

3

USING SHAPES TO CREATE ARTWORK FOR A POSTCARD

Lesson overview

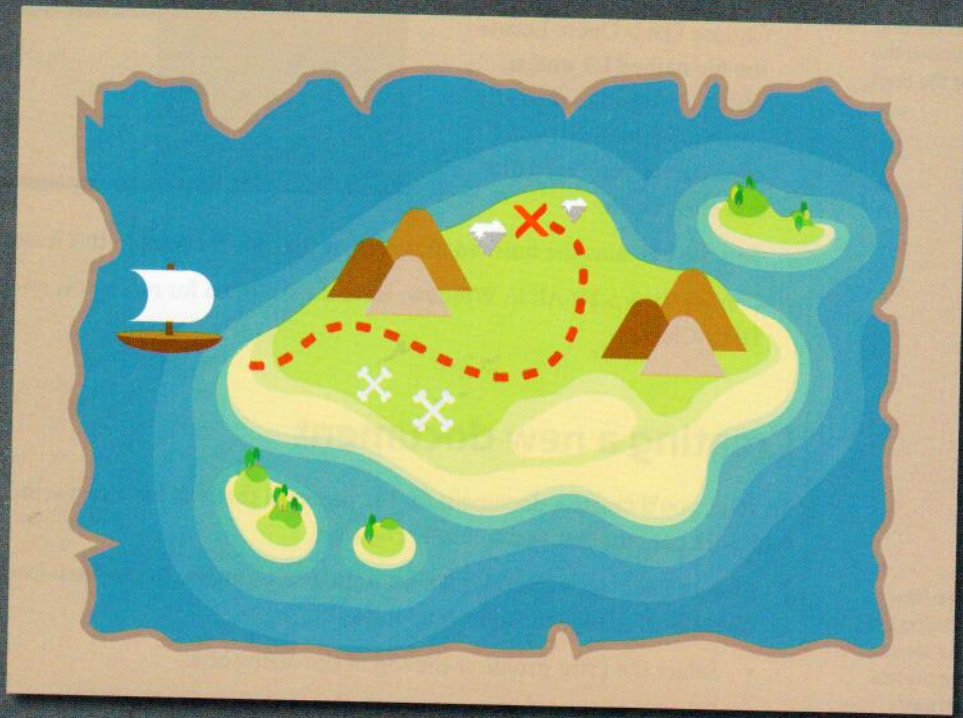
In this lesson, you'll learn how to do the following:

- Create a document with multiple artboards.
- Use tools and commands to create a variety of shapes.
- Understand Live Shapes.
- Round corners.
- Work with the Shaper tool.
- Work with drawing modes.
- Use Image Trace to create shapes.



This lesson will take about 60 minutes to complete. Please log in to your account on peachpit.com to download the files for this lesson, or go to the "Getting Started" section at the beginning of this book and follow the instructions under "Accessing the lesson files and Web Edition." Store the files on your computer in a convenient location.

Your Account page is also where you'll find any updates to the lessons or to the lesson files. Look on the Lesson & Update Files tab to access the most current content.



Basic shapes are at the foundation of creating Illustrator artwork. In this lesson, you'll create a new document and then create and edit a series of shapes using the shape tools for a postcard.

Starting the lesson

In this lesson, you'll explore the different methods for creating artwork using the shape tools and various creation methods to add artwork to a postcard that contains a pirate map.

● **Note:** If you have not already downloaded the project files for this lesson to your computer from your Account page, make sure to do so now. See the "Getting Started" section at the beginning of the book.

- 1 To ensure that the tools function and the defaults are set exactly as described in this lesson, delete or deactivate (by renaming) the Adobe Illustrator CC preferences file. See "Restoring default preferences" in the "Getting Started" section at the beginning of the book.
- 2 Start Adobe Illustrator CC.
- 3 Choose File > Open. Locate the file named L3_end.ai, which is in the Lessons > Lesson03 folder that you copied onto your hard disk, and click Open.



This file contains the finished illustrations that you'll create in this lesson.

- 4 Choose View > Fit All In Window; leave the file open for reference, or choose File > Close.

Creating a new document

To start, you'll create a document for the postcard that will have two artboards, each with content that you will later combine.

► **Tip:** In the New Document dialog box, you will see a series of document presets you can start each project with.

- 1 Choose File > New to create a new, untitled document. In the New Document dialog box, change the following options:

- Select the Print profile at the top of the dialog box.
- Select the Letter document preset, if it isn't already selected.

On the right, in the Preset Details area, change the following:

- Name: Change it from Untitled-1 to **Postcard**.
- Units: Change the units from Points to **Inches**.
- Width: **6 in** (You don't need to type the **in** for inches.)
- Height: **4.25 in**
- Orientation: **Landscape** (L)
- Artboards: **2** (to create two artboards)

You'll learn about the Bleed option shortly. At the bottom of the Preset Details section on the right side of the New Document dialog box, you will also see Advanced Options and More Settings (you may need to scroll to see it).

They contain more settings for document creation that you can explore on your own.



- 2 Click Create in the New Document dialog box.
- 3 Choose File > Save As. In the Save As dialog box, ensure that the name of the file is Postcard.ai, and save it in the Lessons > Lesson03 folder. Leave Adobe Illustrator (.ai) chosen from the Format menu (macOS) or Adobe Illustrator (*.AI) chosen from the Save As Type menu (Windows), and click Save.

Adobe Illustrator (.ai) is called a native format. That means it preserves all Illustrator data, including multiple artboards.

- 4 In the Illustrator Options dialog box that appears, leave the options at their default settings, and click OK.

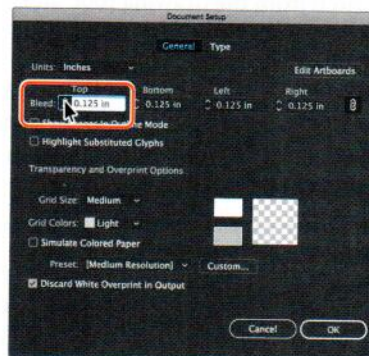
The Illustrator Options dialog box is full of options for saving the Illustrator document, from specifying a version for saving to embedding any files that are linked to the document.

- 5 Click the Document Setup button in the Properties panel (Window > Properties).

The Document Setup dialog box is where you can change document options like units, bleeds, and more, after a document is created.

- 6 In the Bleed section of the Document Setup dialog box, change the value in the Top field to **0.125 in**, either by clicking the Up Arrow button to the left of the field once or by typing the value, and all four fields change. Click OK.

The red line that appears around both artboards indicates the bleed area. You will typically add bleed to artboards where you want artwork to be printed all the way to the edge of the paper. Bleed is the term used for the area that extends beyond the edge of the printed page, and it ensures that no white edges show up on the final trimmed page.



Note: You can set up a document for different kinds of output, such as print, web, video, and more, by choosing a profile. For example, if you are designing a web page mock-up, you can select the Web profile and select a default document, 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).

Tip: If you want to learn more about these options, search for "Save artwork" in Illustrator Help (Help > Illustrator Help).

Note: You could have set up the bleeds when you first set up the document in the New Document dialog box by choosing File > New.

Working with basic shapes

In the first part of this lesson, you'll create a series of basic shapes, such as rectangles, ellipses, rounded rectangles, polygons, and more. Shapes you create are composed of *anchor points* with paths connecting the anchor points. A basic square, for instance, is composed of four anchor points on the corners with paths connecting the anchor points (see the figure at right). A shape is referred to as a *closed path*.

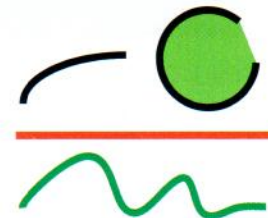
A path can be closed, or it can be open with distinct anchor points on each end, called *end points* (see the figure at right). Both open and closed paths can have fills applied to them.

You'll begin this exercise by setting up the workspace.

- 1 Choose Window > Workspace > Essentials (if it's not already selected) and then choose Window > Workspace > Reset Essentials.
- 2 Choose 2 from the Artboard Navigation menu in the lower-left corner of the Document window.
- 3 Choose View > Fit Artboard In Window to fit the artboard in the Document window, if it isn't already.



Examples of closed paths.

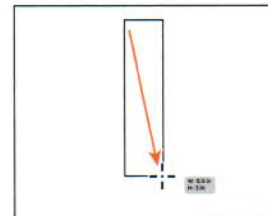


Examples of open paths.

