



Adobe
Illustrator CC
2017 release

CLASSROOM IN A BOOK®

The official training workbook from Adobe

Brian Wood

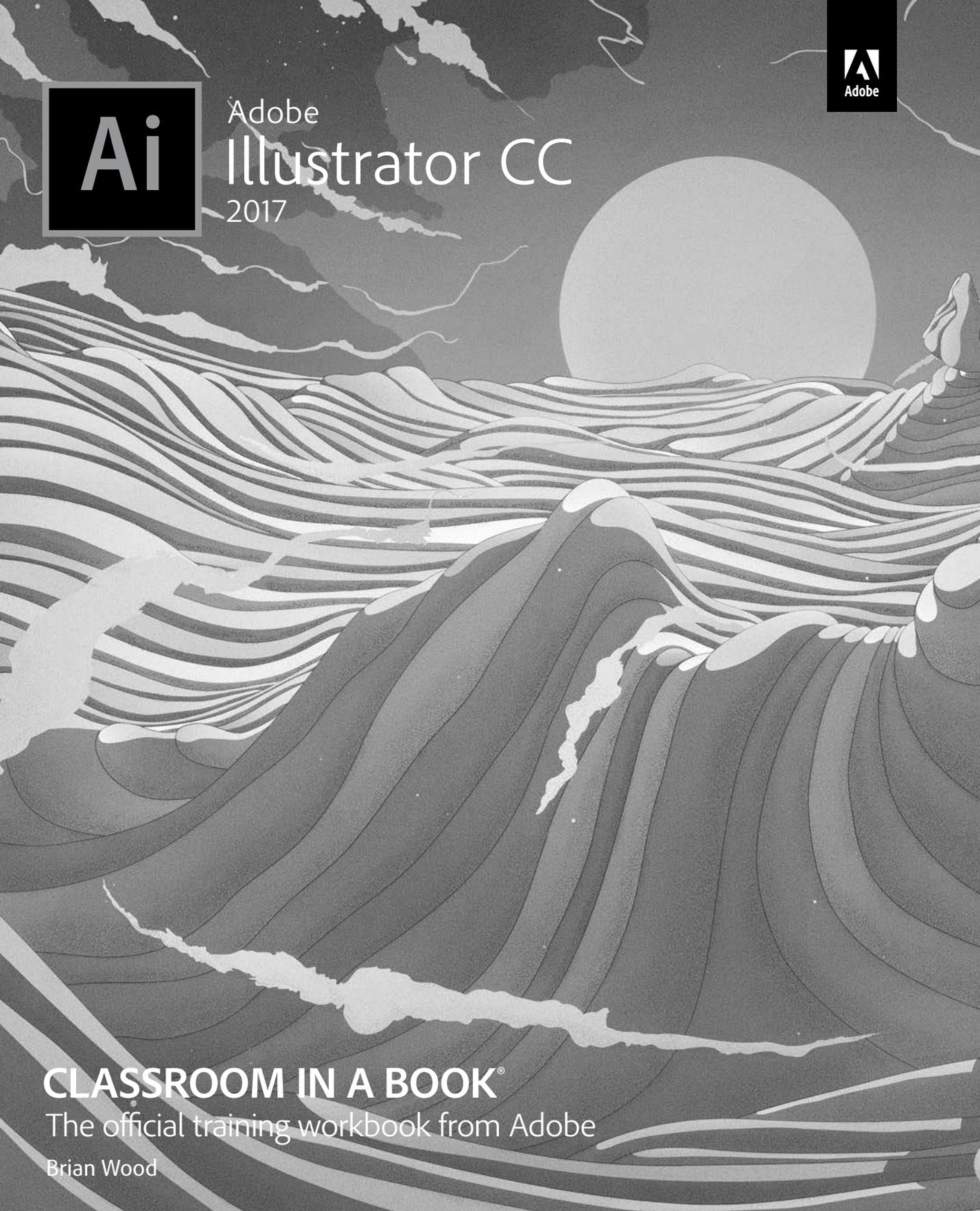
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Adobe
Illustrator CC
2017



CLASSROOM IN A BOOK®
The official training workbook from Adobe
Brian Wood

Adobe Illustrator CC Classroom in a Book® (2017 release)

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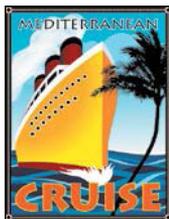
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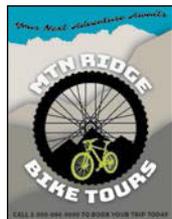
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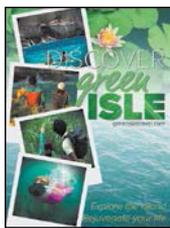
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GETTING STARTED

Adobe® Illustrator® CC is the industry-standard illustration application for print, multimedia, and online graphics. Whether you are a designer or a technical illustrator producing artwork for print publishing, an artist producing multimedia graphics, or a creator of web pages or online content, Adobe Illustrator offers you the tools you need to get professional-quality results.

About Classroom in a Book

Adobe Illustrator CC Classroom in a Book® (2017 release) is part of the official training series for Adobe graphics and publishing software developed with the support of Adobe product experts. The features and exercises in this book are based on Illustrator CC (2017.1 release).

The lessons are designed so that you can learn at your own pace. If you're new to Adobe Illustrator, you'll learn the fundamentals you need to master to put the application to work. If you are an experienced user, you'll find that Classroom in a Book teaches many advanced features, including tips and techniques for using the latest version of Adobe Illustrator.

Although each lesson provides step-by-step instructions for creating a specific project, there's room for exploration and experimentation. You can follow the book from start to finish or do only the lessons that correspond to your interests and needs. Each lesson concludes with a review section summarizing what you've covered.

Prerequisites

Before beginning to use *Adobe Illustrator CC Classroom in a Book (2017 release)*, you should have working knowledge of your computer and its operating system. Make sure that you know how to use the mouse and standard menus and commands and also how to open, save, and close files. If you need to review these techniques, see the printed or online documentation for your Windows or Mac OS.

Installing the program

● **Note:** When instructions differ by platform, Mac OS commands appear first and then the Windows commands, with the platform noted in parentheses. For example, “press Option (Mac OS) or Alt (Windows) and click away from the artwork.”

Before you begin using *Adobe Illustrator CC Classroom in a Book (2017 release)*, make sure that your system is set up correctly and that you’ve installed the required software and hardware.

You must purchase the Adobe Illustrator CC software separately. For complete instructions on installing the software, visit <http://helpx.adobe.com/illustrator.html>. You must install Illustrator from Adobe Creative Cloud onto your hard disk. Follow the onscreen instructions.

Fonts used in this book

The Classroom in a Book lesson files use fonts that are part of the Typekit Portfolio plan included with your Creative Cloud subscription, and trial Creative Cloud members have access to a selection of fonts from Typekit for web and desktop use.

For more information about fonts and installation, see the Adobe Illustrator CC Read Me file on the Web at <http://helpx.adobe.com/illustrator.html>.

Online Content

Your purchase of this Classroom in a Book includes online materials provided by way of your Account page on peachpit.com. These include:

Lesson Files

To work through the projects in this book, you will need to download the lesson files from peachpit.com. You can download the files for individual lessons or it may be possible to download them all in a single file.

Web Edition

The Web Edition is an online interactive version of the book providing an enhanced learning experience. Your Web Edition can be accessed from any device with a connection to the Internet and it contains:

- The complete text of the book
- Hours of instructional video keyed to the text
- Interactive quizzes

In addition, the Web Edition may be updated when Adobe adds significant feature updates between major Creative Cloud releases. To accommodate the changes, sections of the online book may be updated or new sections may be added.

Accessing the Lesson Files and Web Edition

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Restoring default preferences

● **Note:** If finding the preferences file proves difficult, please contact me at brian@brianwoodtraining.com for assistance.

The preferences file controls how command settings appear on your screen when you open the Adobe Illustrator program. Each time you quit Adobe Illustrator, the position of the panels and certain command settings are recorded in different preference files. If you want to restore the tools and settings to their original default settings, you can delete the current Adobe Illustrator CC preferences file. Adobe Illustrator creates a new preferences file, if one doesn't already exist, the next time you start the program and save a file.

You must restore the default preferences for Illustrator before you begin each lesson. This ensures that the tools and panels function as described in this book. When you have finished the book, you can restore your saved settings, if you like.

To delete or save the current Illustrator preferences file

The preferences file is created after you quit the program the first time and is updated thereafter. After launching Illustrator, you can follow these steps.

- 1 Exit Adobe Illustrator CC.
- 2 Locate the Adobe Illustrator Prefs file for Mac OS as follows:
 - The Adobe Illustrator Prefs file is located in the folder [startup drive]/Users/[username]/Library/Preferences/Adobe Illustrator 21 Settings/en_US**.
- 3 Locate the Adobe Illustrator Prefs file for Windows as follows:
 - The AIPrefs file is located in the folder [startup drive]\Users\[username]\AppData\Roaming\Adobe\Adobe Illustrator 21 Settings\en_US**\x86 or x64.

*On Mac OS, the Library folder is hidden by default. To access this folder, in the Finder, hold down the Option key, and choose Library from the Go menu in the Finder.

**Folder name may be different depending on the language version you have installed.

For more information, refer to Illustrator help:

<https://helpx.adobe.com/illustrator/kb/preference-file-location-illustrator.html>

If you can't find the file, either you haven't started Adobe Illustrator CC yet or you have moved the preferences file. The preferences file is created after you quit the program the first time and is updated thereafter.

- 4 Copy the file and save it to another folder on your hard disk (if you want to restore those preferences) or delete it.
- 5 Start Adobe Illustrator CC.

► **Tip:** To quickly locate and delete the Adobe Illustrator preferences file each time you begin a new lesson, create a shortcut (Windows) or an alias (Mac OS) to the Adobe Illustrator 21 Settings folder.

To restore saved preferences after completing the lessons

- 1 Exit Adobe Illustrator CC.
- 2 Delete the current preferences file. Find the original preferences file that you saved and move it to the Adobe Illustrator 21 Settings folder.

● **Note:** You can move the original preferences file rather than renaming it.

Additional resources

Adobe Illustrator CC Classroom in a Book (2017 release) is not meant to replace documentation that comes with the program or to be a comprehensive reference for every feature. Only the commands and options used in the lessons are explained in this book. For comprehensive information about program features and tutorials, please refer to these resources:

Adobe Illustrator Learn & Support: helpx.adobe.com/illustrator.html (accessible in Illustrator by choosing Help > Illustrator Support Center) is where you can find and browse tutorials, help, and support on Adobe.com.

Adobe Forums: forums.adobe.com lets you tap into peer-to-peer discussions, questions, and answers on Adobe products.

Adobe Create Magazine: create.adobe.com offers thoughtful articles on design and design issues, a gallery showcasing the work of top-notch designers, tutorials, and more.

Resources for educators: www.adobe.com/education and edex.adobe.com offer valuable information for instructors who teach classes on Adobe software. Find solutions for education at all levels, including free curricula that can be used to prepare for the Adobe Certified Associate exams.

Also check out these useful links:

Adobe Illustrator CC product home page: See www.adobe.com/products/illustrator.

Adobe Add-ons: creative.adobe.com/addons is a central resource for finding tools, services, extensions, code samples, and more to supplement and extend your Adobe products.

Adobe Authorized Training Centers

Adobe Authorized Training Centers offer instructor-led courses and training on Adobe products. A directory of AATCs is available at training.adobe.com/trainingpartners.

WHAT'S NEW IN ADOBE ILLUSTRATOR CC (2017 RELEASE)

Adobe Illustrator CC (2017 release) is packed with new and innovative features to help you produce artwork more efficiently for print, web, and digital video publication. The features and exercises in this book are based on Illustrator CC (2017 release). In this section, you'll learn about many of these new features—how they function and how you can use them in your work.

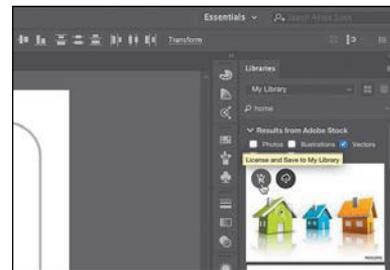
New, Modern UI

Illustrator CC (2017 release) has a flat UI (user interface) and new icons for tools and panels that offer a cleaner look and help you focus on your artwork.



Adobe Stock In-App Purchase

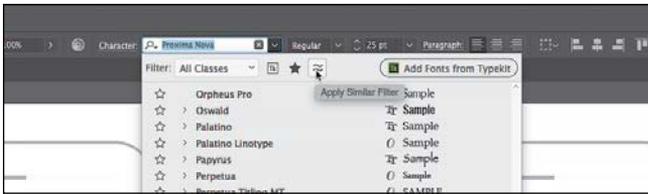
When you search for an image on Adobe Stock via the Libraries panel and place it in your document, the Links panel displays a shopping cart icon next to unlicensed Adobe stock images placed in your layout. Clicking the cart icon initiates the purchasing process.



