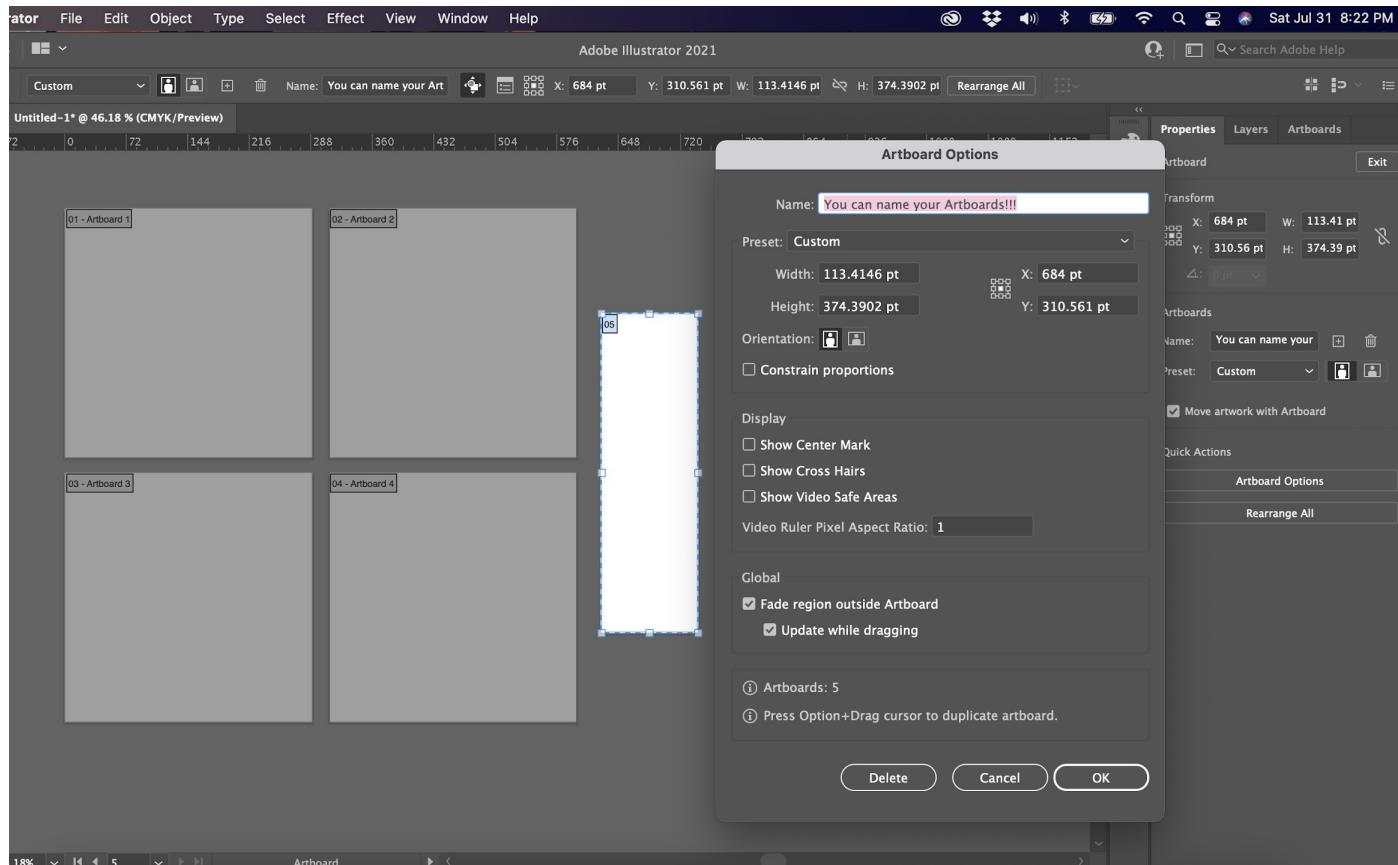


Non-Printing Design Options

- **Rulers** help you accurately place and measure objects in an document.
- **Grid** appears behind your artwork and helps you align items on the canvas.
- **Guides** help you align text and graphic objects. You can create vertical or horizontal ruler guides.
- **Smart Guides** are temporary snap-to guides that appear when you move objects. They help you align, edit, and transform objects relative to other objects.



Artboards



- Artboards represent the regions that can contain printable artwork. Learn more [here](#).
- Can have 1 to 100 artboards per document depending on size.
- You can create artboards in different sizes and resize them by using the Artboard tool.
- Options to reorder and rearrange artboards are in the Artboards panel.