Creating and editing rectangles


You'll start this lesson by creating a few rectangles. All of the shape tools, except for the Star tool and Flare tool, create Live Shapes. *Live Shapes* have attributes such as width, height, rotation, and corner radius that are editable later, without having to switch from the drawing tool, and are retained even if you scale or rotate the shape.

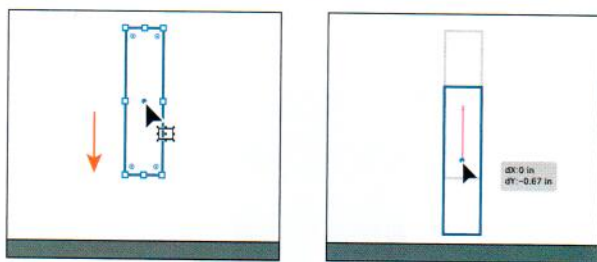
- 1 Select the Rectangle tool (■) in the Tools panel. Move the pointer near the center of the artboard. Press the mouse button and drag down and to the right. Drag until the rectangle is approximately 0.5 inches wide and has a height of 2 inches, as shown in the gray tool tip next to the cursor.



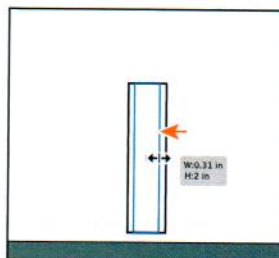
As you drag to create shapes, the tool tip that appears next to the pointer is called the *measurement label* and is part of Smart Guides (View > Smart Guides), which will be discussed throughout this lesson. By default, shapes are filled with a white color and have a black stroke (border). Using any of the shape tools, you can either draw a shape or click the artboard with a shape tool selected to enter values in a dialog box.


► **Tip:** Holding down Option (macOS) or Alt (Windows) as you drag with the Rectangle, Rounded Rectangle, or Ellipse tool draws a shape from its center point.

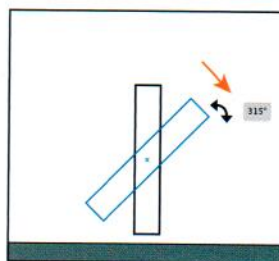
- With the rectangle selected, move the pointer over the small blue dot in the center of the rectangle (called the *center point widget*). When the pointer changes () , drag the shape into the bottom half of the artboard.



- Begin dragging the right-middle bounding point of the rectangle to the left to make it narrower. As you drag, press the Option (macOS) or Alt (Windows) key to resize the left and right sides together. When you see a width of approximately 0.3 in the measurement label, release the mouse button and then the key.





- Move the pointer just off of a corner on the shape. When you see rotate arrows () , press and drag clockwise to rotate the shape. As you drag, press the Shift key to constrain the rotation to increments of 45 degrees. When an angle of 315 shows in the measurement label, release the mouse button and then the key. Leave the shape selected.

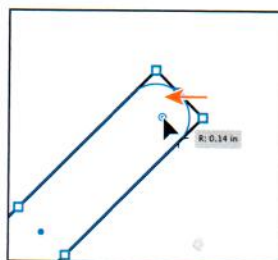


Rounding corners

Rounding the corners of a rectangle can be done using several methods. In this section, you'll learn a few ways to round the corners of rectangles you've already created.

- With the shape still selected, choose View > Zoom In a few times.
- Select the Selection tool () in the Tools panel, and drag any of the corner widgets () in the rectangle toward the center of the rectangle to change the corner radius for all corners without worrying about how much right now.

Note: If you are zoomed out far enough, the corner widgets are hidden on the shape. Choose View > Zoom In until you see them.

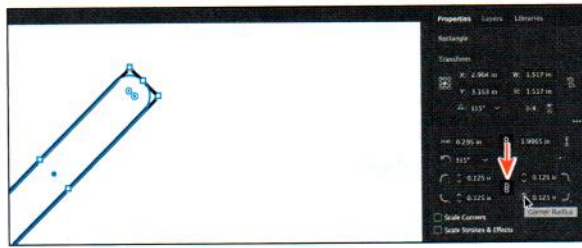


Note: If you drag a corner widget far enough, a red arc appears indicating you've reached the maximum corner radius.

► **Tip:** You can Option-click (macOS) or Alt-click (Windows) a corner widget in a shape to cycle through the different corner types.

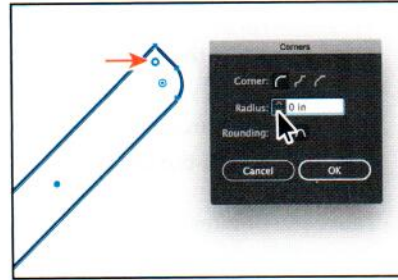
● **Note:** You can press the Escape key to hide the panel before moving on.

- 3 In the Properties panel to the right, click More Options (☰) in the Transform section to show a panel with more options. Ensure that Link Corner Radius Values is on (B) (an arrow is pointing to it in the following figure), and change any of the Radius values to 0.125. If necessary, click in another field or press the Tab key to see the change to all corners.

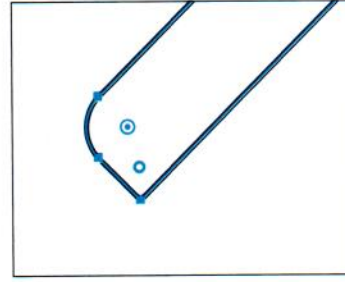
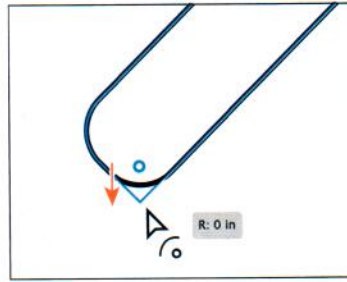
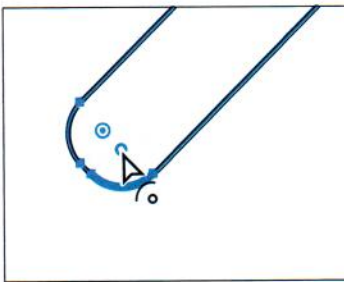


- 4 Select the Direct Selection tool (A). With the shape still selected, double-click the top-corner widget (⊙). In the Corners dialog box, change the radius to 0 (zero), and click OK.

Notice that only that one corner changed. The Corners dialog box allows you to edit the corner type and radius, but it also has an extra option called Rounding for setting absolute versus relative rounding. Absolute means the rounded corner is exactly the radius value. Relative makes the radius value based on the angle of the corner point.

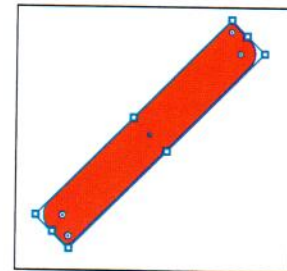
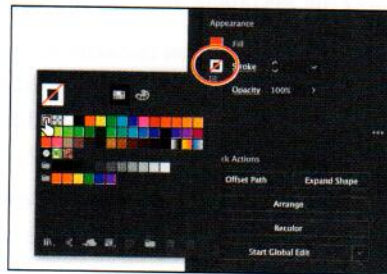
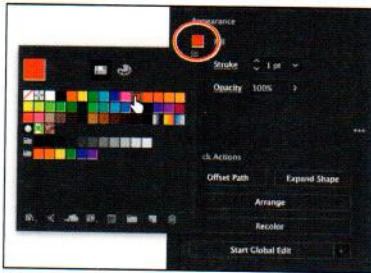


- 5 Click the bottom-corner widget (⊙) to select just that one corner widget. See the first part of the following figure.
- 6 Drag the bottom-corner widget (⊙) away from the center of the shape, until you see 0 in the measurement label. You will need to drag past the corner point.

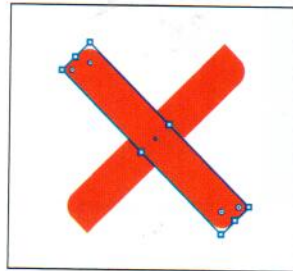
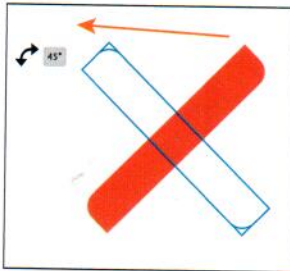


- 7 Select the Selection tool (▸) in the Tools panel. Click the Fill color box in the Properties panel, and make sure that the Swatches option (■) is selected in the panel that appears. Select a darker red color to fill the rectangle with red.
- 8 Click the Stroke color box in the Properties panel, make sure that the Swatches option (■) is selected, and select None to remove the stroke from the rectangle.

