

# 10 BLENDING COLORS AND SHAPES

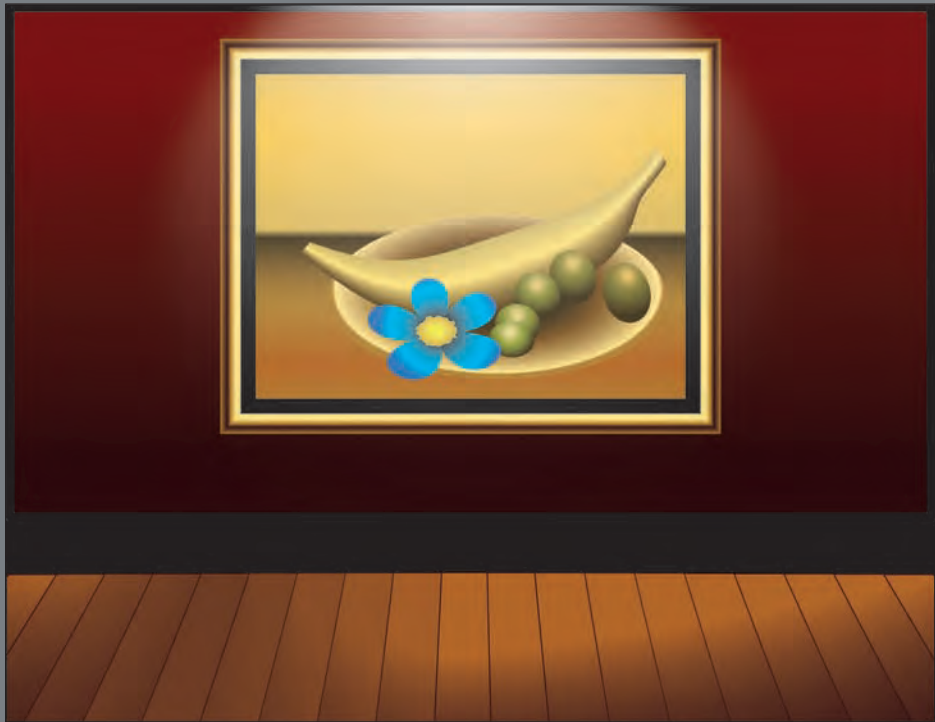
## Lesson overview

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

- Create and save a gradient fill.
- Apply and edit a gradient on a stroke.
- Apply and edit a radial gradient.
- Add colors to a gradient.
- Adjust the direction of a gradient blend.
- Adjust the opacity of color in a gradient blend.
- Blend the shapes of objects in intermediate steps.
- Create smooth color blends between objects.
- Modify a blend and its path, shape, and color.



This lesson takes approximately an hour to complete. If needed, remove the previous lesson folder from your hard disk and copy the Lesson10 folder onto it.



Gradient fills are graduated blends of two or more colors. Using the Gradient tool and Gradient panel, you can create or modify a gradient fill or gradient stroke. With the Blend tool, you can blend the shapes and colors of objects together into a new, blended object or a series of intermediate shapes.

# Getting started

You'll explore various ways to create your own color gradients and to blend colors and shapes together using the Gradient tool, Gradient panel, and the Blend tool.

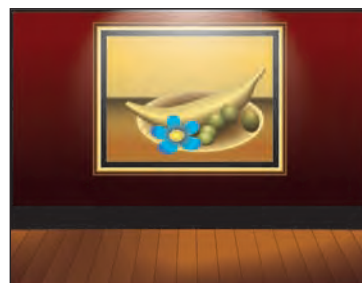
Before you begin, you'll restore the default preferences for Adobe Illustrator CS6. Then, you'll open the finished art file for this lesson to see what you'll create.

**1** To ensure that the tools and panels function exactly as described in this lesson, delete or deactivate (by renaming) the Adobe Illustrator CS6 preferences file. See "Restoring default preferences" on page 3.

**2** Start Adobe Illustrator CS6.

**Note:** If you have not already done so, copy the Lesson10 folder from the Lessons folder on the *Adobe Illustrator CS6 Classroom in a Book* CD onto your hard disk. See "Copying the Classroom in a Book files" on page 2.

**3** Choose File > Open, and open the L10end.ai file in the Lesson10 folder, located in the Lessons folder on your hard disk.



**4** Choose View > Zoom Out to make the finished artwork smaller, if you want to leave it on your screen as you work. (Use the Hand tool [H] to move the artwork where you want it in the window.) If you don't want to leave the document open, choose File > Close.