Hands on Learning



Adobe
Illustrator



Let's start here...

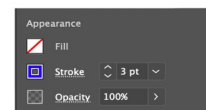
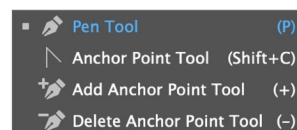
- Go to the CTE Summer Conference site or whsdigitalmedia.weebly.com/forteachers and download the the CTE Summer Intro to Illustrator.Ai File. This presentation is also available!
- This is a multi page worksheet that will open in Adobe Illustrator and includes directions.

The Pen Tool

- The Pen Tool (P) is a foundation to using Adobe Illustrator!
- For this worksheet, you will learn how to make straight lines and curves! **Blue** dots are for single clicks, **Red** dots are the place you pull a handle too, and the **Green** dots are where you adjust a handle too.
- **Anchor Point:** the points in which let you manage the direction and curve of a path
- **Handles:** allows you to adjust the direction and depth of a curve on an anchor point
- **Open Path:** creates a line
- **Closed Paths:** you return to the starting point to create a shape
- **Direct Select Tool (A):** allows you to adjust a single anchor point
- **Anchor Point Tool (Shift + C):** allows you change an anchor point to a smooth or corner point

adobe Illustrator PEN TOOL

When learning Adobe Illustrator, learning the Pen Tool allows you create anything you can imagine. For each exercise below, use the directions to create the lines below. ● A blue dot, indicates you need to click and release. ● A red dot, indicates when you click on a blue, you do not release, but instead drag the handle to this place. ● A green dot, indicates that you need to drag the handle to a new place by holding down the ALT key at the same time.



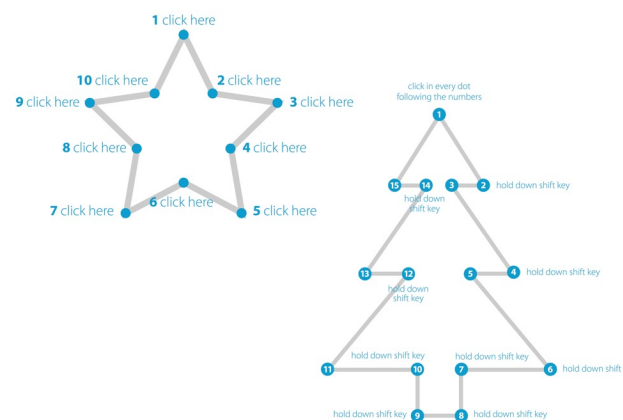
Before you start, make sure your Pen Tool Properties set like this:

PEN TOOL BEHAVIOR SIGNS

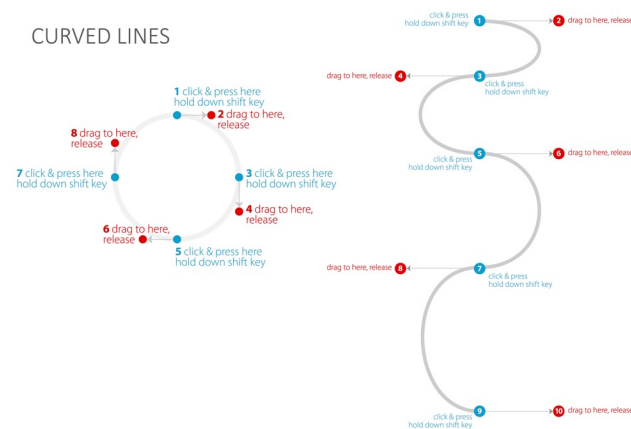
These symbols will display at times when using the Pen Tools, so before you start, make sure you know what each of them mean!

- starting a new path
- add an anchor point to the path
- corner point sign
- closing the path
- add to/continue a path
- delete an anchor point on the path