Note: You can press the Escape key to hide the panel before moving on.

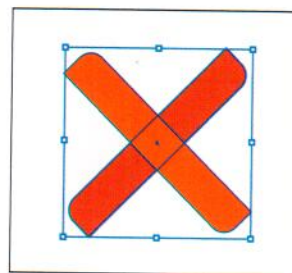


- 9 Choose Edit > Copy and then choose Edit > Paste In Front to paste a copy of the rectangle right on top of the original.
- 10 Move the pointer just off of a corner on the shape. When you see rotate arrows (↻), drag counterclockwise to rotate the shape. As you drag, press the Shift key to constrain the rotation to 45 degrees. When an angle of 45 shows in the measurement label, release the mouse button and then the key.



- 11 Click the Fill color box in the Properties panel, and make sure that the Swatches option (■) is selected in the panel that appears. Select a lighter red color as the fill color for the rectangle.
- 12 Choose Select > All On Active Artboard to select both shapes. Click the Group button in the Quick Actions section of the Properties panel to the right of the document.

Grouping treats content like a single object, which makes it easier to move the currently selected artwork. You'll group other content you create going forward for the same reason.



- 13 Choose Select > Deselect.


Working with rounded corners

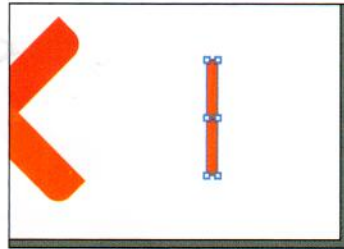
Next, you'll explore rounding the corners of a rectangle using the Transform panel, by creating a shape for the mast of a boat.

- 1 Choose View > Zoom Out.
- 2 Select the Rectangle tool (■) in the Tools panel.
- 3 Click in a blank area of the artboard to the right of the red X. In the Rectangle dialog box that appears, enter a width of **0.2** inches and a height of **1.5** inches. Click OK.

For most of the drawing tools, you can either draw with the tool or click to create a shape of a specific size.

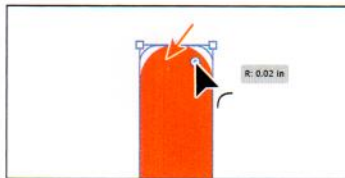


- 4 In the Properties panel to the right, make sure Constrain Width And Height Proportions to the right of Width (W:) and Height (H:) is *deselected* (it looks like this: ) . Select the Width (W:) value and change it to **0.1**. Click in the Height (H:) field, and change the value to **1**. Press Return or Enter. Leave the shape selected.



Typing **in** for inches isn't necessary; it is added automatically.

- 5 Select the Zoom tool (Q) in the Tools panel on the left. Drag across the top part of the selected rectangle to zoom in closely.
- 6 Select the Selection tool (▸) and, with the rectangle selected, drag any of the corner widgets (⦿) at the top of the shape, toward the center of the shape, until the measurement label shows a value of 0.02 in.



Note: You'll learn more about general transformations in Lesson 5, "Transforming Artwork."

Note: Zoom in closer if you don't see the corner widgets after selecting the Selection tool.

7 Double-click any of the corner widgets (⦿) to open the Transform panel. The Transform panel will open, and you should see corner options. Select Chamfer for the corner type for *the top two corners only*.

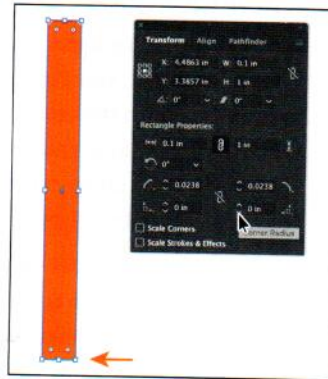
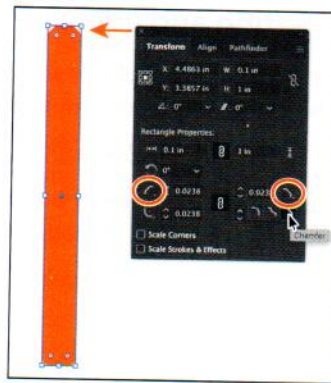
8 Choose View > Zoom Out until you see the bottom of the shape.

9 In the Transform panel, deselect Link Corner Radius Values (so it looks like this: [🔗]) to change the corners independently. Change the bottom-left and bottom-right corners to 0.

10 Click the X at the top of the Transform panel group to close it.

11 Click the Fill color box in the Properties panel, and make sure that the Swatches option (📄) is selected in the panel that appears. Select a brown color.

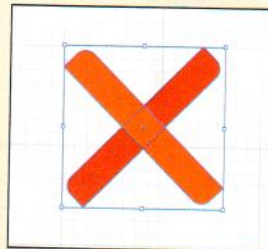
12 Choose Select > Deselect and then choose File > Save.



Working with the document grid

The document grid allows you to work more precisely by creating a series of nonprinting horizontal and vertical guides behind your artwork in the Document window that objects can snap to. To turn the grid on and use its features, do the following:

- To show the grid or hide the grid, choose View > Show Grid/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 grid properties such as the spacing between gridlines, grid style (lines or dots), grid color, or whether grids appear in the front or back of artwork, choose Illustrator CC > Preferences > Guides & Grid (macOS) or Edit > Preferences > Guides & Grid (Windows).



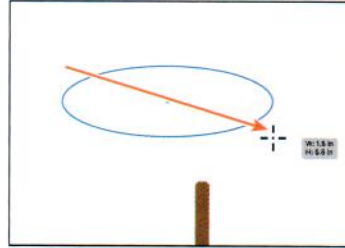
—From Illustrator Help

Creating and editing ellipses

Next, you'll draw and edit an ellipse with the Ellipse tool (○) to continue creating a boat. The Ellipse tool can be used to create ellipses and circles.

- 1 Choose View > Zoom Out a few times.
- 2 Press and hold down the mouse button on the Rectangle tool (□) in the Tools panel, and select the Ellipse tool (○).

- 3 Move the pointer above the brown rounded rectangle. Press and drag to make an ellipse that has a width of 1.5 inches and a height of 0.5 inches.



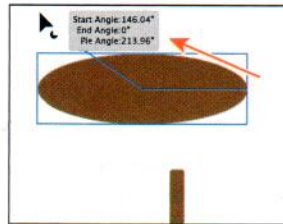
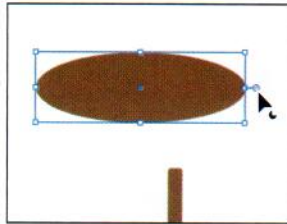
After creating an ellipse, with the Ellipse tool still selected, you can move the shape by dragging from the center widget, transform the shape, and also drag the pie angle widgets to create a pie shape.

Next, you'll create a copy of the ellipse to use later.

- 4 Select the Selection tool (▸) in the Tools panel. Choose Edit > Copy and then Edit > Paste to paste a copy of the circle you will use later in the lesson. Drag it into a blank area of the artboard, out of the way.
- 5 Click to select the original ellipse. Drag the pie widget (⊙) off the right side of the ellipse, counterclockwise around the top of the ellipse.

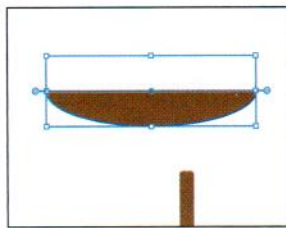
● **Note:** You can also change ellipse properties like pie angle with the Ellipse tool still selected.

▶ **Tip:** To reset a pie shape back to an ellipse, double-click either pie widget.

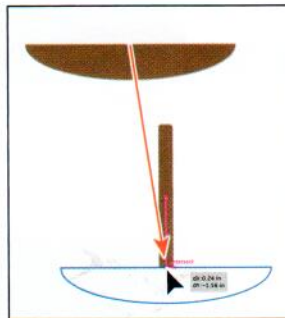
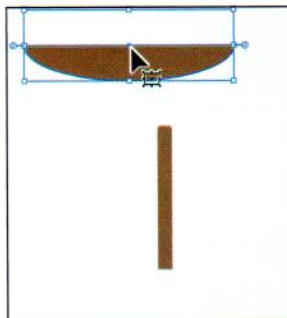


Dragging this widget allows you to create a pie shape. After dragging the widget initially and releasing the mouse button, you will then see a second widget. The widget you dragged controls the start angle. The widget that now appears on the right side of the ellipse controls the end angle.