Text Improvements

There are a lot of text improvements in Illustrator CC (2017 release). The following is a list of those improvements and new features:

- You can now select a text object and preview fonts in real time as you scroll through the list of fonts in the font drop-down menu.
- You can now mark certain fonts as favorites, and can also filter favorite fonts.
- You can now see recent fonts at the top of the font list.
- Text can now be placed in text containers.
- You can now find fonts that are similar to a given font (stars), and filter fonts based on classification (serif/sans serif/handwritten, etc.).

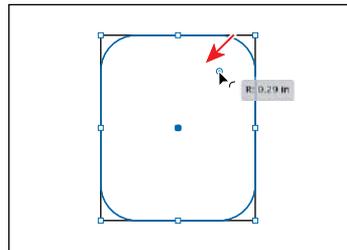


- You can now change the glyphs for a character without having to go to the Glyphs panel. A context menu shows glyph options for a selected character.
- Point and Area Type tools will create a text object filled with placeholder text by default. You can also right-click and fill a text box with placeholder text whenever you want (you can turn off default fill of placeholder text via Illustrator preferences).

Live Shape Improvements

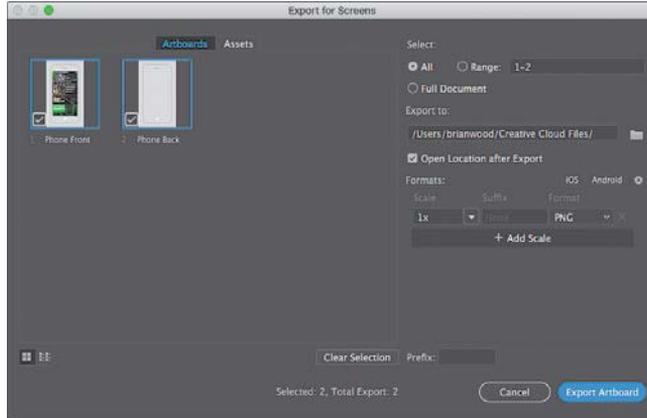
More of the Illustrator shape tools are now fully live, interactive, and dynamically adjustable, so you can quickly craft vector shapes without having to apply effects or use other tools.

A consistent visual experience now makes it easier to work with Live Shapes. Controls automatically hide as shapes are scaled to small sizes, and polygons maintain live characteristics after non-uniform scaling.



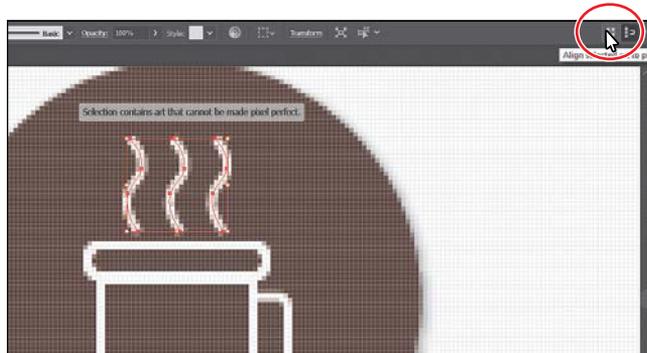
Improved Export of Assets and Artboards

Now export individual artwork or entire artboards to various file sizes and formats in one click of a button. This is well-suited for mobile and web workflows. The feature ensures that your time is spent on getting the design right, and not on manually repetitive export workflows.



Pixel-Perfect Drawing

The new pixel-snapping feature allows you to create pixel-perfect art or align the art to the pixel grid by other means. Several operations, such as path creation, modification, and transformations, now create art that is aligned to the pixel grid.



Other enhancements

- **Zoom to selection**—You can now zoom into what is selected versus having to marquee-select an area with the Zoom tool to zoom in.
- **Stability & Performance Improvements**—A host of stability fixes, bug fixes, and performance improvements have been implemented to help you work better and faster.
- **Keyboard shortcut for hidden characters**—There are now keyboard shortcuts for the following characters: En Space, Em Space, Thin Space, Superscripts, Subscripts, Discretionary Hyphen, and Non-Breaking Space. These are also available for customization in the keyboard shortcuts list.
- **New Document dialog box**—When you choose File > New, the New Document dialog is completely revamped.
- **Adobe Experience Design CC (Preview) integration**—Copy and paste your Illustrator CC artwork directly into Adobe Experience Design CC, the new all-in-one tool for designing, prototyping, and sharing UX/UI web and app designs.

Although this list touches on just a few of the new and enhanced features of Illustrator CC (2017 release), it exemplifies Adobe's commitment to providing the best tools possible for your publishing needs. We hope you enjoy working with Illustrator CC (2017 release) as much as we do.

—The *Adobe Illustrator CC Classroom in a Book (2017 release)* team

A QUICK TOUR OF ADOBE ILLUSTRATOR CC (2017 RELEASE)

Lesson overview

In this interactive demonstration of Adobe Illustrator CC (2017 release), you'll get an overview of the main features of the application.



This lesson takes approximately 45 minutes to complete.

Please log into your account on peachpit.com to download the lesson files for this chapter, 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.”

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



In this demonstration of Adobe Illustrator CC, you will be introduced to some key fundamentals for working in the application.

Getting started

For the first lesson of this book, you'll get a quick tour of the most widely used tools and features in Adobe Illustrator CC, offering a sense of the many possibilities. Along the way, you'll create artwork for a bakery. First, you'll open the final artwork to see what you will create in this lesson.

● **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 “Getting Started” at the beginning of the book.

- 1 To ensure that the tools and panels function 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, or click Open in the Start workspace that is showing. Open the L00_end.ai file in the Lessons > Lesson00 folder.
- 4 Choose View > Fit Artboard In Window to see an example of the artwork you'll create in this lesson. Leave the file open for reference, if you'd like.



Creating a new document

● **Note:** Learn more about creating and editing artboards in Lesson 5, “Transforming Artwork.”

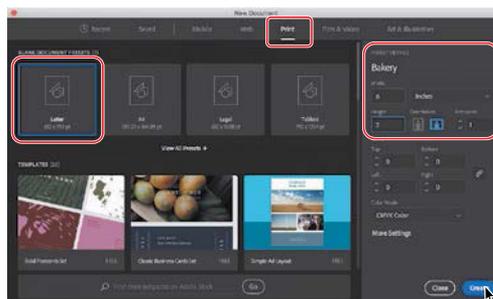
In Illustrator, you can start a new document using a series of preset options and templates, depending on your needs. In this case, you will print the artwork you create as a postcard, so you will choose the Print preset to start.

- 1 Choose File > New.
- 2 In the New Document dialog box, select the Print category along the top of the dialog box.

Click the **Letter** option.

In the Preset Details area on the right, change the following:

- Name: **Bakery**
- Units: **Inches**
- Width: **6 in**
- Height: **3 in**



- 3 Click Create, and a new, blank document opens.
- 4 Choose File > Save As. In the Save As dialog box, leave the name as **Bakery.ai**, and navigate to the Lessons > Lesson00 folder. Leave the Format option set to Adobe Illustrator (ai) (Mac OS) or the Save As Type option set to Adobe Illustrator (*.AI) (Windows), and click Save.

- 5 In the Illustrator Options dialog box that appears, leave the Illustrator options at their default settings and then click OK.
- 6 Choose Window > Workspace > Reset Essentials.
- 7 Choose Window > Libraries to temporarily hide the Libraries panel.

● **Note:** If you don't see Reset Essentials in the Workspace menu, choose Window > Workspace > Essentials before choosing Window > Workspace > Reset Essentials.

Drawing a shape

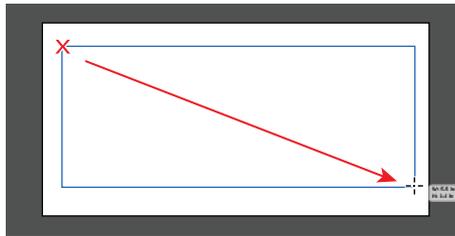
Drawing shapes is the cornerstone of Illustrator, and you'll create many of them in the coming lessons. To start your artwork, you'll create a rectangle.

- 1 Choose View > Fit Artboard In Window.
- 2 Choose View > Zoom Out.

The white area you see is called the *artboard*, and it's where your printable artwork will go. Artboards are similar to pages in a program like Adobe InDesign®.

- 3 Select the Rectangle tool (▭) in the Tools panel on the left.
- 4 Position the pointer in the upper-left part of the artboard (see the red X in the figure). Click and drag down and to the right. When the gray measurement label next to the pointer shows a width of *approximately* 5.5 inches and a height of 2.2 inches, release the mouse button. The shape will remain selected.

● **Note:** Learn more about creating and editing shapes in Lesson 3, "Using Shapes to Create Artwork for a Postcard."

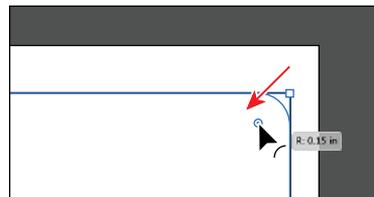


Shapes can be created by drawing them or clicking the artboard with a shape tool and modifying shape properties before they are created.

Rounding the corners of a shape

Most shapes you create are Live Shapes, which means properties such as width, height, corners, angles, and number of sides can continue to be modified after the shape has been created. Next, you'll round the corners of the rectangle you created.

- 1 Select the Selection tool (☛) in the Tools panel on the left.
- 2 With the rectangle still selected, click and drag the upper-right corner widget (⦿) toward the center of the rectangle. When the gray measurement label shows a value of approximately 0.15 in, release the mouse button.



▶ **Tip:** You can round all of the corners or each independently. You'll learn more about creating and editing Live Shapes in Lesson 3, "Using Shapes to Create Artwork for a Postcard."

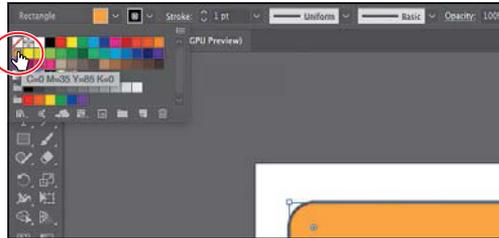
Applying color

● **Note:** Learn more about fill and stroke in Lesson 7, “Using Color to Enhance Signage.”

● **Note:** You can tell a shape is selected because it has a blue box (by default) around the outside.

Applying color to artwork is a common Illustrator task. Shapes you create have a stroke (border) and a fill. In this section, you’ll change the fill of the selected shape.

- 1 With the Selection tool (▸) still selected and the rectangle still selected, click Fill color (□) in the Control panel above the document to reveal the Swatches panel. Position the pointer over an orange swatch in the Swatches panel that appears. When a tooltip appears (“C=0, M=35, Y=85, K=0”), click to apply the orange color to the *fill* of the shape.



- 2 Press the Escape key to hide the Swatches panel and leave the shape selected.

Editing color

● **Note:** Learn more about creating and editing color in Lesson 7, “Using Color to Enhance Signage.”

● **Note:** Going forward, you’ll find you need to hide panels like the Swatches panel, before you continue. You can press the Escape key to do this.

There are many ways in Illustrator to both create your own colors and edit colors that appear in each document by default. In this section, you’ll edit the orange color you just applied.

- 1 With the rectangle still selected, click Fill color in the Control panel again, and double-click the orange swatch you selected in the previous steps to edit it (circled in the following figure).
- 2 In the Swatch Options dialog box, change the values to C=8, M=18, Y=63, K=0 and select Preview. Click OK to edit the color for the rectangle and change the swatch color values. Press the Escape key to hide the Swatches panel.

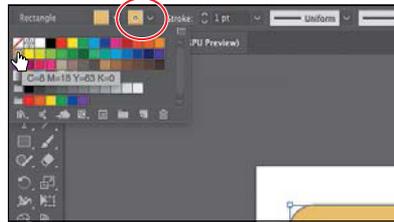


- 3 Choose File > Save to save the document.

Editing strokes

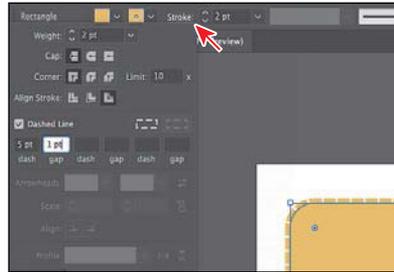
A stroke can be the visible outline (border) of artwork like shapes and paths. There are a lot of appearance properties you can change for a stroke, including width, color, dashes, and more. In this section, you'll adjust the stroke of the rectangle.

- 1 With the rectangle still selected, click Stroke color () in the Control panel (circled in the figure) to reveal the Swatches panel. Click the same orange-colored swatch you used for the fill.



- 2 Click the word "Stroke" in the Control panel above the document to open the Stroke panel. Change the following options:

- Stroke Weight: **2 pt**
- Align Stroke: **Align Stroke to Outside** ()
- Dashed Line: **Selected**
- Dash: **5 pt, Gap: 1 pt**. After typing the Gap value, press Enter or Return.