To begin working, you'll open an existing art file.

**Note:** In Mac OS, when opening lesson files, you may need to click the round, green button in the upper-left corner of the Document window to maximize the window's size.

**5** Choose File > Open, and open the L10start.ai file in the Lesson10 folder, located in the Lessons folder on your hard disk.



**6** Choose File > Save As, name the file **gallery.ai**, and select the Lesson10 folder in the Save In menu. Leave the Save As Type option set to Adobe Illustrator (\*.AI) (Windows) or the Format option set to Adobe Illustrator (ai) (Mac OS), and then click Save. In the Illustrator Options dialog box, leave the Illustrator options at their default settings and then click OK.

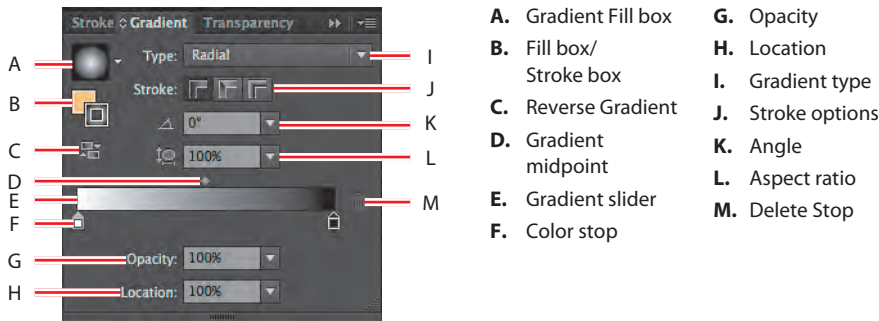
**7** Choose Reset Essentials from the workspace switcher in the Application bar.

**Note:** If you don't see "Reset Essentials" in the workspace switcher, choose Essentials before choosing Reset Essentials.

# Working with gradients

A gradient fill is a graduated blend of two or more colors. You can create your own gradients, or you can use the gradients provided with Adobe Illustrator and then edit them and save them as swatches for later use.

You can use the Gradient panel (Window > Gradient) or the Gradient tool (■) to apply, create, and modify gradients. In the Gradient panel, the Gradient Fill or Stroke box displays the current gradient colors and gradient type applied to the fill or stroke of an object.



In the Gradient panel, the left gradient stop under the gradient slider marks the starting color; the right gradient stop marks the ending color. A gradient color stop is the point at which a gradient changes from one color to the next. You can add more color stops by clicking below the gradient slider. Double-clicking a color stop opens a panel where you can choose a color from swatches, color sliders, or the eyedropper.

## Creating and applying a linear gradient to a fill

To begin the lesson, you'll create a gradient fill for the background.

- 1 Choose View > Fit Artboard In Window.
- 2 Using the Selection tool (⌘), click to select the large yellow rectangle with a black border in the background.

The background is painted with a yellow fill color and a black stroke, as shown in the Fill and Stroke boxes toward the bottom of the Tools panel. The Gradient box below the Fill and Stroke boxes shows the last created gradient. The default gradient fill is a black-and-white gradient.

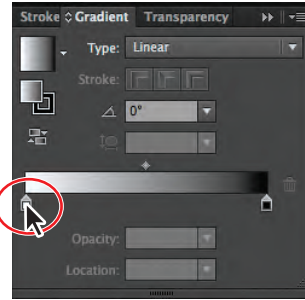
- 3 Click the Fill box to activate it, and then click the Gradient box (■) near the bottom of the Tools panel.

The default black-and-white gradient appears in the Fill box and is applied to the fill of the selected background shape. The Gradient panel also opens.



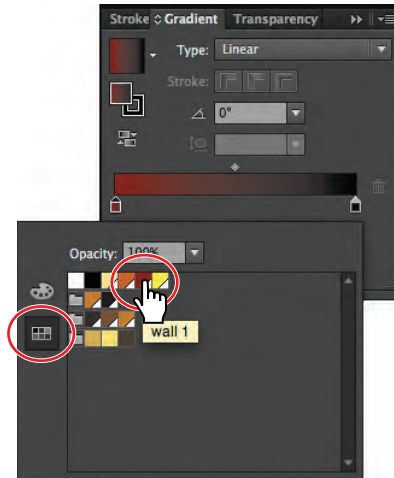
- 4 In the Gradient panel that opens, double-click the white, leftmost gradient stop to select the starting color of the gradient.

