Adobe Illustrator

2024 Release



Classroom in a Book[®]

The official training workbook from Adobe

Brian Wood

CONTENTS

GETTING STARTED

About Classroom in a Book® 1
Prerequisites 1
Installing the program 2
Fonts used in this book 2
Online Content 2
Lesson files 2
Web Edition
Accessing the lesson files and Web Edition
Restoring default preferences 4
To reset the current Illustrator preferences
Additional resources
Adobe Authorized Training Partners 5

WHAT'S NEW IN ADOBE ILLUSTRATOR 2024 RELEASE

Mockup (Beta)	6
Text to Vector Graphic (Beta)	6
Generative Recolor	7
Retype (Beta)	7
Search layers	7
Contextual Task bar	7
WebP export	7

A QUICK TOUR OF ADOBE ILLUSTRATOR 2024 RELEASE



6



Starting	the lesson10
Cre	ating a new document10
Sav	ing the document11
Cre	ating shapes
Edi	ting shapes 13
Rou	Inding corners
Co	bying shapes14
Со	nbining shapes using the Shape Builder tool
Ар	olying and editing color ۱۵
Tra	nsforming artwork 17
Red	oloring artwork

56

28

Applying a gradient 20
Editing strokes 21
Creating with the Curvature tool
Applying a brush23
Working with type 24
Warping text
Working with effects 26
Adding more text for practice
Aligning artwork

1 GETTING TO KNOW THE WORK AREA

Welcome to Adobe Illustrator! 30 Exploring the workspace 32

2 **TECHNIQUES FOR SELECTING ARTWORK**

Starting the lesson 58
Selecting objects 59
Using the Selection tool59
Selecting and editing with the Direct Selection tool61
Selecting with a marquee62
Locking objects

Navigating multiple artboards 52

★ STARTING AT S89 ★

Unlocking objects	65
Selecting similar objects	65
Hiding objects	
Selecting in Outline mode	67
Aligning objects	68
Aligning objects to each other	
Aligning to a key object	68
Distributing objects	69
Aligning anchor points	
Aligning to the artboard	71
Working with groups	
Grouping items	72
Editing a group in Isolation mode	73
Creating a nested group	74
Editing a nested group	74
Exploring object arrangement	76
Arranging objects	76
	70
	/8

3 MAKE A LOGO WITH SHAPES

	St Cı
TREK	W
5	2

Star	ting the lesson
Crea	ating a new document
	Saving your document
Wor	king with basic shapes
	Creating rectangles
	Editing rectangles85
	Changing the color of the shapes
	Rounding rectangle corners by dragging 88
	Rounding individual corners
	Changing a corner type90
	Creating an ellipse
	Editing an ellipse
	Changing stroke alignment94
	Creating a pie shape from an ellipse94
	Drawing lines
	Editing a line96
	Creating polygons
	Editing a polygon
	Creating a star100
Wor	king with drawing modes101
	Using Draw Inside mode101

Practicing with Draw Inside mode	3
Editing content drawn inside10	3
Pasting artwork between documents	4
Using Image Trace to convert images into editable vector art 10	5
Cleaning up traced artwork10	7
Adding the text and bear logo to the flyer	8
Using Text to Vector Graphic (Beta)10	9

4 EDITING AND COMBINING SHAPES AND PATHS 112



Starting the lesson114
Editing paths and shapes115
Cutting with the Scissors tool115
Joining paths 117
Cutting with the Knife tool
Cutting in a straight line with the Knife tool
Using the Eraser tool
Erasing in a straight line
Creating a compound path
Outlining strokes
Combining shapes126
Working with the Shape Builder tool
Combining objects using Pathfinder effects
Understanding shape modes129
Reshaping a path131
Using the Width tool
Using Intertwine134
Assembling the sign
Assembling the poster136

5 TRANSFORMING ARTWORK

Unforgettable Beaches

Starting the lesson140
How can you use artboards?141
Creating and editing artboards141
Making a custom-sized artboard141
Creating a new same-sized artboard143
Moving and resizing artboards144
Copying artboards between documents
Aligning and arranging artboards147
Setting options for artboards149