- 3 Choose Object > Lock > Selection to temporarily lock the rectangle so that it can't be selected.

● **Note:** Learn more about working with strokes in Lesson 3, "Using Shapes to Create Artwork for a Postcard."

Working with layers

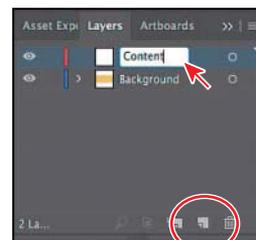
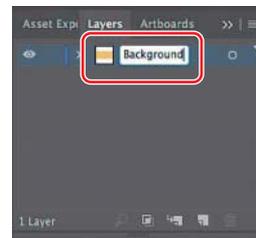
Layers allow you to organize and more easily select artwork. Next, using the Layers panel, you will organize your artwork.

- 1 Choose Window > Layers to show the Layers panel in the workspace.
- 2 Double-click the text "Layer 1" (the layer name) in the Layers panel. Type **Background**, and press Enter or Return to change the layer name.

Naming layers can be helpful when organizing content. Currently, the rectangle you created is on this layer.

- 3 Click the Create New Layer button () at the bottom of the Layers panel. Double-click the new layer name, Layer 2, and type **Content**. Press Enter or Return to change the layer name.

This creates a new blank layer. Later in the lesson, you will work with these layers a bit.



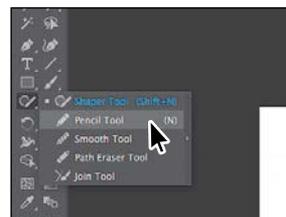
● **Note:** Learn more about working with layers and the Layers panel in Lesson 9, "Organizing Your Artwork with Layers."

Drawing with the Pencil tool

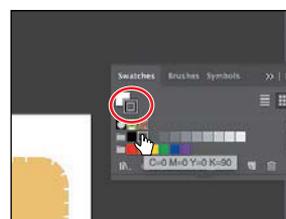
● **Note:** Learn more about working with the Pencil tool and other drawing tools in Lesson 6, “Creating an Illustration with the Drawing Tools.”

The Pencil tool () lets you draw freeform paths that contain curves and straight lines. The paths you draw with the Pencil tool are editable later.

- 1 Click and hold down on the Shaper tool () in the Tools panel on the left. A window will most likely appear that discusses the Shaper tool. Close it.
- 2 Click and hold down on the Shaper tool () again, and in the tools menu that appears, select the Pencil tool ().
- 3 Press the letter D to set the default fill color (white), stroke color (black), and stroke weight (1 pt) for the artwork you are about to create.

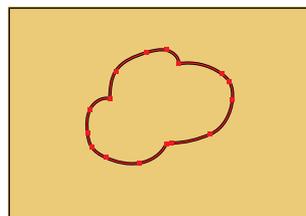
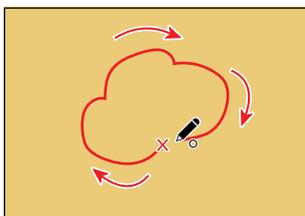
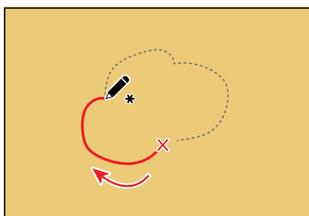


- 4 Choose Window > Swatches to show the Swatches panel. Click the Stroke box (circled in the figure) so the stroke will be changed. Scroll down in the panel, if necessary, and select a dark gray swatch to change the stroke.

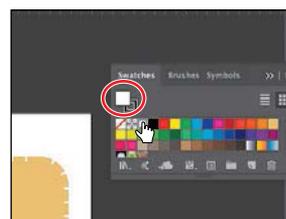


This is another way to apply color to the stroke and fill of artwork and another place to access the default color swatches for this document.

- 5 Choose View > Rulers > Show Rulers.
- 6 On the artboard, starting where you see the red X in the following figure, click and drag to create the top of a chef's hat that's roughly an inch in width (look at the rulers). When the pointer approaches where you started drawing, a circle will appear next to the Pencil tool (), indicating that the path will be closed. Release the mouse button to close the path. Leave the path selected.



- 7 In the Swatches panel that is still open on the right, click the Fill box (circled in the figure) so the fill of the selected shape will be changed. Scroll up in the panel, if necessary, and select the white swatch to change the fill.

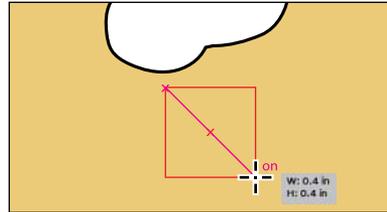


Creating shapes using the Shape Builder tool

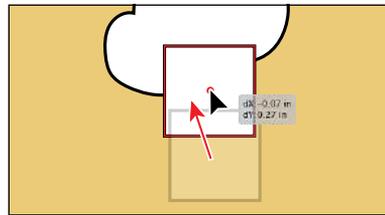
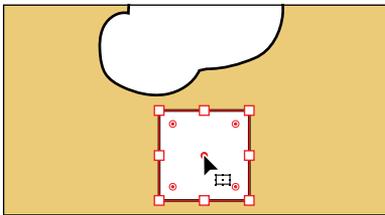
The Shape Builder tool () is an interactive tool for creating complex shapes by merging and erasing simpler shapes. Next, you will finish the chef hat you started drawing in the previous section, using the Shape Builder tool.

Note: Learn more about working with the Shape Builder tool in Lesson 4, “Editing and Combining Shapes and Paths.”

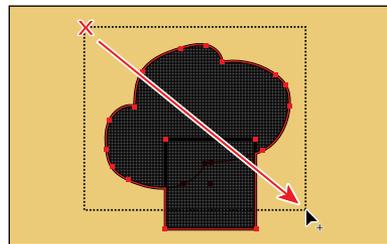
- 1 Select the Rectangle tool () in the Tools panel on the left. Press and hold the Shift key as you drag below the shape you just drew. When the gray measurement label next to the pointer shows a height and width of 0.4 inches, release the mouse button and then the Shift key to create a perfect square.



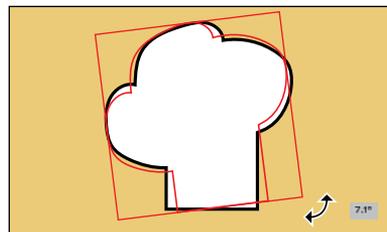
- 2 Position the pointer over the center widget of the rectangle. When the pointer changes () like you see in the first part of the figure, drag the rectangle from its center roughly into position like you see in the figure.



- 3 Choose Select > All On Active Artboard to select any artwork that is not locked.
- 4 Select the Shape Builder tool () in the Tools panel on the left. Position the pointer to the left and above all of the selected shapes (see the red X in the figure). Press the Shift key and drag to the right and down across all the selected shapes. Release the mouse button and then the Shift key to combine the shapes.



- 5 Select the Selection tool () in the Tools panel on the left. Position the pointer just off one of the corners. When the pointer changes (), drag counterclockwise to rotate roughly 7°.



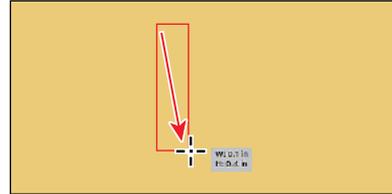
- 6 Choose Object > Hide > Selection to temporarily hide the hat.
- 7 Choose File > Save.

Creating a blend

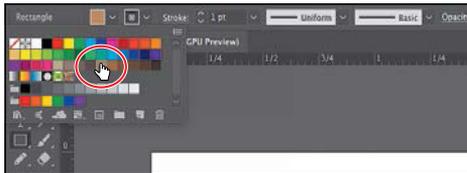
● **Note:** Learn more about working with blends in Lesson 10, “Gradients, Blends, and Patterns.”

You can blend two distinct objects to create and distribute shapes evenly between two objects. For instance, to create a fence, you could blend two rectangles together and Illustrator will create all the copies between the two original rectangles. Next, you’ll create the bottom part of a muffin using a blend.

- 1 Choose View > Zoom In to zoom into the artboard.
- 2 Select the Rectangle tool () in the Tools panel on the left. Click and drag to draw a rectangle with a width of 0.1 inches and a height of 0.4 inches.
- 3 With the rectangle still selected, click Fill color in the Control panel, and select the brown swatch with the tooltip “C=25, M=40, Y=65, K=0.”
- 4 To remove the stroke, choose the None swatch () from the stroke color to the right of the fill color in the Control panel.

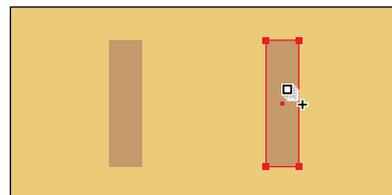
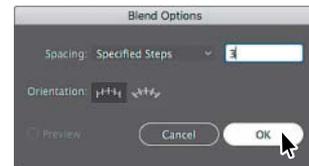
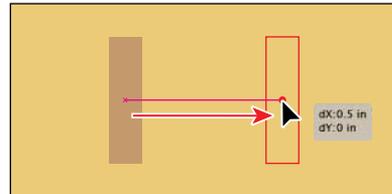


► **Tip:** You can press the Escape key to hide the panel before continuing.

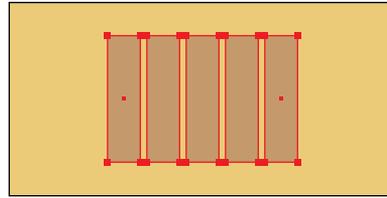


► **Tip:** There are a lot of keyboard commands that can help you work more efficiently in Illustrator. In this case, Option (Alt) copies the shape, and the Shift key constrains the movement to 45 degrees.

- 5 Position the pointer over the center widget of the rectangle. When the pointer changes () , press and hold Option+Shift (Mac OS) or Alt+Shift (Windows), and drag to the right. Drag until the gray measurement label shows a distance (dX) of 0.5 in. Release the mouse button and then release the keys.
- 6 Double-click the Blend tool () in the Tools panel to set a few settings for the tool. In the Blend Options dialog box, choose Specified Steps from the Spacing menu, and change the value to the right to 3. Click OK.
- 7 Click within the rectangle on the left when you see the cursor look like  and then click within the rectangle to the right when the cursor looks like  to create a blend of the two objects.



- 8 Choose Object > Blend > Expand to convert it from a Blend object to a group of shapes. Leave the group selected.



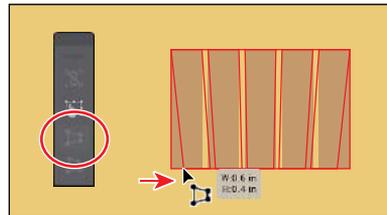
Transforming artwork

In Illustrator, there are a number of ways to move, rotate, skew, scale, distort, and shear (and more) artwork so you can get it just the way you want. This is called *transforming* artwork and is something you'll do next.

- 1 With the group still selected, select the Free Transform tool () in the Tools panel.

After selecting the Free Transform tool, the Free Transform widget appears in the Document window. This widget contains options to change how the Free Transform tool works.

- 2 In the Free Transform widget, select Perspective Distort () circled in the figure. Click and drag the bottom-left corner of the group to the right a little.



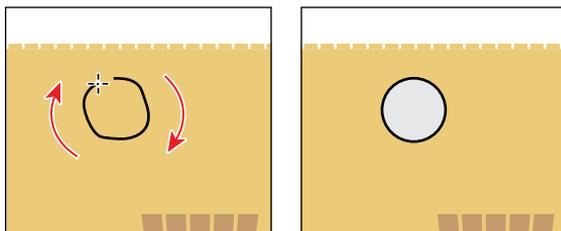
- 3 Choose Select > Deselect.

Drawing with the Shaper tool

Another way to draw and edit shapes in Illustrator involves the Shaper tool (). The Shaper tool recognizes drawn gestures and transforms them into shapes. Next, you'll use the Shaper tool to create the top of the muffin.

- 1 Click and hold down the Pencil tool () in the Tools panel to reveal a tools menu. Select the Shaper tool ().
- 2 Press the letter D to set the default fill color (white), stroke color (black), and stroke weight (1 pt) for the artwork you are about to create.
- 3 Above (or below) the brown group of objects, draw a small circle. You can always choose Edit > Undo if you make a mistake.

Initially the drawing looks rough, but Illustrator takes your gesture and converts it to a shape like a circle or an ellipse when you release the mouse button.

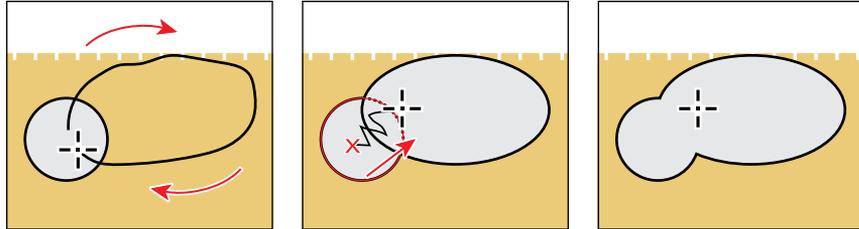


● **Note:** Learn more about transforming artwork in Lesson 5, “Transforming Artwork.”