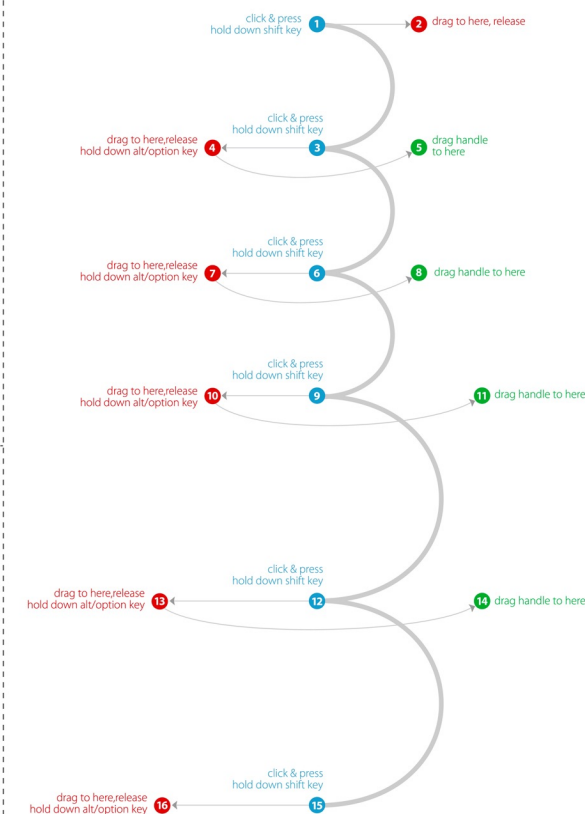
STRAIGHT LINES



CURVED LINES



CURVED LINES with CORNERS



The Curvature Pen Tool

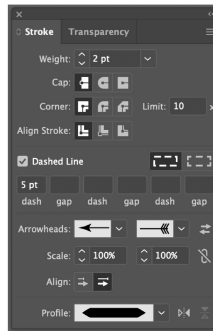
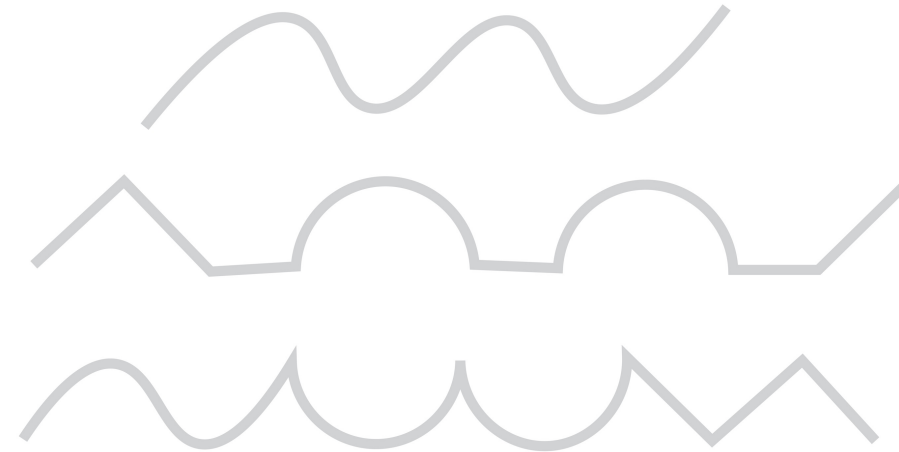
- The Curvature Pen Tool (Shift + `) allows you to draw curved and straight lines very quickly, one you get some practice with this tool you will fly through creating complex shapes!
- In this worksheet you will use anchor point and handles to create open and closed Paths to practice using this tool.
- When you start with this tool it will automatically make smooth points, to adjust a point to a corner point, you will simply double click that point. You can do this as you draw or go back!
- **Smooth Point:** a round or soft curved point
- **Corner Point:** a point that comes to a sharp angle

CURVATURE PEN TOOL

Today we are going to master the Curvature Pen Tool (Shift + `). This tool allows you to draw complexed curved objects quickly. To make a curved point straight, simply double click on any anchor point, either while you are drawing or after you finish. You can also add, remove, and adjust points using this dynamic tool.

Look at the objects I have given you below, and using a stroke of 3 point (minimum) and No Fill, use the Curvature Pen Tool to trace each exercise below. When you have lines, let's then learn more about the Stroke Options. Click on the word Stroke (anything underlined can be clicked for more options). Let's make 1 with Dashed lines, 1 with Arrowheads, and 1 with new Profile.

LINES



BASIC SHAPES

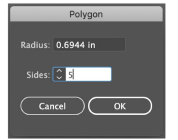
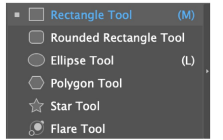


The Shapes Tools

- While you can use the Pen Tools to create shapes, Illustrator has plenty of tools to help you do this easily! This worksheet will help you practice how to create a variety of shapes and adjust them to create more complex objects!
- **Rectangle Tool (M)**: create squares and rectangles
- **Rounded Rectangle Tool**: creates rounded squares and rectangles
- **Ellipse Tool (L)**: creates circles and ovals
- **Polygon Tool**: creates multi sided shapes (click once to open dialogue box to change number of sides)
- **Star Tool**: create multi point star shapes (click once to open dialogue box to change number of points)
- **Flare Tool**: creates unique light flare shape

DRAWING BASIC SHAPES

Only use the Shapes Panel to create the shapes below. For the multi-sided shapes, start by clicking once on the art board to bring up the command window.