Working with rulers and guides	149
Creating guides	
Positioning artwork using the Properties panel	151
Transforming content	152
Working with the bounding box	152
Scaling objects precisely	153
Rotating objects with the Rotate tool	155
Scaling using Transform Each	156
Shearing objects	156
Transforming using menu commands	157
Using repeats	
Applying a mirror repeat	158
Editing a mirror repeat	
Working with the Puppet Warp tool	
Adding pins	161
Rotating pins	

6 USING THE BASIC DRAWING TOOLS

1,	Starting the lesson	
11	Creating with the Curvature tool	
$\overline{\mathcal{M}}$	Drawing paths with the Curvature tool	
	Drawing a river path	
	Editing a path with the Curvature tool	
	Creating corners with the Curvature tool	
	Creating dashed lines	
	Creating with the Pencil tool	
	Drawing paths with the Pencil tool	
	Drawing straight lines with the Pencil tool	
	Joining with the Join tool	
	Finishing the Camp logo	
	Adding arrowheads to paths	

7 DRAWING WITH THE PEN TOOL

4	~
Sec. Las	6
-7	m
Practice Service and an el	
	5
	2

Starting the lesson
Why use the Pen tool?
Starting with the Pen tool18
Creating straight lines to make a crown
Continuing to draw a path18
Practicing by making another crown!

166

Drawing a house with the Pen tool	
Practicing by making another house!	
Exploring curved paths192	
Drawing a curve with the Pen tool	
Practicing by creating more curves!	
Drawing a series of curves with the Pen tool	
Practicing by creating continuous curves!	
Changing path direction196	
Practicing by creating more curves!	
Combining curves and straight lines	
Practicing by making the other sail!	
Practicing by creating more curves!	
Putting your learning into practice	
Editing paths and points further	
Deleting and adding anchor points	
Converting between smooth points and corner points 207	
Converting anchor points with the Anchor Point tool 208	
OR TO ENHANCE ARTWORK 210	

8 USING COLOR

DAWSON'S (144 TEATIME ENERGIZE BLACK TEA

Starting the lesson
Exploring color modes
Working with color
Applying an existing color214
Making a custom color
Saving a color as a swatch
Editing the global swatch218
Editing a non-global swatch
Using the Color Picker to create color
Using Illustrator swatch libraries
Creating and saving a tint of a color
Copying appearance attributes226
Using the Color Guide panel for creative inspiration 227
Applying colors from the Color Guide panel
Using Recolor Artwork to edit colors in artwork
Recoloring artwork229
Sampling color in Recolor Artwork
Making color variations with sample prompts using
Generative Recolor233

Making color variations with custom prompts using	
Generative Recolor23	34
Working with Live Paint23	35
Creating a Live Paint group23	35
Painting with the Live Paint Bucket tool23	36
Modifying a Live Paint group23	38

9 ADDING TYPE TO A PROJECT





N TO COOK	Starting the lesson	
TH CHEE HODGMAN	Adding text	243
	Adding text at a point	243
	Adding area type	244
Le ce	Converting between area type and point type	
anan Konstanting	Importing a plain-text file	
	Threading text	
	Formatting type	
	Changing font family and font style	
	Activating Adobe Fonts	
	Applying fonts to text in Illustrator	
	Changing font size	254
	Changing the color of text	
	Changing additional character formatting	
	Changing paragraph formatting	
	Vertically aligning area type	
	Resizing and reshaping type objects	
	Creating columns of text	
C	Reshaping type objects	
	Creating and applying text styles	
	Creating and applying a paragraph style	
	Sampling text formatting	
	Practicing paragraph styles	
	Editing a paragraph style	
	Creating text lists	
	Applying text lists	
	Editing text lists	
	Wrapping text	
	Curving text on a path	
	Warping text	
	Reshaping text with a preset envelope warp	

Editing the content of the envelope warp	69
Creating text outlines2	70
Exploring Retype (Beta)2	71