- 6 In the Properties panel to the right, click More Options (☰) in the Transform section to show more options. Choose 180° from the Pie Start Angle menu. Press the Escape key to hide the panel.



- 7 Move the pointer over what *was* the center of the ellipse, and drag the ellipse so it snaps to the bottom edge of the brown rectangle. The word “intersect” will most likely appear when it is snapped.



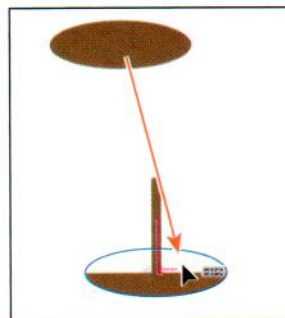
A vertical magenta guide will also show in the center of the brown rectangle to ensure that the ellipse is center-aligned horizontally with the rectangle.

- 8 Choose Select > Deselect and then choose File > Save.

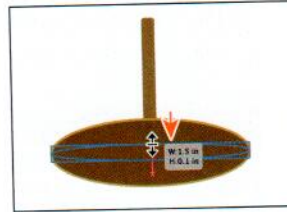
Changing stroke width and alignment

So far in this lesson, you’ve mostly edited the fill of shapes but haven’t done too much with the strokes, which are visible outlines or borders of an object or path. You can easily change the color of a stroke or the weight of a stroke to make it thinner or thicker. You’ll do that next.

- 1 With the Selection tool (▸) selected, click the copy of the brown ellipse you made in the previous section to select it.
- 2 Drag it on top of the half-ellipse.
Magenta Smart Guides will appear when it’s aligned in the center of the half-ellipse.
- 3 Change the fill color to a darker brown and the stroke color to a lighter brown in the Properties panel.

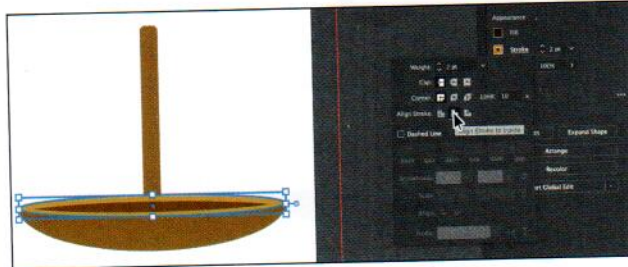


- 4 Drag the top-middle point of the ellipse down. As you drag, press the Option (macOS) or Alt (Windows) key to resize both sides at the same time. When you see a height of 0.1 inches, release the mouse button and then the key.



Note: You may notice in the selected artwork that you only see the corner points of the bounding box. It depends on the zoom level of your document.

- 5 Click the word “Stroke” in the Properties panel to open the Stroke panel. In the Stroke panel, change the stroke weight of the selected rectangle to 2. Click the Align Stroke To Inside button (⌵) to align the stroke to the inside edge of the ellipse.



Note: You can also open the Stroke panel by choosing Window > Stroke, but you may need to choose Show Options from the panel menu (☰).

- 6 Click the brown rectangle and then click the Arrange button in the Properties panel and choose Bring To Front so the rectangle is on top of the ellipses.

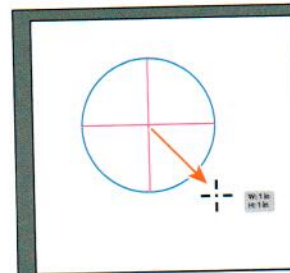


- 7 Choose Select > Deselect.

Creating and editing a circle

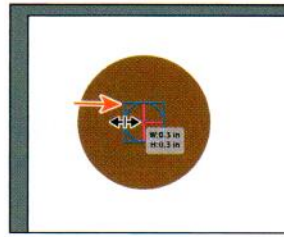
Next, you'll draw and edit a perfect circle with the Ellipse tool (○). Later in the lesson, you'll make a series of copies of the circle you create here for other artwork.

- 1 Choose View > Fit Artboard In Window to see the whole artboard.
- 2 Select the Ellipse tool (○), and move the pointer over a blank area in the upper-left corner of the artboard. Begin dragging down and to the right to begin drawing an ellipse. As you drag, press the Shift key to create a perfect circle. When the width and height are both roughly 1 inch, release the mouse button and then the Shift key.



Without switching to the Selection tool, you can reposition and modify an ellipse with the Ellipse tool, which is what you'll do next.

- 3 With the Ellipse tool selected, move the pointer over the left-middle bounding point of the circle. Press and drag toward the center to make it smaller. As you drag, press Shift+Option (macOS) or Shift+Alt (Windows). Drag until the measurement label shows a width and height of approximately 0.3 inches. Release the mouse button and then the keys.



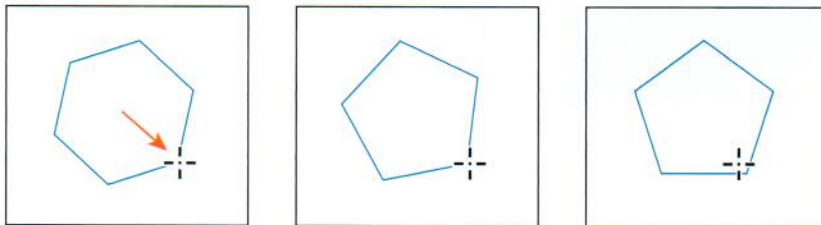
Note: An ellipse is also a Live Shape like a rectangle or rounded rectangle.

- 4 With the circle selected, click the Fill color in the Properties panel, and make sure that the Swatches option (■) is selected in the panel that appears. Select a light gray color with a tool tip of "C=0 M=0 Y=0 K=10."

Creating polygons

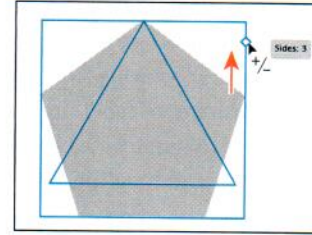
Using the Polygon tool (⬡), you can create shapes with multiple straight sides. By default, the Polygon tool draws hexagons (a six-sided shape), and all shapes are drawn from the center. Polygons are also Live Shapes, which means attributes such as size, rotation, number of sides, and more are still editable. Now you'll create a triangle to make a diamond gem using the Polygon tool (⬡).

- 1 Press and hold down the mouse button on the Ellipse tool (○) in the Tools panel, and select the Polygon tool (⬡).
- 2 Choose View > Smart Guides to turn them off.
- 3 Move the pointer in a blank area of the artboard. Drag to the right to begin drawing a polygon, but *don't release the mouse button yet*. Press the Down Arrow key once to reduce the number of sides on the polygon to five, and don't release the mouse yet. Hold down the Shift key to straighten the shape. Release the mouse button and then the key. Leave the shape selected.

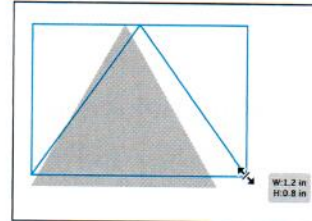


Notice that you didn't see the gray measurement label (the tool tip) since the tool tip is part of the Smart Guides that you turned off. The magenta alignment guides are also not showing since the shape is not snapping to other content on the artboard. Smart Guides can be useful in certain situations, such as when more precision is necessary, and can be toggled on and off when needed.

- 4 Click the Fill color box in the Properties panel, and make sure that the Swatches option (■) is selected in the panel that appears. Select a light gray color with a tool tip of “C=0 M=0 Y=0 K=30.”
- 5 Choose View > Smart Guides to turn them back on.
- 6 With the Polygon tool still selected, drag the side widget on the right side of the bounding box to change the number of sides to three, making a triangle.



- 7 Drag a corner bounding point of the triangle until you see a width of 1.2 inches and a height of 0.8 inches in the measurement label.

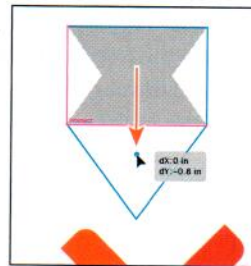
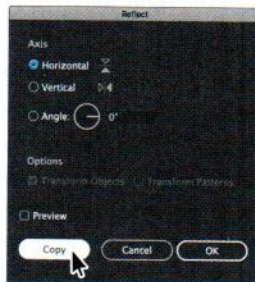


● **Note:** The figure may look different from what you see. Your starting shape may have been bigger or smaller, and that's okay as long as the resulting size is 1.2 inches in width and 0.8 inches in height.