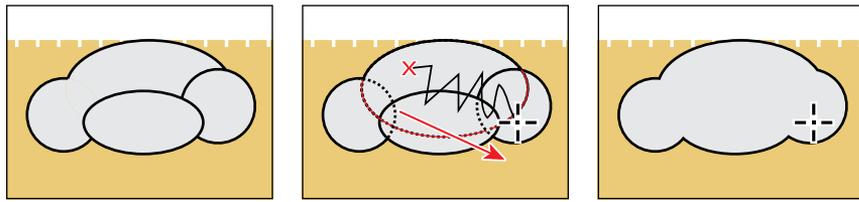
● **Note:** Learn more about working with the Shaper tool in Lesson 3, “Using Shapes to Create Artwork for a Postcard.”

● **Note:** If you scribble too far, the shapes may disappear. If that happens, choose Edit > Undo Delete and try again.

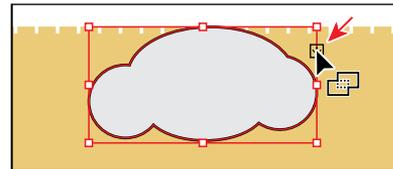
- 4 Draw another larger ellipse to the right of the first, making sure they overlap.
- 5 Position the pointer in the smaller circle (see the red X in the figure). Draw a scribble across the line into the larger ellipse so that they appear to combine.



- 6 Draw two more shapes that overlap the originals. See the following figure.
- 7 Position the pointer in a blank area of the larger gray shape (see the red X in the following figure) and draw a scribble over the black lines within, stopping before you reach the edge of the shape on the right.

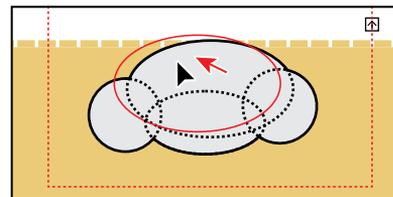


- 8 With the Shaper tool, click the shapes once to select the entire object. Click the small down arrow on the right side of the bounding box (⌵) to temporarily access the individual shapes.



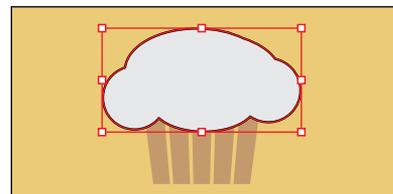
- 9 Click in the larger shape to select it. Click the selected shape and drag it a little to move it.

After shapes have been created with the Shaper tool, you can still edit those shapes individually. Selected shapes have control widgets that can be used for scaling, moving, and more.



- 10 Choose Select > Deselect.

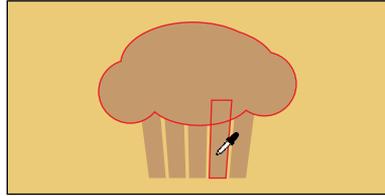
- 11 Select the Selection tool (⬮) in the Tools panel on the left and drag the shape you just created on top of the brown group of shapes to create the muffin. Leave the new artwork selected.



Sampling formatting with the Eyedropper tool

At times you may want to simply copy appearance attributes, like text formatting, fill, or stroke, from one object to another. This can be done with the Eyedropper tool () and can really speed up your creative process.

- 1 With the shape still selected, select the Eyedropper tool () in the Tools panel.
- 2 Click the brown group of objects that started as a blend to copy the appearance properties to the selected artwork.
- 3 Select the Selection tool () in the Tools panel on the left. Choose Select > All On Active Artboard to select the shapes.
- 4 Choose Object > Group to group them together.
- 5 Choose Object > Hide > Selection to temporarily hide the muffin.

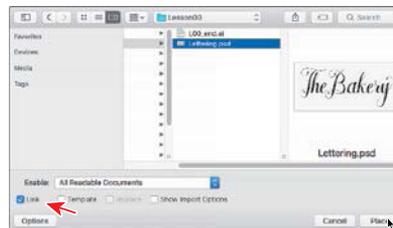


● **Note:** Learn more about the Eyedropper tool in Lesson 7, “Using Color to Enhance Signage.”

Placing an image in Illustrator

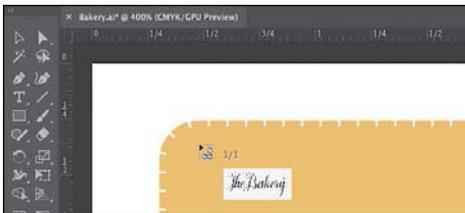
In Illustrator, you can place raster images, like JPEG and Adobe Photoshop® files, and either link to them or embed them. Next, you’ll place an image of hand-drawn text.

- 1 Choose View > Fit Artboard In Window.
- 2 Choose File > Place. In the Place dialog box, navigate to the Lessons > Lesson00 folder, and select the Lettering.psd file. Make sure that the Link option in the dialog box is selected, and click Place.
- 3 With the loaded graphics cursor, click in the upper-left corner of the rectangle to place the image.



● **Note:** Learn more about placing images in Lesson 14, “Using Illustrator CC with Other Adobe Applications.”

● **Note:** If you don’t see the Link option in the dialog box, click the Options button.



- 4 With the Selection tool () selected, drag the image over the center of the large yellow rectangle in the background so that it’s roughly in the center of the artboard. It should cover the yellow rectangle. Leave the image selected.



● **Note:** The hand lettering for this project was created by Danielle Fritz (www.behance.net/danielle_fritz).

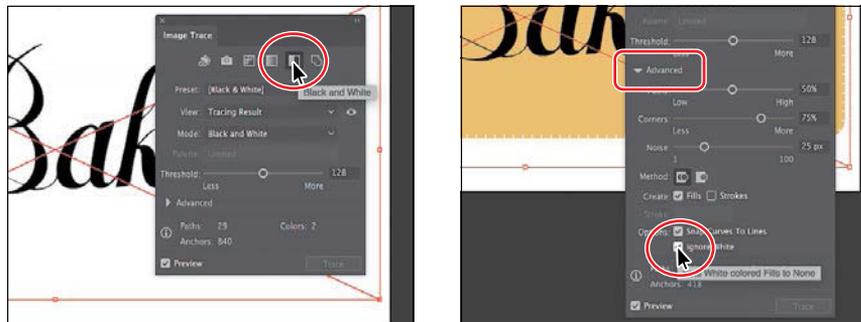
Using Image Trace

● **Note:** Learn more about Image Trace in Lesson 3, “Using Shapes to Create Artwork for a Postcard.”

► **Tip:** Another method for converting the hand-drawn lettering is by using the Adobe Capture CC app. To learn more about Adobe Capture, visit <http://www.adobe.com/products/capture.html>.

You can use Image Trace to convert raster images into vector artwork. Next, you’ll trace the Photoshop file you just placed.

- 1 With the image of the hand lettering selected, click the Image Trace button in the Control panel.
- 2 Choose Window > Image Trace. In the Image Trace panel, click the Black And White button at the top of the panel (see the first part of the following figure). The image is converted to vector paths, but it is not yet editable.
- 3 In the Image Trace panel, click the toggle arrow to the left of Advanced. Select Ignore White near the bottom of the panel to remove the white. Close the Image Trace panel by clicking the small X in the corner.



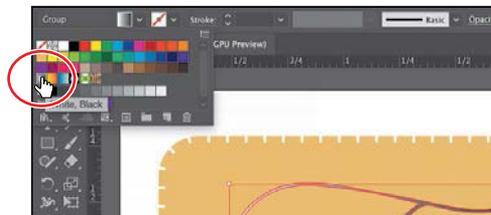
- 4 With the lettering still selected, click the Expand button in the Control panel to make the object a series of editable vector shapes that are grouped together.

Creating and editing gradients

● **Note:** Learn more about working with gradients in Lesson 10, “Gradients, Blends, and Patterns.”

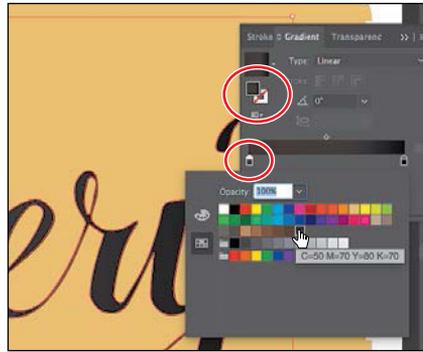
Gradients are color blends of two or more colors that you can apply to the fill or stroke of artwork. Next, you will apply a gradient to the lettering.

- 1 With the lettering still selected, click Fill color in the Control panel, and select the white-to-black swatch with the tooltip “White, Black.” Press the Escape key to hide the panel.



- 2 Choose Window > Gradient to open the Gradient panel. In the Gradient panel, click the Fill box to make sure you are editing the fill (circled in the following figure).

- 3 Double-click the little white color stop (■) on the left side of the gradient slider in the Gradient panel (also circled in the figure). In the panel that appears, click the Swatches button (■) (if it's not already selected), and select the brown swatch with the tooltip "C=50, M=70, Y=80, K=70."



- 4 Press the Escape key to hide the color swatches.
- 5 Select the Gradient tool (■) in the Tools panel on the left. While pressing the Shift key, click and drag down, across the lettering on the artboard, starting at the red X in the figure, to reposition and resize the gradient. Release the mouse button and then the key.



Working with type

Next, you'll add some text to the project and change formatting. You'll choose a Typekit font that requires an Internet connection. If you don't have an Internet connection, you can simply choose another font you have.

- 1 Select the Type tool (T) in the Tools panel on the left, and click in a blank area of the artboard, below the "The Bakery" lettering. A text area will appear with the selected text, "Lorem ipsum." Type **San Francisco**.
- 2 With the cursor still in the text, choose **Select > All** to select it.
- 3 In the Control panel above the artwork, change the font size to **14 pt**.

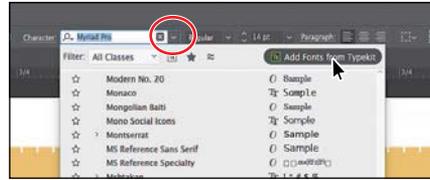


Next, you will apply a Typekit font. You'll need an Internet connection. If you don't have an Internet connection or access to the Typekit fonts, you can choose any other font from the font menu.

Note: Learn more about working with type in Lesson 8, "Adding Type to a Poster."

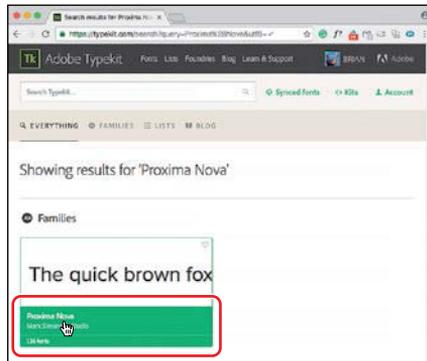
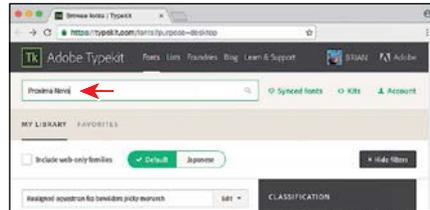
Note: If you don't see the character options like Font Size in the Control panel, click the word "Character" to see the Character panel.

- 4 Click the arrow to the right of the Font field. Click the Add Fonts From Typekit button to sync a font from Typekit. This opens a browser, launches the Typekit.com website, and signs you in to the site.

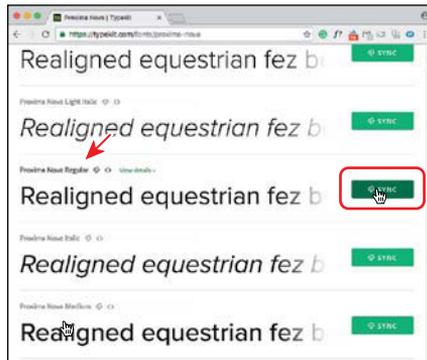


● **Note:** If you are taken to the Typekit.com home page, you can simply click the Browse Fonts button. It may also ask you to log in with your Creative Cloud (Adobe) ID.

- 5 Type Proxima Nova in the Search Typekit field (or another font, if you can't find that one) and press Enter or Return to search.
- 6 Click on Proxima Nova in the page that appears.



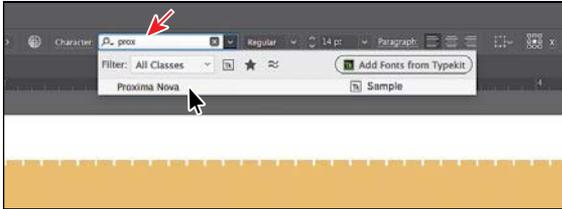
- 7 Scroll down on the page that appears, if necessary, and click the Sync button to the right of Proxima Nova Regular.



If you run into syncing issues, in the Creative Cloud desktop application, you will be able to see any messages indicating that font syncing is turned off (turn it on in that case) or any other issues.