10 ORGANIZING YOUR ARTWORK WITH LAYERS



11 GRADIENTS, BLENDS, AND PATTERNS



298

Creating a blend with specified steps	8
Modifying a blend31	9
Creating a smooth color blend32	0
Editing a smooth color blend32	21
Getting creative with patterns32	2
Applying an existing pattern32	2
Creating your own pattern32	3
Applying your pattern32	25
Editing your pattern32	6
Putting it all together32	6

12 USING BRUSHES TO CREATE AN AD

328

t.	Percemental II A A
Z	
U	
Y	1 miles

Puremental	Starting the lesson	
1	Working with brushes	
A/	Using Calligraphic brushes	
M	Types of brushes	
AVAK .	Applying a Calligraphic brush to artwork	
1A	Editing a brush	333
14	Drawing with the Paintbrush tool	
PLIFT	Editing paths with the Paintbrush tool	
	Removing a brush stroke	
Con	Using Art brushes	
	Applying an existing Art brush	339
	Creating an Art brush	340
	Editing an Art brush	
	Using Pattern brushes	344
	Creating a Pattern brush	345
	Applying a Pattern brush	
	Editing a Pattern brush	
	Using Bristle brushes	350
	Changing Bristle brush options	350
	Painting with a Bristle brush	
	Grouping Bristle brush paths	
	Working with the Blob Brush tool	352
	Drawing with the Blob Brush tool	352
	Editing with the Eraser tool	354

13 EXPLORING CREATIVE USES OF EFFECTS AND GRAPHIC STYLES 356



Starting the lesson
Using the Appearance panel
Editing appearance attributes
Adding another fill to content
Adding multiple strokes and fills to text
Reordering appearance attributes
Using live effects
Applying an effect
Editing an effect
Styling text with a Warp effect
Temporarily disabling effects to make edits
Applying a Photoshop effect
Applying 3D effects
Using graphic styles
Creating and applying a graphic style
Updating a graphic style
Applying a graphic style to a layer
Scaling strokes and effects

14 CREATING ARTWORK FOR A T-SHIRT



Starting the lesson
Working with symbols 389
Using default Illustrator symbol libraries
Transforming symbol instances
Editing a symbol
Working with dynamic symbols
Creating a symbol
Practice editing a symbol
Breaking a link to a symbol
Replacing symbols
Working with Creative Cloud libraries
Adding assets to a Creative Cloud library
Using library assets401
Updating a library asset402
Creating a mockup403
Working with global editing405

15 PLACING AND WORKING WITH IMAGES



	Starting the lesson	
	Placing image files	
	Placing an image	
	Transforming a placed image	
	Cropping an image	414
	Placing a Photoshop document	416
	Placing multiple images	
	Masking content	
	Masking content with a shape	
	Exploring the mask you made	
	Editing the mask and image	
	Automatic masking for an image	
	Editing the image mask	
	Creating an opacity mask	
	Editing an opacity mask	
	Working with image links	
	Finding link information	
	Embedding and unembedding images	
P	PROJECTS	432

16 SHARING PROJECTS

432

448

	Starting the lesson	
T.	Fixing the missing image link	
	Packaging a file	
ucan	Creating a PDF	
0	Exporting artboards and assets	
	Exporting artboards	
	Exporting assets	
	Inviting others to edit	
	Sharing for review	

INDEX

Pearson's Commitment to Diversity, Equity, and Inclusion . 46
Contributors
Production Notes

3 MAKE A LOGO WITH SHAPES

Lesson overview

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

- Create a new document.
- What is a bleed? 📕
- Use tools and commands to create a variety of shapes.
- Understand Live Shapes.
- Create rounded corners.
- Discover other ways to round corners.
- Work with drawing modes.
- Use the Place command.
- Use Image Trace to create shapes.
- Work with Draw Behind mode.
- Simplify paths.
- Explore Text to Vector Graphic (Beta).
- See the latest Text to Vector Graphic feature.



This lesson will take about 60 minutes to complete. To get the lesson files used in this lesson, download them from the web page for this book at *peachpit.com/IllustratorCIB2024*. For more information, see "Accessing the lesson files and Web Edition" in the Getting Started section at the beginning of this book.



