

## ILLUSTRATOR PRIMER

Illustrator is a vector drawing program that you can use in your design work. Common things made in Illustrator are logos, letters and logotypes, and character assets for contemporary cartoons, like *Archer*. We'll learn about how to use Illustrator to make any shape you can imagine, but first, start by touring the interface:

### Getting started

1. Create a new Illustrator document with a 5x5 inch artboard.
2. Use the rectangle tool to create three squares. Hold the shift key, then click and drag to make a perfect square.
3. Set the Stroke to none and the Fill to Black using the Swatches Panel.
4. Using the Selection tool, drag the shapes around your artboard.
5. Notice that when an object is selected, you are shown transform handles. Resize one square by adjusting these handles. Place your cursor just outside a handle to rotate the object.

### Exercise 1: Shape Composition Studies

Unity  
Contrast  
Rhythm  
Balance  
Motion  
Space

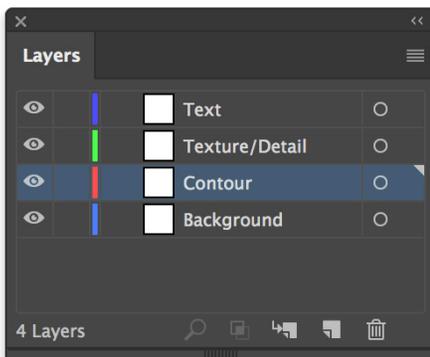
With what you know about creating shapes, use basic shapes to make a set of gestalt studies that demonstrate the principals to the left. Create shapes, resize and distort them, and change their colors. When you have a composition you like, create a new artboard or duplicate your existing artboard by using the Artboard panel or the Artboard tool before continuing to a new study.

Follow along for the first couple examples, then work independently while I come around the room. Ask for my help at any point. When you are finished with this work, we will tour the layers panel.

### Layers and Groups

Layers allow you to separate parts of your work. You can organize it into logical groups, which will make it easier to work with your vector files. Anytime you have trouble selecting the correct objects, you should separate things into layers and groups.

Groups are made by selecting multiple objects and pressing Cmd G. You can select into a group, called isolating a group, most simply by double clicking on it.



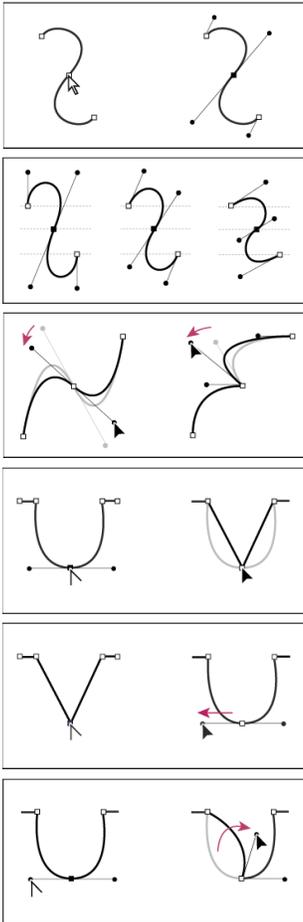
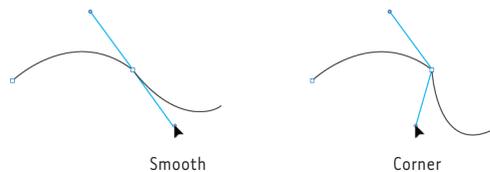
## MASTERING THE PEN TOOL

### Bezier Curves and the Pen Tool

In the Adobe Creative Suite, the Pen Tool is used to make precision vector drawings. Unlike the Shape, Line, and Pencil tools, the pen tool can make both straight lines and smooth curves. It does this through **anchor points** and the manipulation of control **handles**. The length and angle of a pair of handles will change the path of their curve.

The Pen tool will be unintuitive at first. Practice making the curves follow the path you want with anchor points in different places and with the handles in different directions/lengths. Remember that curves are controlled by pairs of anchor points, with each point's handles changing the path. As you're learning the pen tool, be careful to not "flip" a handle over, which will result in unintended loops.