DRAW SOME BASICS

RECTANGLE:



SQUARE:



CIRCLE:



OVAL:



8 SIDED POLYGON:



5 SIDED STAR:



SQUARE: Just round the top right and bottom left corners



PACK MAN: Draw a circle > Properties > Pie Start Angle: 60



CHANGING BASIC SHAPES

TRIANGLE:

1. Draw a square (while holding down the shift key)



2. Select the square. Then use the Minus Anchor Point Tool remove a corner point.



3. Using the Selection tool, rotate the triangle.



YOURS:



STRAWBERRY:

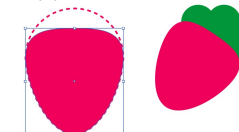
1. Draw a circle (while holding down the shift key)



2. Select the circle. Then use the Direct Select Tool to pull down the bottom point.



3. Use the Direct Select Tool to flatten down the top point.



YOURS:



Pathfinder & Align Panels

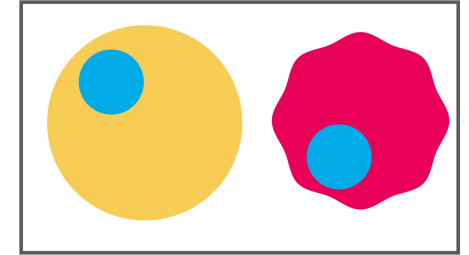
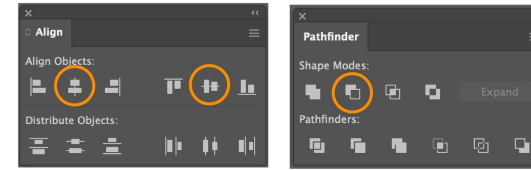
- Now that you have learned to create simple shapes, we can use these to make more and more complex shapes. We will start by aligning the objects first and then use the pathfinder to create our new objects!
- **Align Panel:** allows you to arrange 2 or more objects either left, right, or centered
- **Pathfinder Panel:** allows you to combine paths, divide objects and subtract shapes

PATHFINDER AND ALIGN PANELS

Start by going to the Window Menu and opening the Align and Pathfinder Panels (both should open when you activate 1). For each activity, select the shapes holding down the **Shift Key** and then use the **Align** and **Pathfinder** panels and click the command buttons circled on each panel to see what they do. How can knowing these different options help you create more complex shapes in Illustrator?

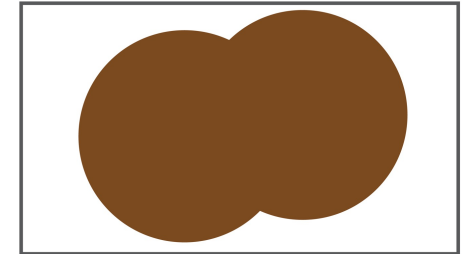
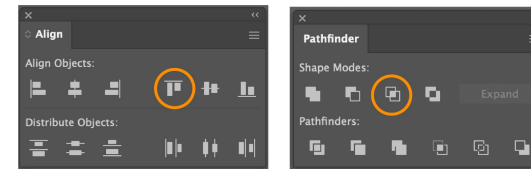
The Donut

Align each part first, then use the Pathfinder to cut a hole, then finish by putting together your Donut!



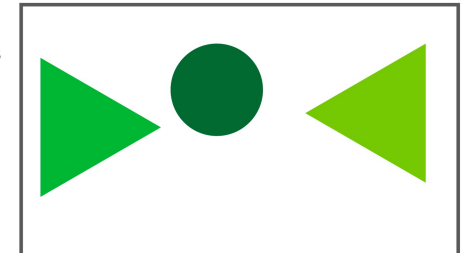
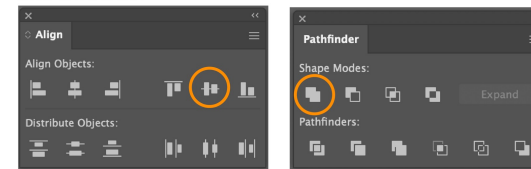
The Football

Align the 2 circles first, then use the Pathfinder to cut a new Football shape!