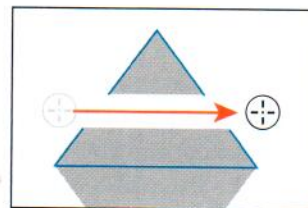
Editing the polygons

Now, you'll make a copy of the polygon and create the rest of the diamond gem.

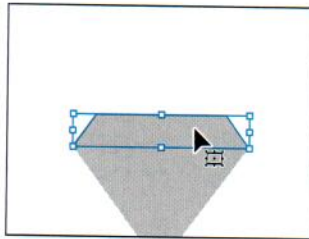
- 1 With the triangle still selected, choose Object > Transform > Reflect. In the Reflect dialog box, select Horizontal, and click Copy.
- 2 Drag the new (top) triangle from the center widget (the blue circle in the center) so its top edge snaps to the bottom edge of the original triangle.



- 3 Select the Selection tool (▸) in the Tools panel. Click the original (top) triangle.
- 4 Select the Eraser tool (◆) in the Tools panel. Pressing the Shift key, drag from left to right, across the middle of the triangle. Release the mouse button and then the key.

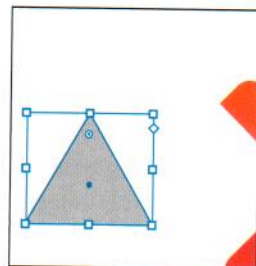
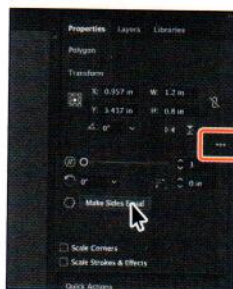
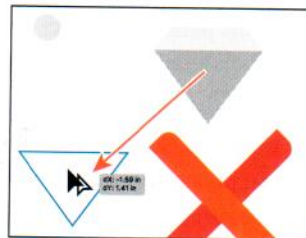


- 5 Select the Selection tool (▸), and click in a blank area to deselect the artwork.
- 6 Click the smaller triangle on top, and press Delete or Backspace to remove it.
- 7 Click to select the remaining part of the top triangle, and click the Fill color box in the Properties panel. Make sure that the Swatches option (■) is selected in the panel that appears, and select a lighter gray color with a tool tip of "C=0 M=0 Y=0 K=5."

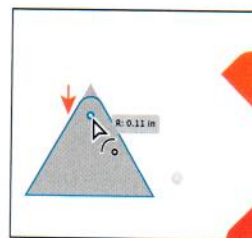


Next you'll make a copy of the original triangle and make a mountain shape with a rounded corner top.

- 8 Click the darker gray triangle to select it. Option-drag (macOS) or Alt-drag (Windows) the triangle into the lower-left corner of the artboard to make a copy. Release the mouse button and then the key.
- 9 Click More Options (⋮) in the Transform section of the Properties panel to the right to show more options. To return the triangle to an equal-sided polygon, click the Make Sides Equal button.



- 10 Select the Direct Selection tool (⬶) in the Tools panel. Click the top-corner widget (⦿) of the selected triangle to select it.
- 11 Drag the top-corner widget toward the center of the shape to round the top corner a little.



Creating a star

Next you'll use the Star tool (☆) to create a few stars that will go on the diamond you just created. The Star tool currently doesn't create Live Shapes, which means editing the star after the fact can be more difficult. When drawing with the Star tool, you'll use keyboard modifiers to get the number of points you want and to change the radius of the arms of the star (the length of the arms). Here are the keyboard modifiers you'll use in this section when drawing the star and what each one does:

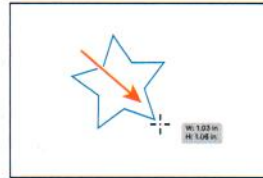
- **Arrow keys:** Pressing the Up Arrow or Down Arrow key adds or removes arms from the star, respectively, as you draw it.
- **Shift:** This straightens the star (constrains it).
- **Command (macOS) or Ctrl (Windows):** Pressing the key and dragging while creating a star allows you to change the radius of the arms of the star (make the arms longer or shorter).

Next you'll create a star. This will take a few keyboard commands, so *don't release the mouse button* until you are told.

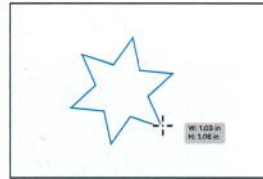
- 1 Click and hold down the mouse button on the Polygon tool (⬡) in the Tools panel, and select the Star tool (☆). Move the pointer somewhere on the artboard to the right of the triangle shapes that make up the diamond.

► **Tip:** You can also click in the Document window with the Star tool (☆) and edit the options in the Star dialog box instead of drawing it.

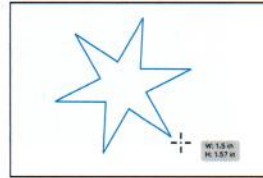
- 2 Press and drag slowly to the right to create a star shape. Notice that as you move the pointer, the star changes size and rotates freely. Drag until the measurement label shows a width of about 1 inch and then stop dragging. *Don't release the mouse button!*



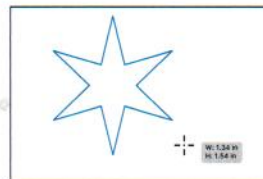
- 3 Press the Up Arrow key once to increase the number of points on the star to six. *Don't release the mouse button!*



- 4 Press Command (macOS) or Ctrl (Windows), and continue dragging to the right a little. This keeps the inner radius constant, making the arms longer. Drag until you see a width of approximately 1.5 inches and then stop dragging, without releasing the mouse button. Release Command or Ctrl but *not the mouse button*.

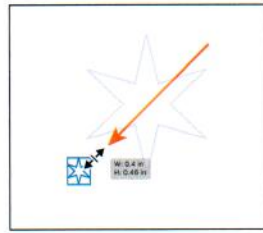


- 5 Hold down the Shift key. When the star straightens out, release the mouse button and then the Shift key.
- 6 Change the stroke weight of the star to 0 in the Properties panel.



► **Tip:** If the stroke color is None (☐), then you don't need to set the stroke weight.

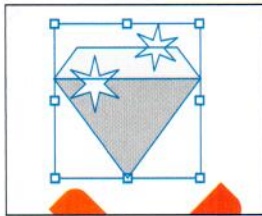
- 7 Change the fill color in the Properties panel to white.
- 8 Select the Selection tool (▸), press the Shift key, and drag a corner of star bounding box toward the center. When the star has a width of approximately 0.4 inches, release the mouse button and then the key.
- 9 Select the Star tool (☆), and draw one more star, a little smaller than the first. Notice that the new star has the same basic settings as the first star you drew.



- 10 Select the Selection tool (▸), and drag the stars on top of the shapes that make up the diamond.

The stars may be difficult to see since they have a white fill and are on a white artboard. You could choose View > Outline to more easily see them. Then, after you are finished dragging the shapes by their edges, choose View > Preview (or GPU Preview).

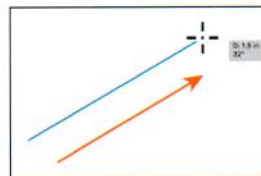
- 11 Drag across the triangle and star shapes to select them all and then click the Group button in the Properties panel to group them together.



Drawing lines

Next, you'll create lines and line segments, known as *open paths*, with the Line Segment tool to create a few bones. Lines created with the Line Segment tool are Live Lines, and similar to Live Shapes, they have many editable attributes.

- 1 Press and hold on the Star tool (☆) in the Tools panel, and select the Line Segment tool (↘). On the right side of the artboard, above the existing artwork, press and drag to the right. Notice the length and angle in the measurement label next to the pointer as you drag. Drag until the line is around 1.5 inches in length.
- 2 With the new line selected, move the pointer just off the right end. When the pointer changes to a rotate arrow (↻), press and drag (up or down) until you see an angle of 0 (zero) in the measurement label next to the pointer. That will make the line horizontal.



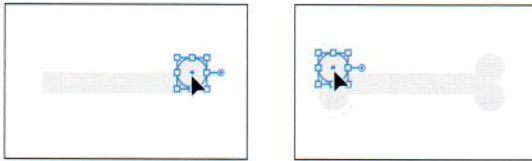
● **Note:** If you drag a line in the same trajectory as the original path, you will see the words "Line Extension" and "on" appear at opposite ends of the line. These are part of Smart Guides and make it easy to drag a line longer or shorter without changing the angle.

Lines rotate around their center point by default. The angle of the line can also be changed in the Properties panel.