Anchor points have two states, Smooth and Corner. Smooth points have handles that are connected and move together, but corner points have handles that move independently. You can change between them three ways: the **anchor point tool**, holding the alt key and moving one of the handles, and by pressing buttons in the control bar when an anchor point is direct selected.



**Concepts**  
beizer curves

**Tools**  
pen tool  
selection tools  
modifier keys

### Exercise 2: Tracing Basic Shapes

Find an image online of an animal. Save it to your work folder, then import it into a new document using File > Place.

Set your stroke to black and your fill to none, then use the pen tool to trace along the outer contour of the animal. Make corners by clicking or make curves by clicking and dragging. During this exercise, examine how the pen tool works, and try to make the shapes, lines, and curves that you need to represent your animal.

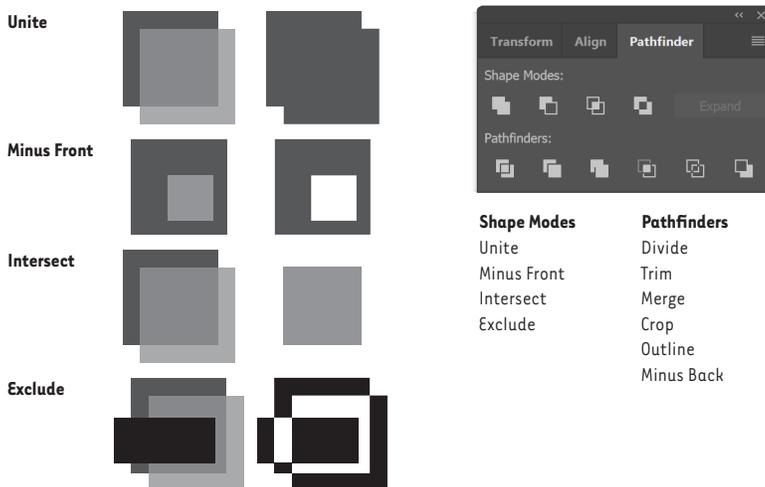
## PATHFINDER: MAKING AND COMBINING SHAPES

### What is a Compound Path?

Compound paths let you use an object to cut a hole in another object. For example, you can create a doughnut shape from two nested circles. Once you create a compound path, the paths act as grouped objects. You can select and manipulate the objects separately using the Direct Selection tool or Group Selection tool; or you can select and edit the combined path.

One way you can make a compound path is by selecting two shapes and using either the menu or keyboard shortcut. *Object > Compound Path > Make* or (⌘8).

Another way is by using the tools in the pathfinder panel and in the pathfinder effects menu. The graphics below demonstrate the basic functions, the buttons labeled as “shape modes” in the panel. Definitions are provided in the righthand column to explain all of the functions in detail if you wish to understand the rest of the available features.



### Exercise 3: Letterforms

Recreate four letters of your choosing from the word “PROCESS” (upper or lowercase) in Illustrator using the pen tool. Work to complete as much as you can during class, where you can ask questions and get help. The letters you create now will be used in Project 1.

You may work from one of the supplied type specimen pages or from an image of your own handwriting or lettering. (A cell phone photo is acceptable).

Use this exercise to master the use of Illustrator’s **pen tool**. Master using the tool to create well-shaped curves. Use the tool with the shift key to create precise angles and alignments.

“Cut-out” internal details by creating a **compound path** or by using the **pathfinder panel** to add/subtract shapes. You can have curves terminate in a corner/at an angle by ending with a corner point or breaking the handles.

**While working on this exercise**, think about ideas for Project 1, part 1. Choose something that you own or can readily experience and interact with. Though it is not required, you may wish to choose your letters strategically as they will later be combined with your object in Project 1.

### Pathfinding Effects

*Window > Pathfinder, Effects > Pathfinder*

**Unite/Add:** Traces the outline of all objects as if they were a single, merged object.

**Minus Front/Subtract:** Subtracts the frontmost objects from the backmost object. You can use this command to delete areas of an illustration by adjusting the stacking order.

**Intersect:** Traces the outline of the region overlapped by all the objects.

**Exclude:** Traces all nonoverlapping areas of the objects, and makes overlapping areas transparent. Where an even number of objects overlap, the overlap becomes transparent. Where an odd number of objects overlap, it becomes filled.