- 8 Close the browser window and return to Illustrator. With the text still selected, begin typing **Prox** in the font field in the Control panel.
- 9 Position the pointer over Proxima Nova in the menu that appears to show a live preview on the selected text. Click Proxima Nova to apply it.

● **Note:** It may take a few minutes for the font to sync with your computer.



- 10 Choose File > Save.

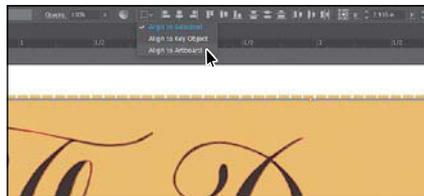
Aligning artwork

Illustrator makes it easy to align or distribute multiple objects relative to each other, the artboard, or a key object. In this section, you'll align several objects to the center of the artboard.

● **Note:** Learn more about aligning artwork in Lesson 2, "Techniques for Selecting Artwork."

- 1 Choose Object > Unlock All to unlock the rectangle in the background.
- 2 Select the Selection tool (☛) in the Tools panel, and choose Select > All.

- 3 Click the Align To Selection button (☐) in the Control panel above the document, and choose Align To Artboard in the menu that appears, if it isn't already. The selected content will now align to the artboard.



- 4 Click the Horizontal Align Center button (☐) to align the selected artwork to the horizontal center of the artboard.



- 5 Choose Object > Show All and then choose Select > Deselect.
- 6 Click the chef hat, and drag it into position like you see in the figure. You may need to move the muffin group out of the way.
- 7 Choose Select > Deselect.



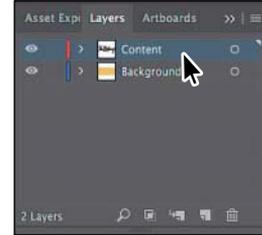
● **Note:** The Align options may not appear in the Control panel. If you don't see the Align To Selection button (☐), click the word "Align" in the Control panel (or choose Window > Align) to open the Align panel. The number of options displayed in the Control panel depends on your screen resolution.

Working with brushes

● **Note:** Learn more about working with brushes in Lesson 11, “Using Brushes to Create a Poster.”

Brushes let you stylize the appearance of paths. You can apply brush strokes to existing paths, or you can use the Paintbrush tool () to draw a path and apply a brush stroke simultaneously.

- 1 Open the Layers panel by choosing Window > Layers. Click the Content layer to make sure that it's selected. You want to make sure that all of the artwork goes on this layer so it's above the background content.
- 2 Select the Line Segment tool () in the Tools panel on the left. Pressing the Shift key, click and drag from the left side of the text to the left (see the red X in the figure for where to start). When the gray measurement label shows a width of *roughly* 1.6 in, release the mouse button and then the Shift key.



- 3 Choose Window > Brush Libraries > Borders > Borders_Novelty to open the Borders_Novelty collection of brushes as a panel.
- 4 Select the Selection tool () and click the Laurel brush in the panel to apply it to the path you just drew. Click the X in the corner of the Borders_Novelty panel to close it.

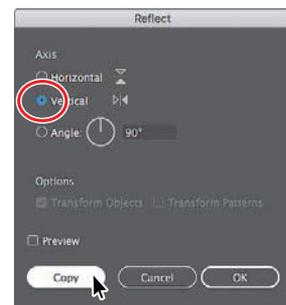
● **Note:** The brush is a pattern brush, which means that it repeats artwork (in this case) along the path. The brush artwork is scaled on the path based on the stroke weight.



- 5 Change the Stroke weight to 0.5 pt in the Control panel above the artwork.



- 6 With the path still selected, choose Object > Transform > Reflect. In the Reflect dialog box, select Vertical, and click **Copy**.
A reflected copy of the line is placed directly on top of the original.



- With the Selection tool (⬮) selected, drag both lines into position like you see in the following figure. As you drag the lines, alignment guides will appear, showing you when artwork is aligned with the text.
- Choose Select > Deselect.

► **Tip:** You can also press the arrow keys to move selected artwork.

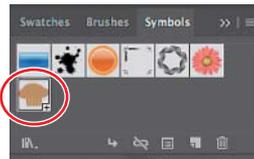


Working with symbols

A *symbol* is a reusable art object stored in the Symbols panel. Symbols are useful because they can help you save time and can save on file size as well. You will now create a symbol from artwork.

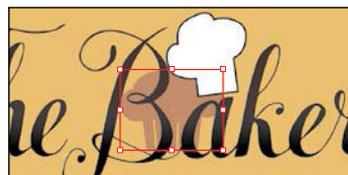
● **Note:** Learn more about working with symbols in Lesson 13, “Creating Artwork for a T-Shirt.”

- With the Selection tool (⬮) selected, click the brown muffin group to select it.
- Choose Window > Symbols to open the Symbols panel. Click the New Symbol button (📄) at the bottom of the Symbols panel.
- In the Symbol Options dialog box that appears, name the symbol **Muffin**, and click OK. If a warning dialog box appears, click OK as well.



The artwork now appears as a saved symbol in the Symbols panel, and the muffin artwork on the artboard you used to create the symbol is now a symbol *instance*.

- With the Selection tool (⬮) selected, drag the muffin that’s already on the artboard to the approximate center of the artboard.
- Choose Object > Arrange > Send To Back to send the muffin behind all of the artwork on the Content layer.



● **Note:** Your muffin symbol instances may be in different locations than those in the figure. That's okay.

- From the Symbols panel, drag the muffin symbol thumbnail onto the artboard *twice* and arrange them on either side of the “San Francisco” text, like you see in the figure. Make sure that the muffin instances to the left and right of the original muffin instance hang off the larger rectangle in the background.



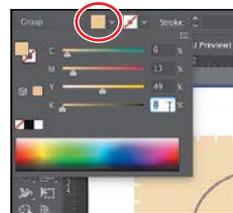
- Select the muffin instance in the center of the artboard. Option+Shift-drag (Mac OS) or Alt+Shift-drag (Windows) any corner of the artwork away from its center to make it larger. After you resize it, drag it into position. Use the figure as a guide. Leave it selected.



- Click the Edit Symbol button in the Control panel above the artwork to edit the symbol artwork in Isolation mode without affecting the other artwork. In the dialog box that appears, click OK.

- Choose Select > All.

- Shift-click* Fill color in the Control panel above the document (circled in the figure), and change the CMYK color values to C=6, M=13, Y=49, K=0 to alter the fill color of the muffin. Press the Escape key to close the panel.



► **Tip:** You can also double-click away from the selected artwork to exit Isolation mode if the Escape key isn't working.

- Press the Escape key to exit the editing (Isolation) mode, and notice that the other muffins have changed as well.
- Click one of the muffin instances, and choose Select > Same > Symbol Instance to select all three. Choose Object > Group.
- Choose Object > Arrange > Send To Back.



Creating a clipping mask

A *clipping mask* is an object that masks other artwork so that only areas that lie within its shape are visible—in effect, clipping the artwork to the shape of the mask. Next, you will copy the background rectangle and use the copy to mask the artwork.

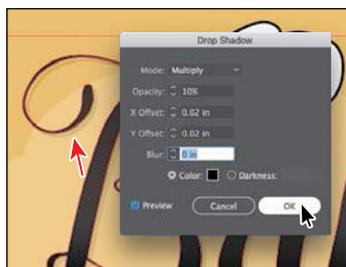
- 1 With the Selection tool (▸) selected, click the large rectangle in the background.
- 2 Choose Edit > Copy.
- 3 Click the muffin group to select the layer that the muffins are on. Choose Edit > Paste In Front to paste a copy of the rectangle in the same position as the original but on top of the muffins.
- 4 With the rectangle still selected, press the Shift key, and click the muffin group just showing at the bottom of the artboard to select it as well.
- 5 Choose Object > Clipping Mask > Make.



Working with effects

Effects alter the appearance of an object without changing the base object. Next, you will apply a subtle Drop Shadow effect to the lettering you traced earlier.

- 1 With the Selection tool (▸), click the “The Bakery” lettering.
- 2 Choose Effect > Stylize > Drop Shadow. In the Drop Shadow dialog box, set the following options (if necessary):
 - Mode: **Multiply** (the default setting)
 - Opacity: **10%**
 - X Offset and Y Offset: **0.02 in**
 - Blur: **0**
- 3 Select Preview to see it applied to the artwork and then click OK.
- 4 Choose Select > Deselect.
- 5 Choose File > Save and then choose File > Close.



● **Note:** Learn more about working with clipping masks in Lesson 14, “Using Illustrator CC with Other Adobe Applications.”

● **Note:** Learn more about effects in Lesson 12, “Exploring Creative Uses of Effects and Graphic Styles.”

● **Note:** Choose the Stylize option in the Illustrator Effects section of the Effect menu.

4 EDITING AND COMBINING SHAPES AND PATHS

Lesson overview

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

- Cut with the Scissors tool.
- Join paths.
- Work with the Knife tool.
- Work with the Eraser tool.
- Work with the Shape Builder tool.
- Work with Pathfinder commands to create shapes.
- Create a compound path.
- Edit strokes with the Width tool.
- Outline strokes.



This lesson takes approximately 45 minutes to complete.

Please log into your account on peachpit.com to download the lesson files for this chapter, 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.”

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



Soon after you begin creating simple paths and shapes, you will most likely want to take them further in order to create more complex artwork. In this lesson, you'll explore how to both edit and combine shapes and paths.

Starting the lesson

● **Note:** The artwork for this project was created by Dan Stiles (www.danstiles.com).

● **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.

In Lesson 3, “Using Shapes to Create Artwork for a Postcard,” you learned about creating and making edits to basic shapes. In this lesson, you’ll take basic shapes and paths and learn how to both edit and combine them to create new artwork.

- 1 To ensure that the tools and panels function 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 L4_end.ai, which is in the Lessons > Lesson04 folder that you copied onto your hard disk. This file contains the finished artwork.



- 4 Choose View > Fit All In Window; leave the file open for reference, or choose File > Close (I closed it).
- 5 Choose File > Open. In the Open dialog box, navigate to the Lessons > Lesson04 folder, and select the L4_start.ai file on your hard disk. Click Open to open the file.



► **Tip:** By default, the .ai extension shows on Mac OS, but you could add the extension on either platform in the Save As dialog box.

- 6 Choose File > Save As. In the Save As dialog box, change the name to **BirdInTheHand.ai** (Mac OS) or **BirdInTheHand** (Windows), and choose the Lesson04 folder. Leave the Format option set to Adobe Illustrator (.ai) (Mac OS) or the Save As Type option set to Adobe Illustrator (*.AI) (Windows), and click Save.
- 7 In the Illustrator Options dialog box, leave the Illustrator options at their default settings, and click OK.

Editing paths and shapes

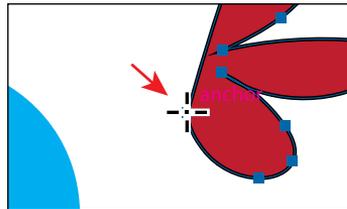
In Illustrator, you can edit and combine paths and shapes in a variety of ways to achieve the artwork you want. Sometimes, to get the artwork you desire, you start simpler and utilize different methods for achieving more complex paths. This includes working with the Scissors tool () , the Knife tool () , the Width tool () , the Shape Builder tool () , Pathfinder effects, and the Eraser tool () ; outlining strokes; joining paths; and more.

Note: You'll explore other methods for transforming artwork in Lesson 5, "Transforming Artwork."

Cutting with the Scissors tool

There are several tools that allow you to cut and divide shapes. You'll start with the Scissors tool () , which splits a path at an anchor point or on a line segment and makes an open path. Next, you'll cut a shape with the Scissors tool to reshape it.

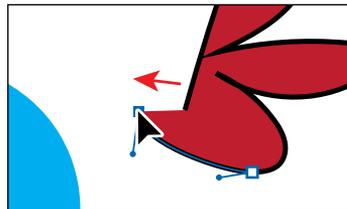
- 1 Choose View > Fit All In Window.
- 2 Choose View > Smart Guides, and ensure that they are on.
- 3 Choose 2 Bird 1 from the Artboard Navigation menu in the lower-left corner of the Document window. Choose View > Fit Artboard In Window.
- 4 Select the Zoom tool () in the Tools panel, and click twice on the red shape in the upper-right corner of the artboard to zoom in.
- 5 Select the Selection tool () in the Tools panel, and click the red shape to select it.
- 6 With the shape selected, in the Tools panel, click and hold down the Eraser tool () , and select the Scissors tool () . Position the pointer over the blue anchor point on the path on the left side (see the figure), and when you see the word "anchor," click to cut the path at that point.



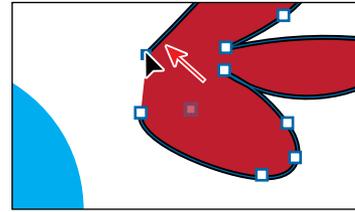
Note: If you click the stroke of a closed shape (a circle, for example) with the Scissors tool, it simply cuts the path so that it becomes open (a path with two end points).