Creating and editing shapes are essential to creating Illustrator artwork. In this lesson, you'll create a new document and then use the shape tools to create and edit a series of shapes for a logo.

Starting the lesson

In this lesson, you'll explore the different methods for creating artwork by using the shape tools and other methods to create a logo for an adventure company.

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

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

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



Creating a new document

To start, you'll create a new document for the logo.

- 1 Choose File > New.
- 2 In the New Document dialog box, change the following options:
 - Click the Print category at the top of the dialog box.
 - Click the Letter blank document preset, if it isn't already selected.

You can set up a document for different kinds of output, such as print, web, video, and more, by choosing a category. For example, if you are



designing a flyer or poster, you can select the Print category and select a document preset (size). The document will be set with the units in points (most likely), the color mode as CMYK, and the raster effects to High (300 ppi)—all optimal settings for a print document.

• 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.

- On the right side of the dialog box, in the Preset Details area, change the following:
 - Enter a name for the document in the blank space under Preset Details: AdventureLogo.

The name will become the name of the Illustrator file when you save it later.

- Units: Choose Inches from the units menu to the right of the Width field.
- Width: Select the Width value, and type 8.
- Height: Select the Height value, and type 8.
- Orientation: Portrait (P).
- Artboards: 1 (the default setting).

At the bottom of the Preset Details section on the right side of the dialog box, you will also see Advanced Options and a More Settings button (you may need to scroll to see it). They contain more settings for document creation that you can explore on your own.

4 Click Create to create a new document.

Saving your document

With the document open, now you'll save it locally.

- 1 Choose File > Save.
- 2 If the Cloud Document dialog box opens, click Save On Your Computer to save the document locally.

To learn more about cloud documents, see the sidebar "What are cloud documents?" after this section.

- 3 In the Save dialog box, set the following options:
 - Filename: AdventureLogo.ai
 - Saved in the Lessons > Lesson03 folder.
 - Leave Adobe Illustrator (ai) chosen from the Format menu (macOS) or Adobe Illustrator (*.AI) chosen from the Save As Type menu (Windows).

4 Click Save.

	Ger year carlauter	Creative Cloud
Diffine access		
Courd synchrig to all your devices		
Autouving every change		
	0	
	٥	





• Note: You can set the units to whatever makes sense to you. Know that throughout the lesson I use inches. There is a note in the "Creating rectangles" section that will help when it comes to entering the value I give you in inches. Adobe Illustrator (.ai) is called a *native format* and is your working file. That means it preserves all Illustrator data so you can edit everything later.

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

The Illustrator Options dialog box is full of options for saving the Illustrator document, from specifying a version for saving to embedding any files that are linked to the document. You usually won't have to change anything in there.

- 6 Choose Window > Workspace > Essentials (if it's not already selected).
- 7 Choose Window > Workspace > Reset Essentials to reset the panels and settings for the Essentials workspace.
- 8 Look in the Properties panel on the right.

With nothing selected in the document, you'll see settings for the document like the units, navigating and editing artboards, showing and hiding useful features like rulers and guides, and much more. The Document Setup button is where you can set options like the document bleed and more. To learn more about bleeds, check out the video at the end of this section.

9 Choose View > Fit Artboard In Window to ensure that you can see the entire artboard (page).





What is a bleed?

To learn about document bleed, check out the video *Edit document settings*, which you'll find in the Web Edition. For more information, see the "Web Edition" section of "Getting Started" at the beginning of the book.

What are cloud documents?

Aside from saving your Illustrator documents locally, you can also save them as cloud documents. A cloud document is an Illustrator document that is stored in Adobe Creative Cloud and can be accessed *anywhere* you sign in to Illustrator.

Here's how to save as a cloud document and access cloud documents.

 After you create a new document or open a document from your hard drive, you save the file as a cloud document by choosing File > Save As.

The first time you do this, you will see a Cloud Document dialog box with options to save as a cloud document or save on your computer.



 To save as a cloud document, you would click the Save To Creative Cloud button. You can see it in the previous figure.

If instead of the Cloud Document dialog box you see the Save As dialog box and want to save as a cloud document, you can click the Save Cloud Document button.