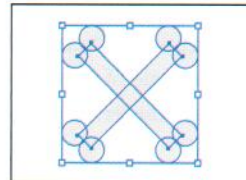
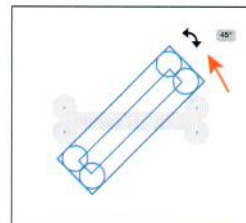
- 3 With the line selected, change the stroke weight to **15 pt** in the Properties panel to the right of the document.
- 4 Click the Stroke color box in the Properties panel, and make sure that the Swatches option (■) is selected in the panel that appears. Select a lighter gray color with a tool tip of "C=0 M=0 Y=0 K=10."



- 5 Choose Object > Path > Outline Stroke. The line is now a shape with a fill.
- 6 Select the Selection tool (⬮) in the Tools panel, and drag the gray circle in the upper-left corner of the artboard over to the shape.
- 7 Choose Edit > Copy. Choose Edit > Paste three times to create a total of four circles. Drag the circles onto the shape like you see in the figure to make a bone.



- 8 Drag across the bone artwork, and click the Group button in the Properties panel to keep the artwork together.
- 9 Move the pointer just off a corner. When the pointer changes to rotate arrows (↻), drag counterclockwise to rotate it until you see approximately 45 degrees in the measurement label.
- 10 Choose Object > Transform > Reflect. In the Reflect dialog box, select Vertical, and click Copy.
- 11 Drag across the artwork for the bones, and click the Group button in the Properties panel to keep the artwork together.



Working with the Shaper tool

Another way to draw and edit shapes in Illustrator involves the Shaper tool (👉). The Shaper tool recognizes natural gestures and produces Live Shapes from those gestures. Without switching tools, you can combine, delete, fill, and transform basic shapes you create. In this section, you'll get a feeling for how the tool works by exploring the most widely used features.

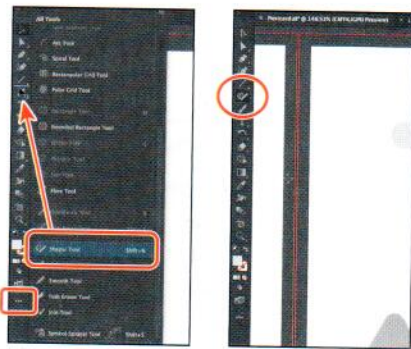
Note: The Shaper tool works best with a stylus on touch surfaces, such as Surface Pro or Wacom Cintiq, or through indirect inputs such as the Wacom Intuos.

Drawing shapes with the Shaper tool

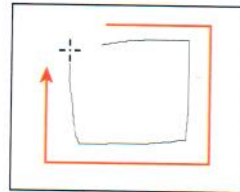
To get started with the Shaper tool, you'll draw a few simple shapes that will eventually become the sail for the boat you made.

- 1 Choose View > Fit Artboard In Window.
- 2 Click Edit Toolbar (☰) at the bottom of the Tools panel. Scroll in the menu that appears, and drag the Shaper tool (👉) onto the Tools panel on the left to add it to the list of tools.

Note: You may want to press the Escape key to hide the extra tools menu.



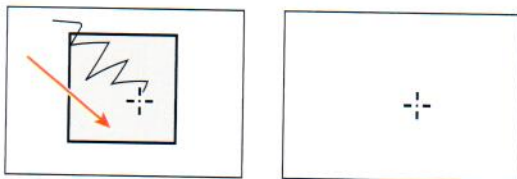
- 3 With the Shaper tool (👉) selected in the Tools panel, draw a rectangle in a blank area of the artboard, like you would with a pencil on paper. Use the figure as a guide.



When you finish drawing the shape, the gesture will be converted to a Live Shape with a default gray fill.

There are a variety of shapes that can be drawn with the Shaper tool, including (but not limited to) rectangles, squares, ellipses (circles), triangles, hexagons, lines, and more.

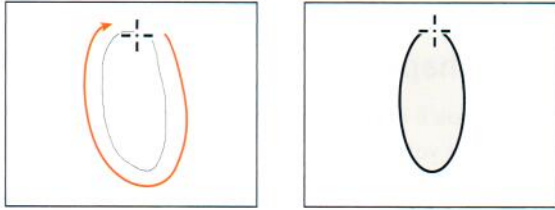
- 4 Draw a scribble over the shape you just drew to delete it.



Note: If you try to draw a scribble, a line may be created instead. Simply scribble across all the shapes to remove them.

This simple gesture is an easy way to delete shapes. Note that you can scribble across more than one object to remove them, and you simply need to scribble over part of the artwork, not the whole thing to delete it. You can also click within a shape you created to select it and then press Delete or Backspace to remove it.

- 5 Draw an ellipse in a blank area of the artboard.

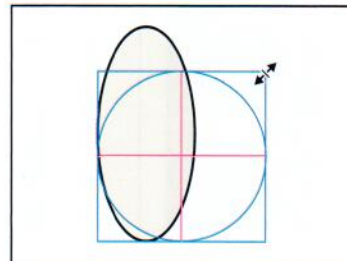


If the shape is not an ellipse, delete it by scribbling across it, and try again.

Once shapes are created, you can also use the Shaper tool to edit those shapes without having to switch tools. Next, you'll edit the ellipse you just created.

- 6 Click in the ellipse with the Shaper tool to select it.
- 7 Choose View > Zoom In.

- 8 Drag a corner of the ellipse to turn it into a circle. When magenta hinting crosshairs (Smart Guides) show in the center, it means the ellipse has become a circle (an ellipse with equal width and height).

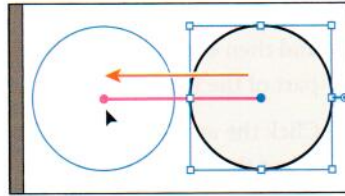


Shapes drawn with the Shaper tool are live and dynamically adjustable, so you can draw and edit intuitively without the extra hassle of switching between tools. Notice that no measurement label appears to indicate the shape size. When transforming shapes with the Shaper tool, measurement labels won't appear, even if Smart Guides are on.

Punching and combining shapes with the Shaper tool

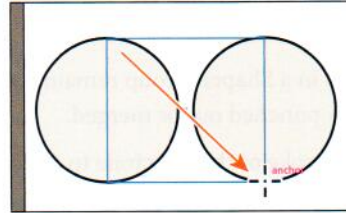
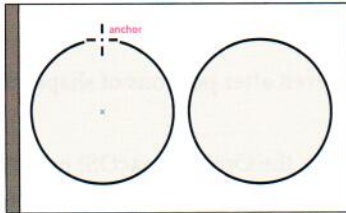
Not only does the Shaper tool let you draw shapes, but you can then combine, subtract, and continuously edit them, all with a single tool. Next you'll draw a few more shapes and use the Shaper tool to add and subtract them from the original circle, creating a sail for the boat.

- 1 With the Shaper tool (🔪) selected, press Shift+Option (macOS) or Shift+Alt (Windows), and drag the circle straight to the left to make a copy. A horizontal magenta alignment guide will show. *Make sure the circles are not touching* and then release the mouse button and then the keys.

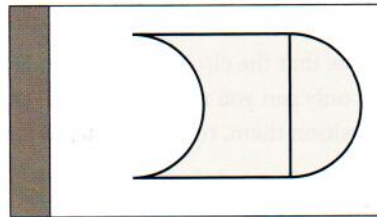
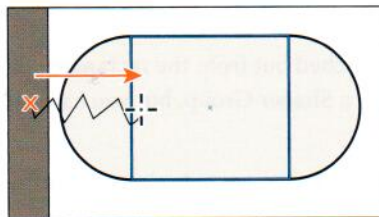


Note: Don't worry if the new circle is on or off the edge of the artboard. You'll reposition it all shortly.

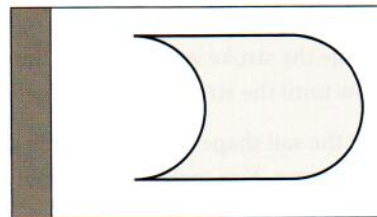
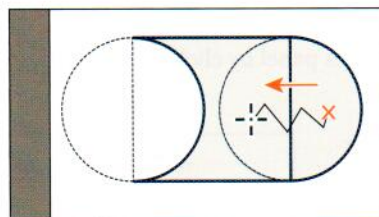
- 2 Press and hold down the mouse button on the Line Segment tool (↙), and select the Rectangle tool (▭) in the Tools panel. Move the pointer over the center top of the circle on the left. When the word "anchor" appears, drag to create a rectangle. Drag to the bottom-center point of the circle on the right.