If you don't click directly on a point or path, you will see a warning dialog box. You can simply click OK and try again. Cuts made with the Scissors tool must be on a line or a curve rather than on an end point of an open path. When you click with the Scissors tool, a new anchor point is created and is selected.

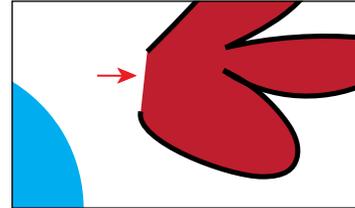
- 7 Choose View > Smart Guides to turn them off.
- 8 Select the Direct Selection tool () , and drag the anchor point you just clicked to the left.



- 9 Drag the other anchor point, from where you originally cut the path with the scissors, up and to the left (see the figure).



Notice how the stroke (the black border) doesn't go all the way around the red shape. That's because cutting with the Scissors tool makes an open path. Circles and rectangles are examples of closed paths, and lines and "S" shapes are examples of open paths (the end points are not connected). If you only want to fill the shape with a color, it doesn't have to be a closed path. Like I've said previously, an open path can have a color fill. It is, however, necessary for a path to be closed if you want a stroke to appear around the entire fill area.



Joining paths

Suppose you draw a "U" shape and later decide you want to close the shape, essentially joining the ends of the "U" with a straight path. If you select the path, you can use the Join command to create a line segment between the end points, closing the path. When more than one open path is selected, you can join them to create a closed path. You can also join the end points of two separate paths. Next, you will join the ends of the red path to create a single closed shape.

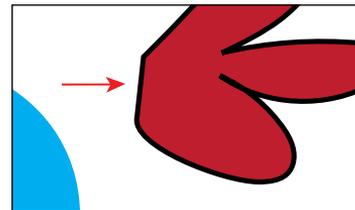
► **Tip:** If you wanted to join specific anchor points from separate paths, select the anchor points, and choose Object > Join > Path or press Command+J (Mac OS) or Ctrl+J (Windows).

- 1 Select the Selection tool (▸) in the Tools panel. Click away from the red path to deselect it, and then click in the red fill to reselect it.

This step is important because only one anchor point was left selected from the previous section. If you were to choose the Join command with only one anchor point selected, an error message would appear. By selecting the whole path, when you apply the Join command, Illustrator simply finds the two ends of the path and connects them with a straight line.

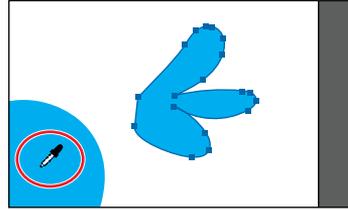
- 2 Choose Object > Path > Join.
- 3 Choose Select > Deselect to see the closed path.

When you apply the Join command to two or more open paths, Illustrator first looks for and joins the paths that have end points stationed closest to each other. This process is repeated every time you apply the Join command until all paths are joined.



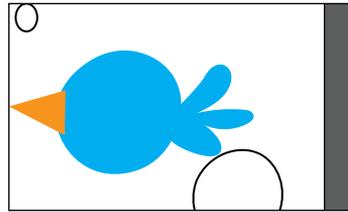
- 4 Click the red path to select it again.
- 5 Select the Eyedropper tool (🔍) in the Tools panel, and click the blue circle in the center of the artboard.

The Eyedropper tool samples the appearance attributes like stroke and fill from what you click and applies those same appearance attributes to the selected artwork.



► **Tip:** You'll learn more about the Eyedropper tool in Lesson 7, "Using Color to Enhance Signage."

- 6 Select the Selection tool, and drag the formerly red shape into position like you see in the figure.
- 7 Choose Select > Deselect.



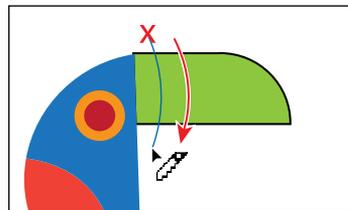
Cutting with the Knife tool

Another way to cut a shape is by using the Knife tool (✂️). To cut with the Knife tool, you drag across a shape, and the result is two closed paths.

- 1 Choose 3 Bird 2 from the Artboard Navigation menu in the lower-left corner of the Document window.
- 2 Click and hold down the mouse on the Scissors tool (✂️), and select the Knife tool (✂️).

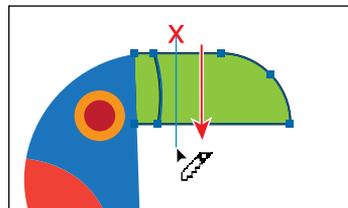
- 3 Position the Knife pointer (✂️) above the green shape toward the top of the artboard. Starting above the shape (see the red X in the figure), drag down all the way across the shape to cut the shape into two.

Dragging across a shape with the Knife tool makes a very free-form cut that is not straight at all.



► **Tip:** Pressing the Caps Lock key will turn the Knife tool pointer into a more precise cursor (⌄). This can make it easier to see where the cut will happen.

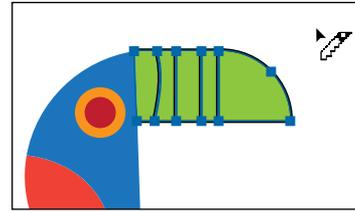
- 4 Position the pointer above the green shape, to the right of where you just cut. Press and hold Option+Shift (Mac OS) or Alt+Shift (Windows), and drag down all the way across the shape to cut it into two, in a completely straight line. Release the mouse button and then the keys.



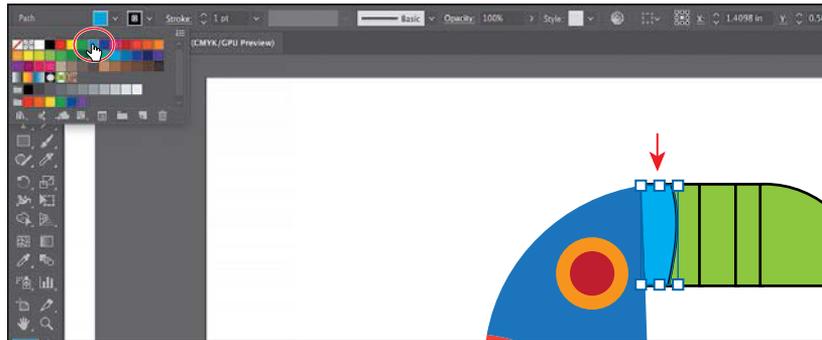
Pressing the Option key (Mac OS) or Alt key (Windows) allows you to cut in a straight line. Pressing the Shift key as well constrains the cut to 45 degrees.

- 5 While pressing the keys in the previous step, try making two more cuts to the right of the cut you just made.

Don't worry about making the resulting shapes *exactly* the same width. See the figure for roughly where to cut.

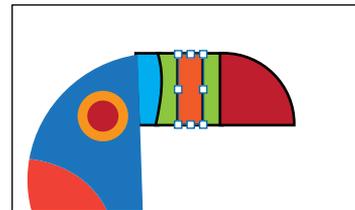


- 6 Choose Select > Deselect.
- 7 Select the Selection tool (▸), and click the first green shape from the left to select it. Choose the CMYK Cyan color from the fill color in the Control panel.

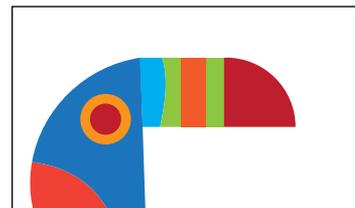


When you hover the pointer over a color in the panel that appears, you can see a yellow tooltip with the color name appear.

- 8 Click the green shape farthest to the right to select it. Choose a red color from the fill color in the Control panel. I chose a color with the name "C=15 M=100 Y=90 K=10." See the shape in the following figure.
- 9 With three green shapes left, click the middle green shape to select it. Click Fill color in the Control panel, and choose an orange color with the name "C=0 M=80 Y=95 K=0."



- 10 Drag across all of the shapes you cut to select them. Change the stroke weight to 0 in the Control panel.
- 11 Choose Select > All On Active Artboard, and then choose Object > Group.
- 12 Choose Select > Deselect, and then choose File > Save.



Using the Eraser tool

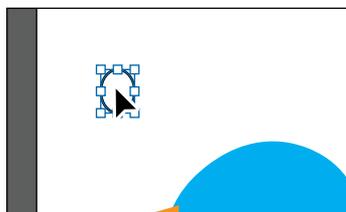
The Eraser tool (◆) lets you erase any area of your vector artwork, regardless of the structure. You can use the Eraser tool on paths, compound paths, paths inside Live Paint groups, and clipping content. Next, you'll use the Eraser tool to modify several shapes.

● **Note:** You cannot erase raster images, text, symbols, graphs, or gradient mesh objects.

- 1 Choose 2 Bird 1 from the Artboard Navigation menu in the lower-left corner of the Document window.

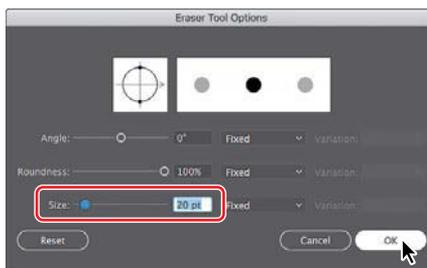
- 2 With the Selection tool (▸), select the smaller white circle toward the upper-left corner of the artboard.

By selecting the white shape, you'll erase only that shape and nothing else. If you leave all objects deselected, you can erase any object that the tool touches, across all layers.



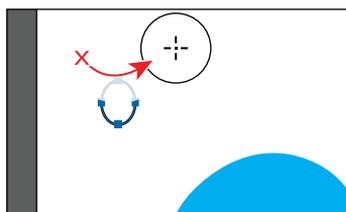
- 3 Click and hold down the mouse on the Knife tool (✂), and select the Eraser tool (◆) in the Tools panel.

- 4 Double-click the Eraser tool (◆) to edit the tool properties. In the Eraser Tool Options dialog box, change Size to **20 pt**. Click OK.

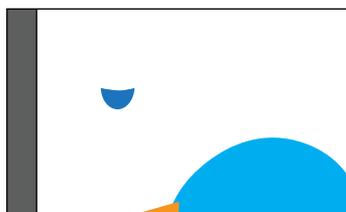


- 5 Position the pointer off the upper-left corner of the white circle (where you see the red X in the figure). Click and drag across the circle in a “U” shape to erase the top half of the circle.

When you release the mouse button, the top half of the circle is erased, and the circle is still a closed path.



- 6 Change the stroke weight to **0** in the Control panel, and choose a blue color from the fill color. I chose a blue with the color name of “C=85 M=50 Y=0 K=0” that appears in the tooltip when you hover over each color swatch.

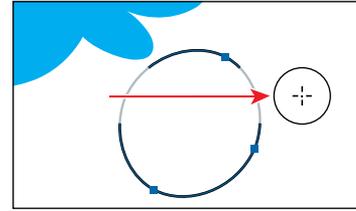


You can also erase in a straight line, which is what you'll do next.

- 7 Select the Selection tool (▸), and click the white circle in the lower-right corner of the artboard.

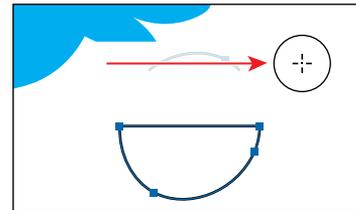
- 8 Select the Eraser tool (◆) in the Tools panel. Press the Shift key, and starting off the left side of the white circle, drag across the top half of the circle. Release the mouse button and then the Shift key.

The white circle is now two separate shapes, both closed paths.



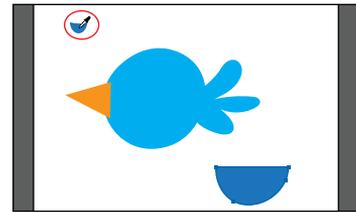
- 9 Drag across the remaining shape at the top to erase it completely. You may need to drag across it a few times to erase it all.

It may look like you erased part of the blue shape, but since it isn't selected, it isn't erased.

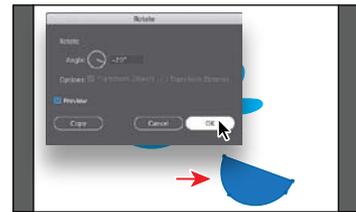


- 10 With the last part of the circle still selected, select the Eyedropper tool (👉) in the Tools panel, and click the small blue circle you erased part of earlier (in the upper-left corner of the artboard).

This copies the appearance attributes like fill and stroke from the small shape to the larger shape.



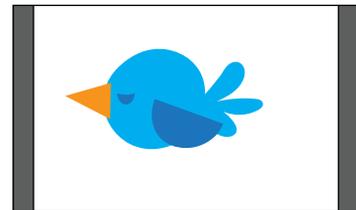
- 11 With the larger blue shape selected, choose Object > Transform > Rotate. In the Rotate dialog box, change Angle to -20, and select Preview to see the change. Click OK.



- 12 Select the Selection tool in the Tools panel. Drag each shape from its center onto the large blue circle in the center to create a bird (see the figure for guidance).