 In the dialog box that appears, you can change the name and click the Save button to save the document to Creative Cloud.

When working on cloud documents, changes are automatically saved, so the document is always up to date.

Tip: If you change your mind and want to save the file locally, you can click On

Your Computer in that dialog box (an arrow is pointing to it in the figure).



Want to open a cloud document? Choose File > Open. In the Open dialog box, click the Open Cloud Document button.

You can then open a cloud document from the dialog box that appears.

Working with basic shapes

In the first part of this lesson, you'll create all kinds of shapes, including rectangles, ellipses, and polygons.

Shapes you create are made of *anchor points,* with paths connecting the anchor points.

For instance, a basic square is made of four anchor points on the corners, with paths connecting those anchor points (see the upper figure at right). A shape is referred to as a *closed path* because the ends of the path are connected.

A path like a line is an open path. An *open path* has distinct anchor points on each end, called *endpoints* (see the figure at right). You can fill both open and closed paths with color, gradients, or patterns.

Creating rectangles

The main logo art for the adventure company will be a bear. You'll start by creating a few rectangles, and you'll explore creating them using two different methods.

1 Select the Rectangle tool () in the toolbar.

First we'll create the larger rectangle that will be the body of the bear.

2 Near the top of the artboard, drag to create a rectangle, and then release the mouse button.

Don't worry about the size yet; you'll resize it shortly.

As you drew the shape, did you happen to notice the width and height in the little gray tool tip next to the pointer? That is called the *measurement*

label. That label is a part of Smart Guides (View > Smart Guides).

3 Move the pointer over the small blue dot in the center of the rectangle (called the *center point widget*). When the pointer changes (►_{III}), drag the shape so it's roughly in the middle of the artboard.

With the Rectangle tool selected (or any other shape

tool), this is how you need to move a shape. Otherwise, you will draw a new one!









Examples of open paths

e Examples of closed paths

Next, you'll create a smaller rectangle using a more precise method to serve as the head of the bear.

- 4 With the Rectangle tool () still selected, click in an empty area of the artboard to open the Rectangle dialog box.
- 5 In the dialog box, change the Width to 2.3 inches and the Height to 1.3 inches. Click OK to create a new rectangle.





Creating a rectangle by clicking rather than dragging is useful when you need to make a shape of a specific size. For most drawing tools, you can either draw with the tool or click to create a shape this way.

Editing rectangles

All of the shape tools, except for the Star tool and Flare tool (currently), create Live Shapes. Live Shapes have attributes, such as width, height, rotation, and corner radius, that are editable without switching from the drawing tool you are using.

With two rectangles created, you'll make some changes to them so they look more like the body and head of a bear and are scaled relative to each other.

- 1 Select the Selection tool (▶) in the toolbar.
- 2 Click the View menu and make sure that Smart Guides are on. A checkmark will appear next to Smart Guides in the menu if they are.

You can turn the Smart Guides on when they are useful. In this case, when you resize one of the rectangles, you will see a gray measurement label telling you its size.

- **3** Click anywhere in the larger rectangle to select it.
- 4 Drag the bottom, middle point of the rectangle until you see a height of approximately 4.6 inches in the measurement label (the gray tool tip next to the pointer), release the mouse button.

Since your rectangle might be bigger or smaller, I didn't tell you which way to drag (up or down).





You can also resize shapes with more precision in the Properties panel, which is what you'll do next.

5 In the Transform section of the Properties panel on the right, make sure Maintain Width And Height Proportions to the right of Width (W:) and Height (H:) is *deselected* (it looks like this: ^N).



Setting Maintain Width And Height

Proportions (turning it on) is useful when you change the height or the width and want the other value to change proportionally.

6 Select the Width (W:) value, and type 2.9 in. Press Return or Enter to accept the change.

 Properties
 Layers
 Libraries

 Rectangle
 Transform
 Image: Comparison



Now you'll rotate the larger rectangle so the bear body is horizontal.