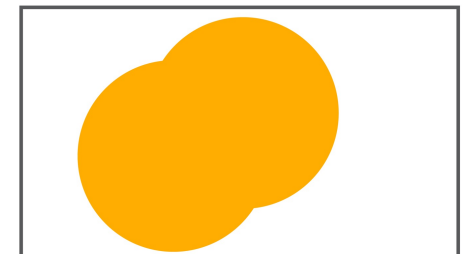
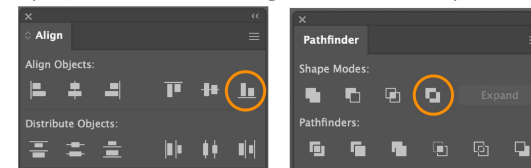
The Bow Tie

Align the 3 shapes first, then overlap the 2 triangles over the circle, and then use the Pathfinder to unite your shapes into a Bowtie!



The Moon

Align the 2 circles first, then use the Pathfinder to cut apart, remove the extra to get a new Moon shape!



EXTRA! Shape Builder Tool

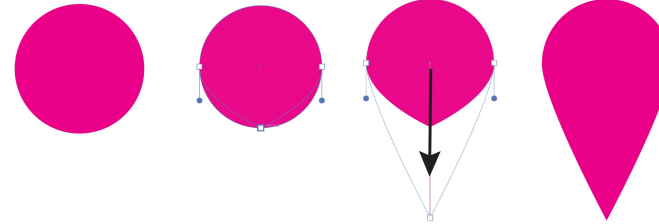
- The Shape Builder (Shift + M) allows you to combine and remove parts of objects very quickly and easily!
- **Scribble Actions:** while holding your mouse down and “scribbling” objects you can merge objects or remove objects
- **Option Key:** allows you to switch to negative

EXTRA: SHAPE BUILDER TOOL

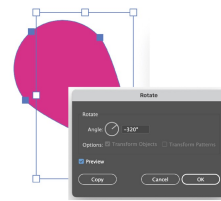
The Shape Builder Tool (Shift + M) is tool that allows you to merge and remove parts of object to quickly create more complex shapes.

CREATE A HEART

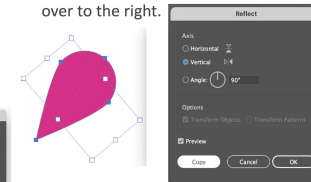
1. Start by Drawing a perfect circle using the ellipse tool (L) and the Shift Key.
2. Using the anchor point tool (Shift + C) remove the curve from the bottom anchor point
3. Using your Direct Select Tool (A), pull that same anchor point down to get a tear drop shape.



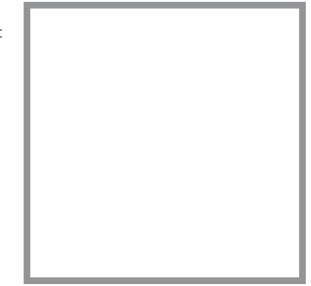
4. Select your tear drop and Right click > Transform > Rotate > 320 degrees > OK



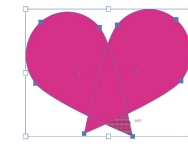
5. Right click again > Transform > Reflect > Vertical > Make a copy. Then drag the copy over to the right.



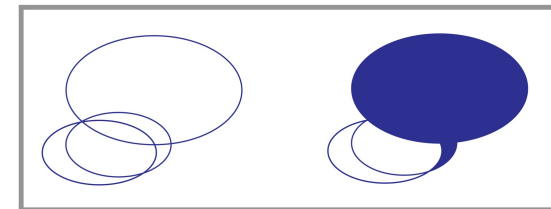
YOUR HEART



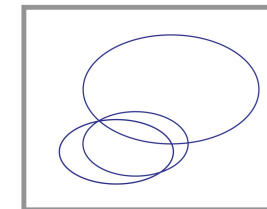
6. With both objects selected, use the Shape Builder Tool (Shift + M) and while holding down the Opt/Alt key, remove the 2 triangles at the bottom. Then scribble inside to unite the heart into 1 shape.



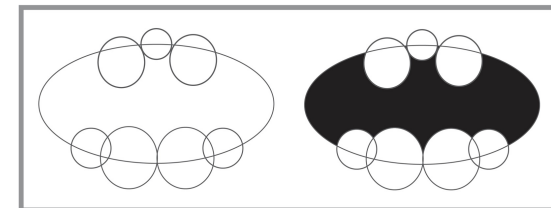
SPEECH BUBBLE



YOUR BUBBLE



BATMAN



YOUR BATMAN