- 13 Choose Select > All On Active Artboard, and then choose Object > Group.

- 14 Choose File > Save.



Combining shapes

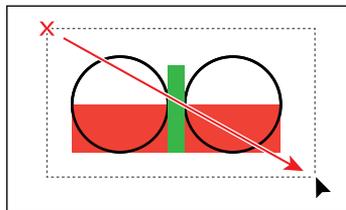
A lot of the time, creating more complex shapes from simpler shapes can be easier than trying to create them with drawing tools like the Pen tool. In Illustrator, you can combine vector objects in different ways. The resulting paths or shapes differ depending on the method you use to combine the paths. In this section, you'll explore a few of the more widely used methods for combining shapes.

Working with the Shape Builder tool

The first method you'll learn for combining shapes involves working with the Shape Builder tool (⌘). This tool allows you to visually and intuitively merge, delete, fill, and edit overlapping shapes and paths directly in the artwork. Using the Shape Builder tool, you'll create a complex bird shape from a series of simpler shapes like circles and squares.

- 1 Choose 4 Butterfly from the Artboard Navigation menu in the lower-left corner of the Document window.
- 2 Choose View > Fit Artboard In Window to ensure it fits in the Document window.
- 3 Select the Zoom tool (Q) in the Tools panel, and click a few times on the red and green shapes on the left side of the artboard to zoom in.

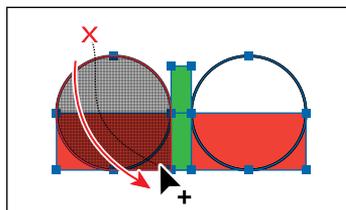
- 4 Select the Selection tool (V), and drag a marquee selection across the red/orange rectangle, white circles, and green rectangle to select the shapes on the artboard.



In order to edit shapes with the Shape Builder tool (⌘), they need to be selected.

Using the Shape Builder tool, you will now combine, delete, and paint these simple shapes to create part of a butterfly's wings.

- 5 Select the Shape Builder tool (⌘) in the Tools panel. Position the pointer off the upper-left corner of the shapes, and drag from the red X in the figure, down and to the right into the red/orange rectangle. Release the mouse button to combine the shapes.



When you select the Shape Builder tool, the overlapping shapes are divided into separate objects temporarily. As you drag from one part to another, a red outline appears, showing you what the final shape will look like when the shapes are merged together, after releasing the mouse button. The new combined shape should be the same blue as the bird shape you created previously. If not, don't worry. You'll change it shortly.

Tip: You can also press the Shift key and drag a marquee across a series of shapes to combine them. Pressing Shift+Option (Mac OS) or Shift+Alt (Windows) and dragging a marquee across selected shapes with the Shape Builder tool (⌘) selected allows you to delete a series of shapes within the marquee.

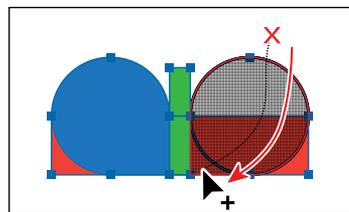
● **Note:** Your final combined shapes may have a different stroke and/or fill, and that's okay. You'll change them shortly.

● **Note:** When you position the pointer over the shapes, make sure you see the mesh within those shapes, before clicking to delete.

● **Note:** Pressing the Option (Mac OS) or Alt (Windows) modifier key enables what's referred to as Erase mode for the Shape Builder tool.

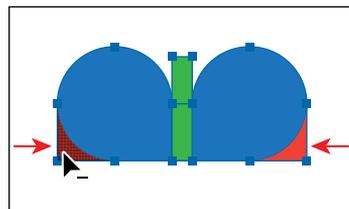
● **Note:** If you find that dragging the shapes into position is proving difficult, you can always practice aligning using the Align panel!

- 6 Position the pointer off the upper-right corner of the shapes, and drag from the red X in the figure, down and to the left into the red/orange rectangle. Release the mouse button to combine the shapes.



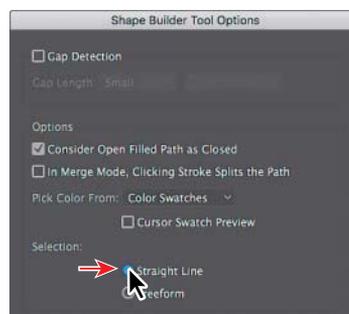
Next, you'll delete a few shapes.

- 7 With the shapes still selected, hold down the Option (Mac OS) or Alt (Windows) key. Notice that, with the modifier key held down, the pointer shows a minus sign (⌘). Click the red shapes, one at a time, to delete them.

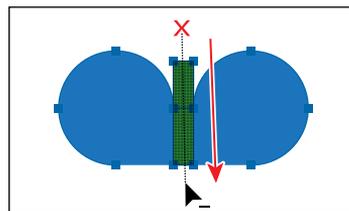


- 8 Double-click the Shape Builder tool in the Tools panel. In the Shape Builder Tool Options dialog box, select Straight Line from the Selection options. Click OK to close the dialog box.

By default, the Shape Builder tool lets you drag across shapes in a freeform way. The Straight Line option lets you draw across shapes only in straight lines.



- 9 With the shapes still selected, hold down the Option (Mac OS) or Alt (Windows) key and drag through the green shape in the center from top to bottom to remove it. Release the mouse button and then the key.



- 10 Select the Selection tool (⌘). With the blue shapes still selected, change the fill color in the Control panel to an orange/red color with the tooltip name that shows as "C=0 M=90 Y=85 K=0."

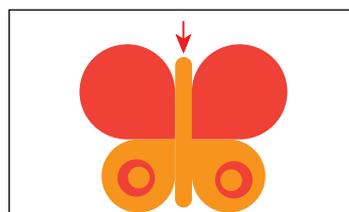
- 11 Choose Object > Group to group the now orange shapes together.

- 12 Choose View > Fit Artboard In Window.

- 13 Drag one of the orange shapes in the group to the right side of the artboard, above the yellow shapes. See the following figure for how to position them.

- 14 Drag the orange/yellow shape (an arrow is pointing to it in the figure) into the center of the wing shapes.

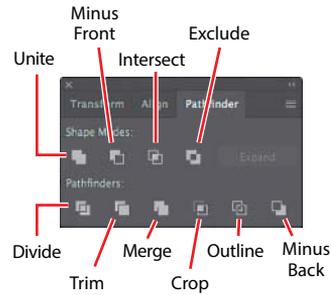
- 15 Choose Select > Deselect, and then choose File > Save.



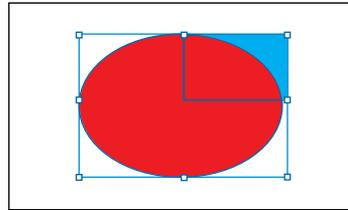
Working with the Pathfinder panel

The Pathfinder panel is another place to combine shapes in different ways. When a shape mode such as Unite is applied, the original objects selected are *permanently* transformed, but you can hold down a modifier key, and the original underlying objects are preserved.

When a Pathfinder effect such as Merge is applied, the original objects selected are *permanently* transformed. If the effect results in more than one shape, they are grouped automatically.

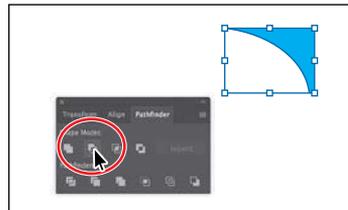


- 1 Choose 5 Bird 3 from the Artboard Navigation menu in the lower-left corner of the Document window.
- 2 Choose Window > Pathfinder to open the Pathfinder panel group.
- 3 With the Selection tool (⬮) selected, hold down the Shift key, and click the red oval and blue rectangle beneath it to select both objects.



You need to create a shape that looks like a bird wing. You will use the Pathfinder panel and those shapes to create the final artwork.

- 4 With the shapes selected, in the Pathfinder panel, click the Minus Front button (⊖) in the Shape Modes section of the Pathfinder panel to *permanently* subtract the top shape from the bottom shape.
- 5 Choose Edit > Undo Subtract to undo the Minus Front command and bring both shapes back. Leave them selected.

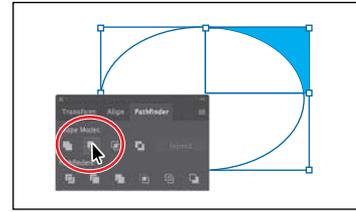


Note: The Unite button in the Pathfinder panel produces a similar result as the Shape Builder tool, by combining the shapes into one.

Shape Modes in the Pathfinder panel

The buttons in the top row of the Pathfinder panel, called *shape modes*, create paths just like the Pathfinder effects, but they can also be used to create compound shapes. When several shapes are selected, clicking a shape mode while pressing the Option (Mac OS) or Alt (Windows) key creates a compound shape rather than a path. The original underlying objects of compound shapes are preserved. As a result, you can still select each original object within a compound shape. Using a shape mode to create a compound shape can be useful if you think that you may want to retrieve the original shapes at a later time.

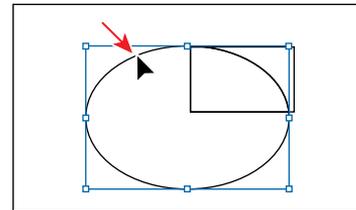
- 1 With the shapes still selected, hold down the Option (Mac OS) or Alt (Windows) key, and click the Minus Front button (⊖) in the Shape Modes section of the Pathfinder panel.



This creates a compound shape that traces the outline of what's left after the top red shape is subtracted from the bottom blue shape. You will still be able to edit both shapes separately.

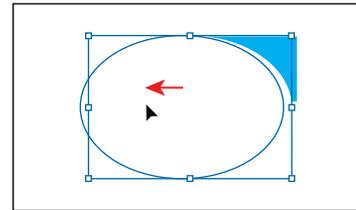
- 2 Choose Select > Deselect to see the final shape.
- 3 With the Selection tool, double-click the blue shape to enter Isolation mode. You could also double-click the (now) white oval, but that shape is harder to see.

- 4 Choose View > Outline so that you can see the outlines of the two shapes, and click the edge of the oval shape or drag across the path to select it.



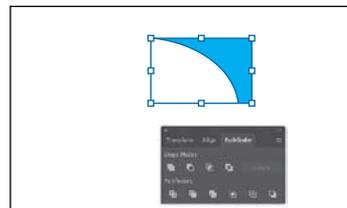
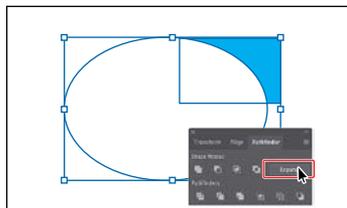
- 5 Choose View > GPU Preview or View > Preview On CPU if not available.

- 6 Drag the white oval from the middle a little to the left.
- 7 Press the Escape key to exit Isolation mode.



You will now expand the wing shape. Expanding a compound shape maintains the shape of the compound object, but you can no longer select or edit the original objects. You will typically expand an object when you want to modify the appearance attributes and other properties of specific elements within it.

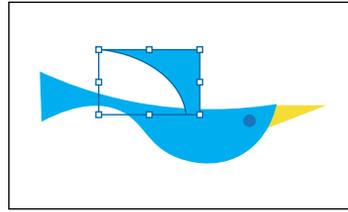
- 8 Click away from the shape to deselect it, and then click to select it again.
- 9 Click the Expand button in the Pathfinder panel. Close the Pathfinder panel group.



► **Tip:** To edit the original shapes in a compound shape like this one, you can also select them individually with the Direct Selection tool (⌘).

● **Note:** You can also press the arrow keys to move the shape if you find it difficult to select.

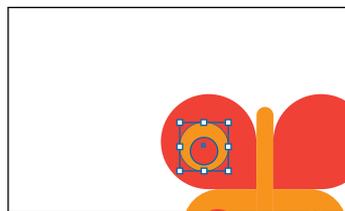
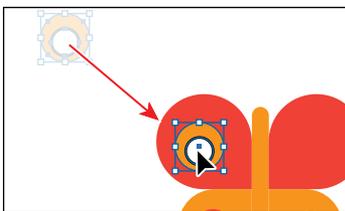
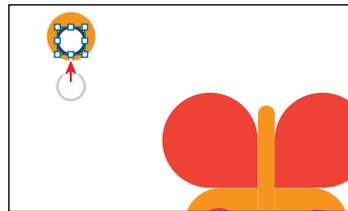
- 10 Drag the blue wing shape on top of the bird like you see in the figure.
- 11 Choose Select > All On Active Artboard, and then choose Object > Group.



Creating a compound path

Compound paths let you use a vector object to cut a hole in another vector object. Whenever I think of a compound path, I think of a doughnut shape, which can be created from two circles. Holes appear where paths overlap. A compound path is treated like a group, and the individual objects in the compound path can still be edited or released (if you don't want them to be a compound path anymore). Next, you'll create a compound to create some art for the butterfly.