7 Move the pointer just off a corner of the selected (larger) rectangle. When you see rotate arrows (), drag clockwise to rotate the shape. As you drag, press the Shift key to constrain the rotation to increments of 45 degrees. When an angle of 270° shows in the measurement label, release the mouse button and then the key. Leave the shape selected.





Tip: If you look in the Properties panel, you will also see a Rotate value. There are multiple ways to do almost everything in Illustrator. For instance, if you wanted to rotate more freely—at some random angle—you might do it by dragging, rather than choosing a rotation angle in the Properties panel.

► Tip: Why are we being so precise? In Illustrator you can work as loosely or precisely as you need. I want all of our bear logos to be about the same size and shape, so some precision is necessary! Now you'll drag the smaller rectangle onto the larger rectangle. With the Selection tool selected, you can drag from *anywhere* within the shape bounds, as long as it is filled with a color, pattern, or gradient. You don't have to use the center point like you did previously with the Rectangle tool selected.

8 Drag the smaller rectangle onto the larger rectangle where the head of the bear should go. See the figure.

Changing the color of the shapes



By default, shapes are filled with white and have a black stroke (border). Next, you'll change the

color of both rectangles to brown so they start to look more like a bear.

- With the smaller rectangle still selected, click the Fill color box (□) in the Properties panel on the right. It may be lower in the panel.
- 2 In the panel that opens, make sure that the Swatches option () is selected at the top. Select a brown color to fill the shape.



- 3 Press the Escape key to hide the Swatches panel before moving on.
- **4** Change the Stroke Weight in the Properties panel to 0 (zero).



- 5 Click the larger rectangle to select the body of the bear.
- 6 For practice, change the fill color to the same brown and set the Stroke Weight to 0 (zero) following the previous steps.
- 7 Choose Select > Deselect.



Rounding rectangle corners by dragging

The rectangles you created don't look very much like a bear yet. Luckily, we can round the corners of the rectangles to make them more interesting.

- 1 Click the larger rectangle to select it.
- 2 Choose View > Zoom In once or twice.

You need to see the Live Corners widgets () in each corner of the rectangle. If you are zoomed out far enough, the Live Corners widgets are hidden on the shape. Zoom in until you see them.

3 Drag any of the Live Corners widgets (③) in the rectangle toward the center to round all of the corners. Drag until the corners are as round as they can be.



The more you drag toward the center, the more rounded the corners become. If you drag a Live Corners widget far enough, a red arc appears on the shape, indicating you've reached the maximum corner radius.

4 Click to select the smaller brown rectangle (the head of the bear), and drag any of the Live Corners widgets (•) to round the corners a little.





- **5** Leave the smaller rectangle selected.
- **6** Choose File > Save to save the file.



Rounding individual corners

You can also round individual corners using the Selection tool. Next, you'll explore rounding the individual corners of the head of the bear.

 With the smaller rectangle selected, click the Live Corners widget (

 in the upper-right corner to select it, and then release.

If you move the pointer away, you will see that the widget has changed in appearance, from this (•) to this (•). If you drag that corner widget now, it will be the only one that changes.

2 Now, drag the selected corner widget away from the center of the shape to remove the rounding.

Be careful! If you don't click, release, and then drag, you won't select just the one corner widget. Instead, you'll round them all!

- **3** Follow the previous steps to remove the rounding from the lower-left corner of the rectangle as well.
- 4 Click the corner widget in the lower-right corner and release to select it.
- **5** Then drag it toward the opposite corner, rounding the corner as much as possible.





6 Choose Select > Deselect, and then choose File > Save.







Discover other ways to round corners

There are so many ways to round corners. To learn more ways, check out the video *Discover other ways to round corners*, which you'll find in the Web Edition. For more information, see the "Web Edition" section of "Getting Started" at the beginning of the book.

Changing a corner type

Aside from dragging to round corners, you can also use the Properties panel to change the type of corner radius and make more precise adjustments. The three types are shown in the figure at right.

Now you'll make a copy of the larger rectangle and change the corner types for a few corners. This rectangle will become the belly of the bear.