**Minus Back:** Subtracts the objects in back from the frontmost object. You can use this command to delete areas of an illustration by adjusting the stacking order.

**Divide:** Separates a piece of artwork into its component-filled faces (a face is an area undivided by a line segment).

**Trim:** Removes the part of a filled object that is hidden. Removes any strokes and doesn't merge objects of the same color.

**Merge:** Removes the part of a filled object that is hidden. Removes any strokes and merges any adjoining or overlapping objects filled with the same color.

**Crop:** Divides artwork into its component-filled faces, and then deletes all the parts of the artwork that fall outside the boundary of the topmost object. It also removes any strokes.

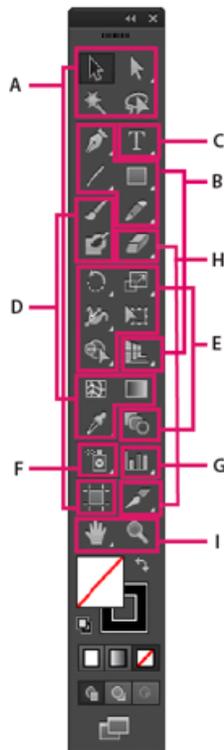
**Outline:** Divides an object into its component line segments, or edges. This command is useful for preparing artwork that needs a trap for overprinting objects. See Create a trap.

**Hard Mix:** Combines colors by choosing the highest value of each of the color components. For example, if Color 1 is 20% cyan, 66% magenta, 40% yellow, and 0% black, and Color 2 is 40% cyan, 20% magenta, 30% yellow, and 10% black, the resulting hard color is 40% cyan, 66% magenta, 40% yellow, and 10% black.

**Soft Mix:** Makes the underlying colors visible through the overlapping artwork, and then divides the image into its component faces. You specify the percentage of visibility you want in the overlapping colors.

**Trap:** Compensates for potential gaps between colors in artwork by creating a small area of overlap (called a trap) between two adjoining colors. Important for certain types of printing.

## Tools panel overview



### A Selection tools

- Selection (V)
- Direct Selection (A)
- Group Selection
- Magic Wand (Y)
- Lasso (Q)
- Artboard (Shift+O)

### B Drawing tools

- Pen (P)
- Add Anchor Point (+)
- Delete Anchor (-) Point
- Convert Anchor Point (Shift+C)
- Line Segment (\)
- Arc
- Spiral
- Rectangular Grid
- Polar Grid

- Rectangle (M)
- Rounded Rectangle
- Ellipse (L)
- Polygon
- Star
- Flare

- Pencil (N)
- Smooth
- Path Eraser
- Perspective Grid (Shift+P)
- Perspective Selection (Shift+V)

### C Type tools

- T Type (T)
- Area Type
- Type On a Path
- Vertical Type
- Vertical Area Type
- Vertical Type On a Path

### D Painting tools

- Paintbrush (B)
- Blob Brush (Shift+B)
- Mesh (U)
- Gradient (G)
- Eyedropper (I)
- Measure
- Live Paint Bucket (K)
- Live Paint Selection (Shift+L)

### E Reshaping tools

- Rotate (R)
- Reflect (O)
- Scale (S)
- Shear
- Reshape
- Width (Shift+W)
- Warp (Shift-R)
- Twirl
- Pucker
- Bloat
- Scallop
- Crystallize
- Wrinkle
- Free Transform (E)
- Shape Builder (Shift+M)
- Blend (W)

### F Symbol tools

- Symbol Sprayer (Shift+S)
- Symbol Shifter
- Symbol Scruncher
- Symbol Sizer
- Symbol Spinner
- Symbol Stainer
- Symbol Screener
- Symbol Styler

### G Graph tools

- Column Graph (J)
- Stacked Column Graph
- Bar Graph
- Stacked Bar Graph
- Line Graph
- Area Graph
- Scatter Graph
- Pie Graph
- Radar Graph

### H Slicing and cutting tools

- Slice (Shift+K)
- Slice Select
- Eraser (Shift+E)
- Scissors (C)
- Knife

### I Moving and zooming tools

- Hand (H)
- Print Tiling
- Zoom (Z)

■ Indicates default tool

\* Keyboard shortcuts appear in parenthesis