- 3 Select the Shaper tool (🔪) in the Tools panel. Click in a blank area of the artboard to deselect all shapes.
- 4 Move the pointer to the left of the shapes. Scribble across the circle shape, stopping *just after* the left edge of the rectangle. When you release, the circle on the left will be deleted, and the overlapping area of the shapes will be removed.

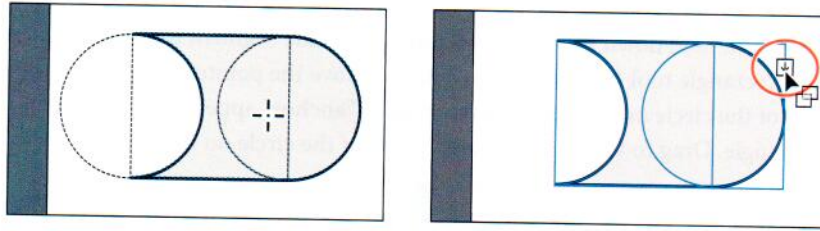


- 5 Move the pointer *into* the circle on the right, and draw a scribble to the left, into the gray area of the remaining rectangle shape to combine them.



► **Tip:** You can also double-click a Shaper Group to be able to select the underlying shapes.

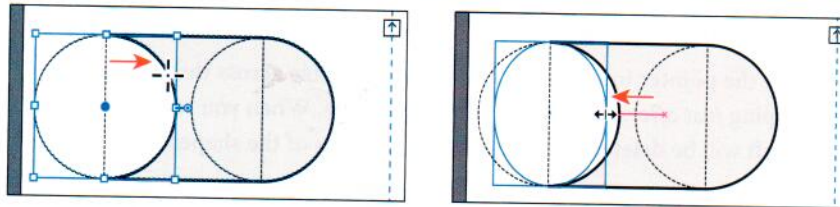
- 6 Move the pointer over the gray shape to see the outlines of the original shapes and then click to select the merged group, called a *Shaper Group*. See the first part of the following figure.
- 7 Click the arrow widget (⏏) on the right side of the Shaper Group to be able to select the underlying shapes. After clicking the arrow widget, the Shaper Group is in Construction Mode.



All shapes in a Shaper Group remain editable, even after portions of shapes may have been punched out or merged.

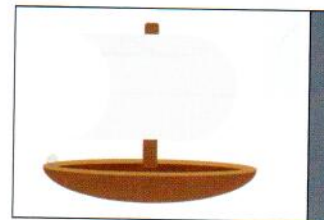
● **Note:** If you attempted to select the shape and you deselected instead, repeat the previous steps. The circle on the left now has no fill, so it cannot be selected by clicking within.

- 8 Click the stroke of the left circle to select it. Press the Option (macOS) or Alt (Windows) key and drag the right-middle bounding point to the left to make the circle a little narrower. Release the mouse button and then the key.



Notice that the circle you dragged is still punched out from the rectangle. Not only can you resize individual shapes in a Shaper Group, but you can also reposition them, rotate them, and more.

- 9 Press the Escape key to stop editing the individual shapes, and select the entire Shaper Group.
- 10 Click the Fill color box in the Properties panel, and make sure that the Swatches option (☑) is selected in the panel that appears. Select a light gray color with a tool tip of "C=0 M=0 Y=0 K=5."
- 11 Change the stroke weight to 0 in the Properties panel by clicking the down arrow until the stroke is removed.
- 12 Drag the sail shape onto the boat in the lower-right corner. You may need to zoom out.
- 13 Choose Select > Deselect and then choose File > Save.

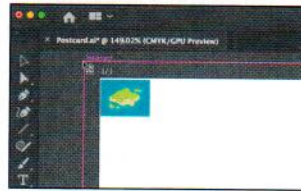


● **Note:** You can Shift-drag a corner of the sail shape to resize it to fit better with the boat shapes, if needed.

Using Image Trace

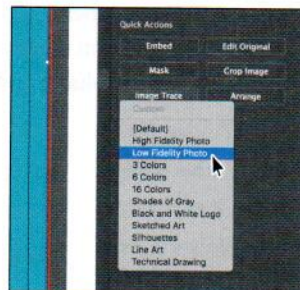
In this part of the lesson, you'll learn how to work with the Image Trace command. Image Trace traces existing artwork, like a raster picture from Adobe Photoshop. You can then convert the drawing to vector paths or a Live Paint object. This can be useful for turning a drawing into vector art, tracing raster logos, tracing a pattern or texture, and much more.

- 1 Click the Previous button (◀) below the document in the status bar to show the artboard to the left in the Document window.
- 2 Choose File > Place. In the Place dialog box, select the island.png file in the Lessons > Lesson03 folder on your hard disk, leave the options at their defaults, and click Place.
- 3 Move the pointer over the upper-left corner bleed guide (the red guide off the edge of the artboard), and click to place the image.



- 4 With the image selected, click the Image Trace button in the Properties panel to the right of the document, and choose Low Fidelity Photo. The tracing results you see may differ slightly from the figure, and that's okay.

This converts the image into an image tracing object. That means you can't edit the vector content yet, but you can change the tracing settings or even the original placed image and then see the updates.



- 5 Choose 6 Colors from the Preset menu that's showing in the Properties panel.



The 6 Colors preset will trace the image, forcing the resulting vector content to use six colors only. In some cases, in an image with a lot of different color, this can apply the same color to a lot of content. An image tracing object is made up

Tip: Use Adobe Capture CC on your device to photograph any object, design, or shape and convert it into vector shapes in a few simple steps. Store the resulting vectors in your Creative Cloud libraries, and access them or refine them in Illustrator or Photoshop. Adobe Capture is currently available for iOS (iPhone and iPad) and Android.

Note: You can also choose Object > Image Trace > Make, with raster content selected, or begin tracing from the Image Trace panel (Window > Image Trace).

of the original source image and the tracing result, which is the vector artwork. By default, only the tracing result is visible. However, you can change the display of both the original image and the tracing result to best suit your needs.

► **Tip:** The Image Trace panel can also be opened by choosing Window > Image Trace.

- 6 Click the Open The Image Trace Panel button (📄) in the Properties panel. In the Image Trace panel, click the Auto-Color button (🎨) at the top.

The buttons along the top of the Image Trace panel are saved settings for converting the image to grayscale, black and white, and more. Below the buttons at the top of the Image Trace panel, you will see the Preset menu. This is the same menu as in the Properties panel. The Mode menu allows you to change the color mode of resulting artwork (color, grayscale, or black and white). The Palette menu is also useful for limiting the color palette or for assigning colors from a color group.



► **Tip:** You can deselect Preview at the bottom of the Image Trace panel when modifying values so Illustrator won't apply the trace settings to what you are tracing every time you make a change.

- 7 In the Image Trace panel, click the triangle to the left of the Advanced options to reveal them. Change the following options in the Image Trace panel, using the values as a starting point:

- Colors: 20
- Paths: 50%
- Corners: 25%
- Noise: 8 px

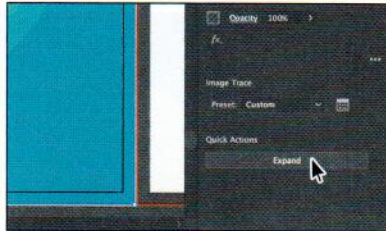
- 8 Close the Image Trace panel.



- 9 With the map tracing object still selected, click the Expand button in the Properties panel.

The map is no longer an image tracing object but is composed of shapes and paths that are grouped together.

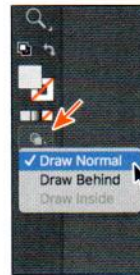
- 10 Choose Object > Hide > Selection to temporarily hide it.



Working with drawing modes

Illustrator has three different drawing modes available that are found at the bottom of the Tools panel: Draw Normal, Draw Behind, and Draw Inside. Drawing modes allow you to draw shapes in different ways. The three drawing modes are as follows:

- **Draw Normal mode:** You start every document by drawing shapes in Normal mode, which stacks shapes on top of each other.
- **Draw Behind mode:** This mode allows you to draw behind all artwork on a selected layer if no artwork is selected. If an artwork is selected, the new object is drawn directly beneath the selected object.
- **Draw Inside mode:** This mode lets you draw objects or place images inside other objects, including live text, automatically creating a clipping mask of the selected object.



● **Note:** To learn more about clipping masks, see Lesson 14, “Using Illustrator CC with Other Adobe Applications.”