- 1 Choose View > Fit Artboard In Window to see the entire artboard.
- 2 Select the larger rectangle, and to copy it, choose Edit > Copy, and then paste it by choosing Edit > Paste.
- **3** Drag the copy just below the other rectangles.

You might need to select the two original rectangles and move them up a bit. If you do, make sure to select the copy again before continuing.

- In the Properties panel, click More Options
 (•••) in the Transform section to show more options. It's circled in the following figure.
- 5 Ensure that Link Corner Radius Values is off—it should look like this: S. You can click the button to toggle it on and off. It's circled in the figure.

Each corner value in the panel corresponds to a corner in the shape.

For the next step, *pay attention to which corner is adjusted in the figure.* Since the rectangle was rotated earlier, the corner values in the panel no longer seem to correspond to the correct corner in the shape.



Round





6 Change the lower-left and lower-right corners of the rectangle to 0 (zero).



Aside from changing the corner radius, you can also change the corner type. You can choose between Round (default), Inverted Round, and Chamfer.

7 Change the Corner Type setting for the upper-left corner and upper-right corner of the rectangle to Chamfer (2).





8 Make the corner radius for the same corners smaller. Make them both around 1 inch.



- 9 Press the Escape key to close the options panel, and leave the rectangle selected.
- **10** Drag a side handle to make the shape narrower. See the figure.



Creating an ellipse

The Ellipse tool is used to create ellipses and perfect circles. Next, you'll create an ellipse with the Ellipse tool (\bigcirc) to make an eye for the bear.

Press and hold the mouse button on the Rectangle tool () in the toolbar, and select the Ellipse tool ().

When you draw the circle that will become the eye of the bear, make it bigger than an eye should be so you can work with it more easily.

- 2 In an empty area of the artboard, Shift-drag to make a perfect circle that will become the eye of the bear. As a reference, I made mine about 1 inch in width and height. Release the mouse button and then the key.
- Zoom in to the circle by choosing
 View > Zoom In a few times or by pressing
 Command and + (macOS) or Ctrl and +
 (Windows) a few times.



Editing an ellipse

With the eye shape (circle) created, now you'll change the appearance and put it in place.

1 Press the letter D on your keyboard to apply the default of a white fill and black stroke.

This is a keyboard shortcut that I use a lot to remove formatting from shapes and get them back to a default (that's what the "D" stands for) appearance of a white fill and black stroke!



2 Change the Stroke Weight setting in the Properties panel to **19 pt**.



We need the fill to be black and the stroke to be white. So the opposite of what is applied to the current shape.

Tip: When an ellipse is a perfect circle, you will see magenta crosshairs in it as you are drawing it (with Smart Guides turned on [View > Smart Guides]).

3 To swap the fill and stroke colors, click the Swap Fill And Stroke arrow (****) toward the bottom of the toolbar on the left.





- **4** To see everything, choose View > Fit Artboard In Window.
- 5 Drag the circle by the blue center dot (the center point widget) onto the head of the bear, as you see in the figure.

Next you'll make the eye smaller. By default, stroke weights do not scale (they stay the same). So if you were to make the circle a lot smaller, for instance, the stroke weight would stay 19 pt and look rather large. See the figure for an example. To scale the stroke as the circle scales, you can turn on an option.

- 6 Click the More Options button (b) in the Transform section of the Properties panel. Select Scale Strokes & Effects in the panel that opens.
- 7 Shift-drag the circle to make it smaller. When it's small enough to look good, release the mouse button and then the key.
- 8 Drag the eye where you want it on the bear head.
- 9 Choose File > Save.







Changing stroke alignment

As you've seen, strokes are borders of an object or path. By default, strokes *center* on a path, which means that along the path, half the stroke weight is on one side and half is on the other.

You can adjust this alignment so the stroke appears in the center (default), inside, or outside. Next, you'll change the stroke so you can still see the fill of the eye.



- With the eye circle still selected, zoom in by pressing Command and + (macOS) or Ctrl and + (Windows) a few times.
- 2 Click the word "Stroke" in the Properties panel to open the Stroke panel.
- 3 In the Stroke panel, click the Align Stroke To Outside button (℡) to align the stroke to the outside edge of the circle.