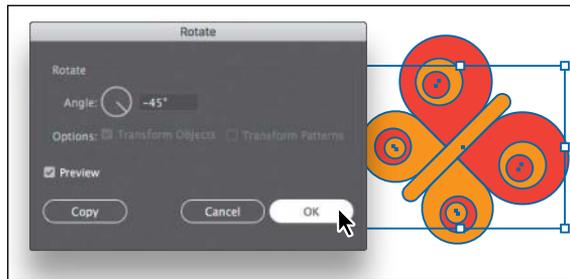
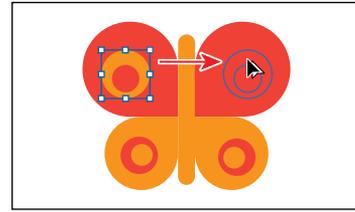
- 1 Choose 4 Butterfly from the Artboard menu in the lower-left corner of the Document window.
- 2 Choose View > Fit Artboard In Window, if necessary.
- 3 With the Selection tool (⬚) selected, select the white circle with the black stroke. Drag it onto the larger orange circle above it, a little off-center.
- 4 Drag across both shapes to select them.
- 5 Drag the shapes onto the larger orange wing of the butterfly. The selected shapes should be on top. If they are not, choose Object > Arrange > Bring To Front.
- 6 Choose Object > Compound Path > Make, and leave the artwork selected.



You can now see that the white circle has seemingly disappeared, and you can now see through the shape to the reddish-orange color of the butterfly wing. The white circle was used to “punch” a hole in the orange shape. With the shape still selected, you should see “Compound Path” on the left end of the Control panel above the Document window.

Tip: You can still edit the original shapes in a compound path like this one. To edit them, select each shape individually with the Direct Selection tool (⬚) or double-click the compound path with the Selection tool to enter Isolation mode and select the individual shapes.

- 7 Option-drag (Mac OS) or Alt-drag (Windows) the new compound path to the right side of the orange wing shape. Release the mouse button and then the key.
- 8 Select all of the shapes for the butterfly by choosing Select > All On Active Artboard.
- 9 Choose Object > Group.
- 10 Choose Object > Transform > Rotate. In the Rotate dialog box, change Angle to **-45**, make sure Preview is selected, and then click OK.

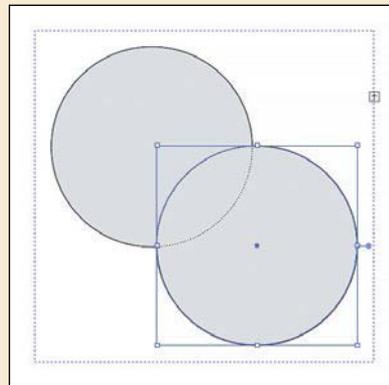


- 11 Choose File > Save.

Combining paths using the Shaper tool

In Lesson 3, “Using Shapes to Create Artwork for a Postcard,” you learned about the Shaper tool. The Shaper tool can be used to not only create paths and shapes but also combine paths and shapes in different ways.

After combining artwork with the Shaper tool, the result is a “Shaper Group.” The original paths are still accessible and treated like a merged group, but appearance attributes are applied to the shaper group as a whole.

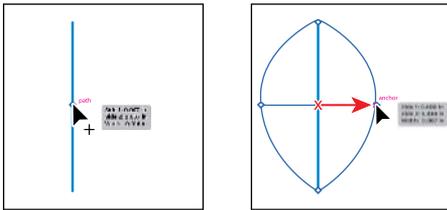


To learn more about combining paths using the Shaper tool, search for “Shaper tool” in Illustrator Help (Help > Illustrator Help).

Using the Width tool

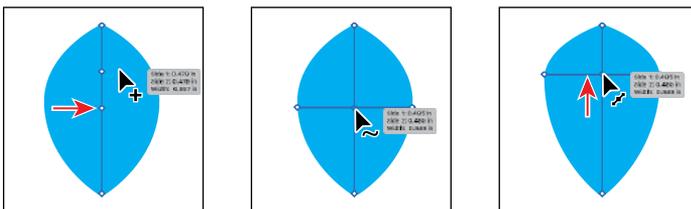
Not only can you adjust the weight of a stroke, like you did in Lesson 3, but you can also alter regular stroke widths either by using the Width tool () or by applying width profiles to the stroke. This allows you to create a variable width along the stroke of a path. Next, you will use the Width tool to create a bird.

- 1 Choose 6 Bird 4 from the Artboard menu in the lower-left corner of the Document window.
- 2 Choose View > Fit Artboard In Window, if necessary.
- 3 Choose View > Smart Guides to turn them back on.
- 4 Select the Width tool () in the Tools panel. Position the pointer over the middle of the vertical blue line, and notice that the pointer has a plus symbol next to it (). If you were to click and drag, you would edit the width of the stroke. Click and drag away from the line, to the right. Notice that, as you drag, you are stretching the stroke to the left and right equally. Release the mouse when the measurement label shows Side 1 and Side 2 at *approximately* 0.5 in.



What you just created was a variable stroke on a path, not a shape with a fill. The new point on the original path that's filled with blue is called the *width point*. The lines extending from the width point are the *handles*.

- 5 Click in a blank area of the artboard to deselect the path.
- 6 Position the pointer anywhere over the path, and the new width point you just created will appear (an arrow is pointing to it in the first part of the figure below). The width point you see inline with the pointer is where a new point would be created if you were to click. Position the pointer over the original width point, and when you see lines extending from it and the pointer changes () , click and drag it up a bit.



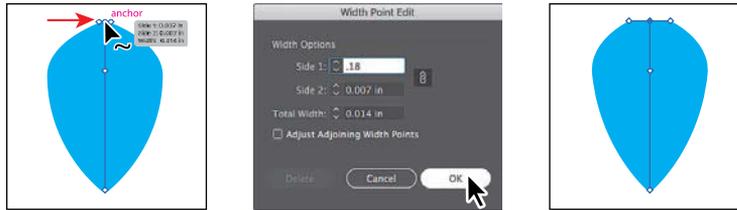
► **Tip:** If you select a width point by clicking it, you can press Delete to remove it. If there was only one width point on a stroke, removing that point would remove the width completely.

● **Note:** You don't have to position the pointer over the center of the line and drag to create another width point. You can drag from anywhere in the stroke area.

Aside from clicking and dragging to add a width point to a path, you can also double-click and enter values in a dialog box. That's what you'll do next.

► **Tip:** You can double-click anywhere along the path to add a new width point.

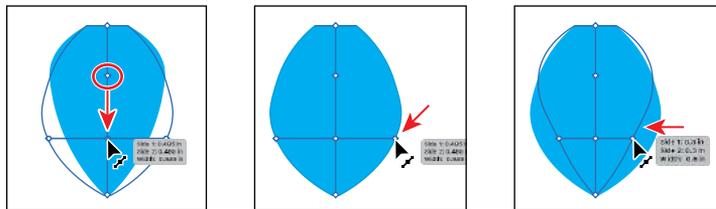
- 7 Position the pointer over the top anchor point of the blue line, and notice that the pointer has a wavy line next to it (⤴) and the word “anchor” appears (see the first part of the following figure). Double-click the point to create a new width point and to open the Width Point Edit dialog box.
- 8 In the Width Point Edit dialog box, click the Adjust Widths Proportionately button (☑) so both Side 1 and Side 2 change together. Change the Side 1 width to **0.18 in**, and click OK.



The Width Point Edit dialog box allows you to adjust the length width point handles together or separately, with more precision. Also, if you select the Adjust Adjoining Width Points option, any changes you make to the selected width point affect neighboring width points as well. You can also duplicate a width point if you like, which is what you'll do next.

► **Tip:** You can drag one width point on top of another width point to create a discontinuous width point. If you double-click a discontinuous width point, the Width Point Edit dialog box allows you to edit both width points.

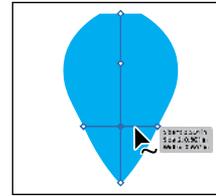
- 9 Position the pointer over the original anchor you created. Press the Option (Mac OS) or Alt (Windows) key, and drag down to duplicate the width point. Use the first part of the figure below to see roughly how far to drag. Release the mouse button, and then release the key.
- 10 Position the pointer over the right end of the width point handle, and drag to the left until you see a Side 1 and Side 2 of roughly 0.3 in. You may want to select the width point you just made to see the handles.



- 11 Click in a blank area of the artboard to deselect the path.

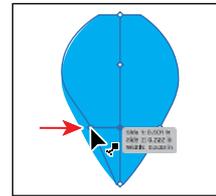
I'm asking you to deselect only because it's helpful to get some practice trying to select the width points. You won't need to deselect in a real-world situation.

- 12 Position the Width tool pointer over the blue path.
The width points will appear on the path. Position the pointer over the point you just duplicated, and click when you see the width point handles appear.



To select a width point, you can click the width point, the width point handles, or the handle end points.

- 13 Option-drag (Mac OS) or Alt-drag (Windows) the left width point handle (on the left edge of the blue path area) to the right until you see a value of approximately 0.23 in for Side 2 in the measurement label. Release the mouse button and then the key.



► **Tip:** After defining the stroke width, you can save the variable width as a “profile” that you can reuse later, from the Stroke panel or the Control panel. To learn more about variable width profiles, search for “Painting with fills and strokes” in Illustrator Help (Help > Illustrator Help).

Outlining strokes

Paths, like a line, can show a stroke color but not a fill color by default. If you create a line in Illustrator and want to apply both a stroke and a fill, you can outline the stroke, which converts the line into a closed shape (or compound path). Next, you’ll outline the stroke of the blue line you edited with the Width tool.

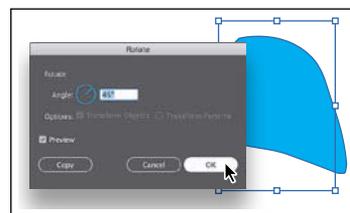
- 1 With the Selection tool (⬚), select the blue path you edited with the Width tool, and choose Object > Path > Outline Stroke.

This creates a filled shape that is a closed path.

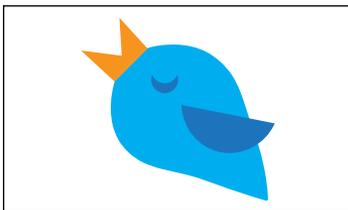
● **Note:** If you outline the stroke and it shows as “Group” in the Selection Indicator on the left end of the Control panel, then there was a fill set on the line. If the artwork is a group, choose Edit > Undo Outline Stroke, apply a fill of None to the path, and try again.

► **Tip:** After outlining the stroke, the shape you have may be composed of a lot of anchor points. You can choose Object > Path > Simplify to try and simplify the path, which usually means fewer anchor points.

- 2 With the shape selected, choose Object > Transform > Rotate. In the Rotate dialog box, change Angle to 45. Click OK.



- 3 Drag the shapes into position like you see in the following figure.



- 4 Choose Select > All On Active Artboard, and then choose Object > Group.

Finishing up the illustration

To finish the illustration, you will drag the artwork you grouped on each artboard into the main illustration on the left.

- 1 Choose View > Fit All In Window.
- 2 Choose View > Smart Guides to turn them off.
- 3 Drag each of the artwork groups into the main illustration like you see in the figure.

You may want to adjust the size of each group so they fit within the existing artwork better. With the Selection tool, you can hold down the Shift key and drag a corner point to resize artwork proportionally. When finished resizing, release the mouse button and then the Shift key.



- 4 Choose View > Smart Guides to turn them on for the next lesson.
- 5 Choose File > Save, and then choose File > Close.

Review questions

- 1 Name two ways you can combine several shapes into one.
- 2 What is the difference between the Scissors tool () and the Knife tool ()?
- 3 How can you erase with the Eraser tool () in a straight line?
- 4 What is the main difference between shape modes and Pathfinder effects in the Pathfinder panel?
- 5 Why would you outline strokes?

Review answers

- 1 Using the Shape Builder tool (), you can visually and intuitively merge, delete, fill, and edit overlapping shapes and paths directly in the artwork. You can also use the Pathfinder effects, which can be found using the Effects menu or the Pathfinder panel, to create new shapes out of overlapping objects. As you saw in Lesson 3, “Using Shapes to Create Artwork for a Postcard,” shapes can also be combined using the Shaper tool.
- 2 The Scissors tool () is meant to split a path, graphics frame, or empty text frame at an anchor point or along a segment. The Knife tool () cuts objects along a path you draw with the tool, dividing objects. When you cut a shape with the Scissors tool, it becomes an open path. When you cut a shape with the Knife tool, they become closed paths.
- 3 To erase in a straight line with the Eraser tool (), you need to press and hold the Shift key before you begin dragging with the Eraser tool.
- 4 In the Pathfinder panel, when a shape mode (such as Unite) is applied, the original objects selected are permanently transformed, but you can hold down a modifier key, and the original underlying objects are preserved. When a Pathfinder effect (such as Merge) is applied, the original objects selected are permanently transformed.
- 5 Paths, like a line, can show a stroke color but not a fill color by default. If you create a line in Illustrator and want to apply both a stroke and a fill, you can outline the stroke, which converts the line into a closed shape (or compound path).

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