Using the Draw Inside mode

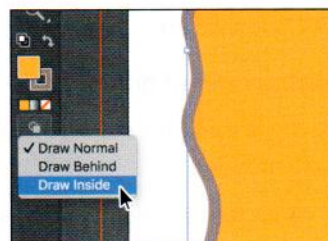
Next you'll learn how to add artwork inside of a selected shape using the Draw Inside drawing mode. This can be useful if you want to hide (*mask*) part of the artwork.

- 1 Choose File > Open. In the Open dialog box, select the map_edges.ai file in the Lessons > Lesson03 folder on your hard disk, and click Open.
- 2 Select the Selection tool (▢) in the Tools panel, and click the orange map edges shape to select it. Choose Edit > Copy.
- 3 Click the Postcard.ai tab to return to the postcard document. Choose Edit > Paste In Place.
- 4 Click the orange shape to select it, if it isn't already selected, and then choose Draw Inside from the Drawing Modes menu (☰), near the bottom of the Tools panel.

This button is active when a single object is selected (path, compound path, or text), and it allows you to draw within the selected object only. Notice that the orange shape has a dotted open rectangle around it, indicating that if you draw, paste, or place content, it will be inside the orange shape.

- 5 Choose Select > Deselect.

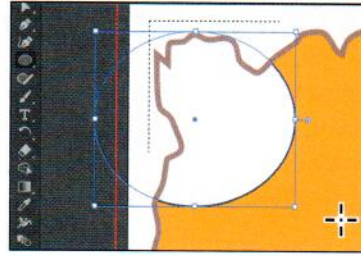
Notice that the orange shape still has the dotted open rectangle around it, indicating that Draw Inside mode is still active. The shape you are about to draw inside of does not need to be selected.



● **Note:** The orange shape you see is just a closed path that was created using the Pencil tool in the Tools panel. You'll copy this shape and paste it back in the Postcard.ai file.

● **Note:** If the Tools panel you see is displayed as a double column, you will see all three of the Drawing Modes as buttons toward the bottom of the Tools panel.

- Press and hold down the mouse button on the Rectangle tool (□) in the Tools panel, and select the Ellipse tool (○). Press the D key to apply the default white fill and black stroke to the shape you are about to draw. Drag to create an ellipse that overlaps the edge of the orange shape.

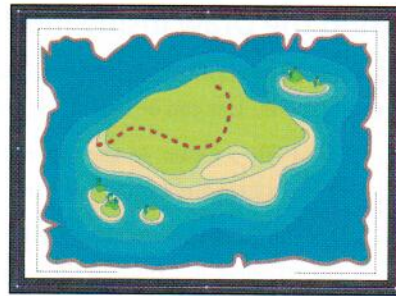


The part of the ellipse that is outside of the orange shape is being hidden.

- Choose Edit > Undo Ellipse to get rid of the ellipse.
- You can also place or paste content into a shape with Draw Inside mode active.
- Choose Object > Show All to show the island artwork again, which is behind the orange shape.
- Select the Selection tool (☛) in the Tools panel, and choose Edit > Cut to cut the selected island artwork from the artboard.

- Choose Edit > Paste In Place.

The island artwork is pasted within the orange shape.



- Click the Drawing Modes button (◻) toward the bottom of the Tools panel. Choose Draw Normal.

When you are finished adding content inside a shape, you can choose Draw Normal so that any new content you create will be drawn normally (stacked rather than drawn inside).

- Choose Select > Deselect.

Editing content drawn inside

Next you'll edit the map artwork inside of the shape to see how you can later edit content inside.

- With the Selection tool (☛) selected, click to select the island artwork. Notice that it selects the map edges shape instead.

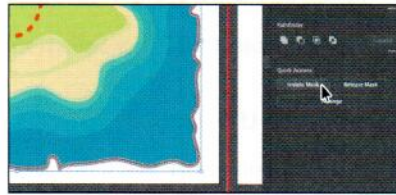


► **Tip:** You can also toggle between the available drawing modes by pressing Shift+D.

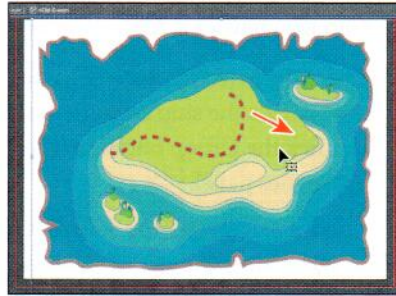
► **Tip:** You can separate the shapes by choosing Object > Clipping Mask > Release. This will make two objects, stacked one on another.

The map edges shape is now a mask, also called a *clipping path*. The island artwork and the map edges shape, together, make a *clip group* and are now treated as a single object. If you look at the top of the Properties panel, you will see Clip Group. Like other groups, if you would like to edit the clipping path (the object that contains the content drawn inside of it) or the content inside, you can double-click the Clip Group object.

- 2 With the Clip Group selected, click the Isolate Mask button in the Properties panel to enter Isolation mode and be able to select the clipping path (map edges shape) or the island artwork within.



- 3 Click the map artwork within the map boundaries, and drag it down and to the right a little.
- 4 Press the Escape key to exit Isolation mode.
- 5 Choose Select > Deselect and then choose File > Save.



► **Tip:** When you're working in Isolation mode, you may want to view the artwork as outlines by choosing View > Outline, which can make it easier to see and select shapes.

Working with Draw Behind mode

Throughout this lesson, you've been working in the default Draw Normal mode. Next, you'll draw a rectangle that will cover the artboard and go behind the rest of the content using Draw Behind mode.


- 1 Click the Drawing Modes button (◻) at the bottom of the Tools panel, and choose Draw Behind.

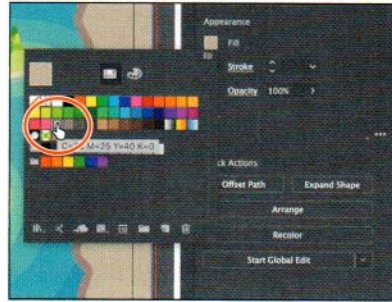
As long as this drawing mode is selected, every shape you create using the different methods you've learned will be created behind the other shapes on the page. The Draw Behind mode also affects placed content (File > Place).

● **Note:** If the Tools panel you see is displayed as a double column, you will see all three of the Drawing Modes as buttons toward the bottom of the Tools panel.

- 2 Press and hold down the mouse button on the Ellipse tool (○) in the Tools panel, and select the Rectangle tool (◻). Position the pointer off the upper-left corner of the artboard where the red bleed guides meet. Press and drag to the lower-right corner of the red bleed guides.




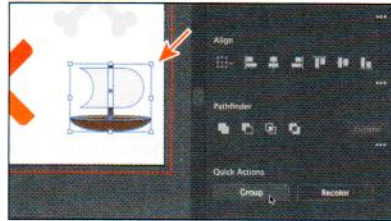
- 3 With the new rectangle selected, click the Fill color box in the Properties panel. Make sure that the Swatches option () is selected and then change the fill color to a tan color with the tool tip “C=25 M=25 Y=40 K=0.” Press the Escape key to hide the panel.
- 4 Choose Object > Lock > Selection.



Finishing up

To finish the postcard, you'll bring the artwork onto the artboard with the island artwork on it.

- 1 Choose View > Fit All In Window to see both artboards.
- 2 Select the Selection tool (), and drag across the ship artwork to select it. Click the Group button in the Properties panel.
- 3 Choose Select > All On Active Artboard to select all of the shapes. Choose Object > Arrange > Bring To Front.



You brought the selected artwork to the front because it was created first, which means it would be behind the artwork on the left artboard, which was created after. Next, you'll drag the artwork onto the artboard on the left and resize it.

- 4 Choose Select > Deselect.
- 5 Drag each group from the right artboard onto the left artboard, one at a time. To resize each group to better fit within the map, you can press the Shift key and drag a corner of the artwork bounding box to scale it. When finished, release the mouse button and then the key.

Note: To see details more easily, you may want to zoom in to different areas by choosing View > Zoom In.



In the final artwork, I created copies of a few of the objects by choosing Edit > Copy and then Edit > Paste. I also selected copies of the mountain shape and changed the color fill in the Properties panel on the right for each.

- 6 Choose File > Save and then File > Close.

Review questions

- 1 What are the basic tools for creating shapes?
- 2 What is a Live Shape?
- 3 What is the Shaper tool?
- 4 Describe what the Draw Inside mode does.
- 5 How can you convert a raster image to editable vector shapes?