I hope you can see the difference when the stroke is aligned to the outside. Zoom in if you need. I made the eye a little smaller after aligning the stroke.

4 Choose Select > Deselect.

Creating a pie shape from an ellipse

Ellipses have a pie widget that you can drag to create a pie shape. Next, you'll make a new circle and turn it into an ear.

- With the Ellipse tool (
) still selected, change the Stroke Weight in the Properties panel to 0.
- 2 Shift-drag to make another circle in an empty area of the artboard.

This circle will become the ear of the bear—but you can make it bigger and scale it down later, if you want.





With it selected, *do you see the pie widget* (-•••) *on the right side of the shape?* You can drag that to make a pie shape.

3 Drag the pie widget clockwise around the bottom of the ellipse, and then release.





Notice that there is another pie widget in the same place from which you started dragging this one. The pie widget you just dragged is called the *pie start angle*, and the other pie widget is called the *pie end angle*.

4 Drag the other pie widget (the *pie end angle*) from the same place counterclockwise around the top of the ellipse. Don't worry about how far.





the pie angle change and go back to a whole circle? Double-click either pie widget!

Tip: Need to remove

The ear shape you are making will look best if we see exactly half of it. That requires the two pie widgets you dragged to be at precise angles to each other—showing 180 degrees of the circle. You can adjust them with precision in the Properties panel.

- 5 In the Properties panel to the right, click More Options (....) in the Transform section to show more options. Choose 90° from the Pie Start Angle (...) menu.
- 6 Choose 270° from the Pie End Angle () menu.



- **7** Press the Escape key to hide the panel.
- 8 Drag the half-circle ear on top of the bear head.

• **Note:** The figure shows after choosing 270° from the Pie End Angle menu.

- **9** With the ear still selected, change the Fill color in the Properties panel to a lighter brown than the bear head.
- **10** Try adjusting the size of the ear if you need to make it look better, and rotate it slightly.

Want a little practice? You could make a new ear (or copy) to give the bear two ears! The new ear might look better if it were behind the bear head—so you can choose Arrange > Send To Back.



Drawing lines

Lines created with the Line Segment tool are Live, and similarly to Live Shapes, they have many editable attributes after they are drawn. Next, you'll create a line with the Line Segment tool. This line will become a leg of the bear.

- Press and hold on the Ellipse tool (○) in the toolbar, and select the Line Segment tool (∠).
- 2 In an empty area of the artboard, press and drag in any direction to draw a line. *Don't release the mouse button yet.*
- 3 As you drag, press the Shift key to constrain the line to a multiple of 45 degrees. Notice the length and angle in the measurement label next to the pointer as you drag. Drag directly to the right until the line is around 0.5 inches in length. Release the mouse button and then the key.



Editing a line

Now you'll rotate and change the stroke weight and color of the line.

 With the line selected, change the stroke weight to 90 pt in the Properties panel to the right of the document.





2 Click the Stroke color box in the Properties panel, and make sure that the Swatches option () is selected in the panel that appears. Select the same brown color as the body of the bear.

Since this is a leg, and a bear leg is not horizontal, it needs to be rotated. Yes, you could have drawn it that way, but then we wouldn't explore rotating lines!

M 90'

3 With the new line selected, move the pointer just off the right end. When the pointer changes to a rotate arrow (∽), press and drag up until you see an angle of 90° in the measurement label next to the pointer. That will make the line vertical.



- 4 Choose View > Fit Artboard In Window.
- 5 Select the Selection tool (▶) in the toolbar, and drag the line by the center point to make it a leg for the bear.

It's a little short—so let's make it longer. For the following figures, I moved the belly shape that was below the bear out of the way.

- **6** Drag the end of the line to make the leg longer.

• Note: If you resize a line in the same trajectory as the original path, it will snap to that same trajectory. You will also see the words "Line Extension" and "on" appear at opposite ends of the line. These appear because the Smart Guides are turned on.

7 Make a copy by Option-dragging (macOS) or Alt-dragging (Windows) the line to where the other leg should be. Release the mouse button and then the key.