A new panel appears when you double-click a color stop. In this panel, you can change the color of the stop, using swatches or the Color panel, which is what you'll do next.



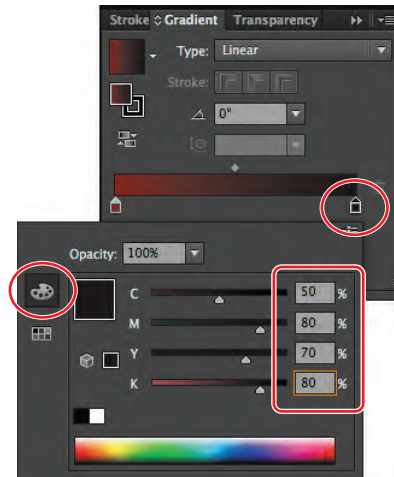
- 5 After double-clicking the color stop, click the Swatches button (📄) in the new panel that appears. Click to select the swatch named wall 1. Notice the gradient change on the artboard. Press the Escape key, or click in a blank area of the Gradient panel to close the color panel.

- 6 Double-click the black color stop on the right side of the gradient slider to edit the color.



- 7 In the panel that appears below the Gradient panel, click the Color button (🎨) to open the Color panel. Choose CMYK from the Color panel menu (☰), if it is not already showing. Change the values to C=50, M=80, Y=70, and K=80. After entering the last value, click in a blank area of the Gradient panel to return to the Gradient panel.

Next, you'll save the gradient in the Swatches panel.

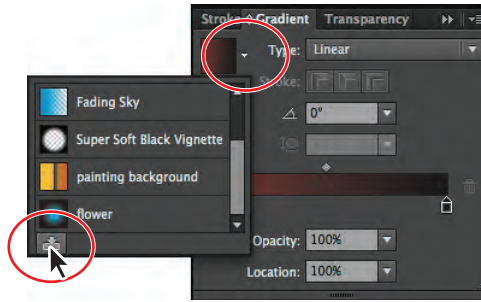


● **Note:** The colors that you will use in gradients in this lesson have been saved in color groups, grouped according to the object you are applying them to, to make them easier to find.

▶ **Tip:** To move between text fields, press the Tab key. Press Enter or Return to apply the last value typed.

- 8 To save the gradient, click the Gradient Menu button (☰) and then click the Add To Swatches button (📁) at the bottom of the panel that appears.

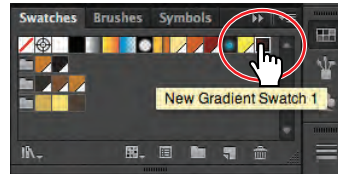
The Gradient menu lists all the default and saved gradients that you can apply.



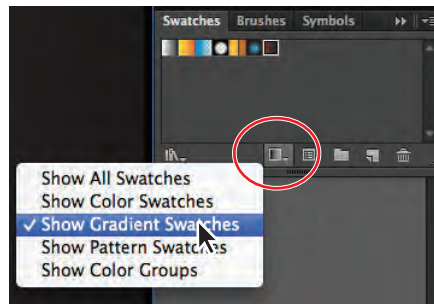
► **Tip:** You can save a gradient by selecting an object with a gradient fill, clicking the Fill box in the Tools panel, and then clicking the New Swatch button (📁) at the bottom of the Swatches panel.

Next, you will rename the gradient swatch in the Swatches panel.

- 9 Click the Swatches panel icon (📁) on the right side of the workspace to open the Swatches panel. In the Swatches panel, double-click New Gradient Swatch 1 to open the Swatch Options dialog box. Type **wall background** in the Swatch Name field, and then click OK.



- 10 To display only gradient swatches in the Swatches panel, click the Show Swatch Kinds Menu button (☰) at the bottom of the Swatches panel and choose Show Gradient Swatches from the menu.



- 11 With the rectangle still selected on the artboard, apply some of the different gradients to the shape fill by clicking them in the Swatches panel. Click the wall background gradient you just saved to make sure it is applied before continuing to the next step.

Notice that some of the gradients have more than two colors. You'll learn how to make a gradient with multiple colors later in this lesson.

- 12 Click the Show Swatch Kinds Menu button (☰) at the bottom of the Swatches panel, and choose Show All Swatches from the menu. Click the Swatches panel tab to collapse the panel.
- 13 Choose File > Save, and leave the rectangle selected.

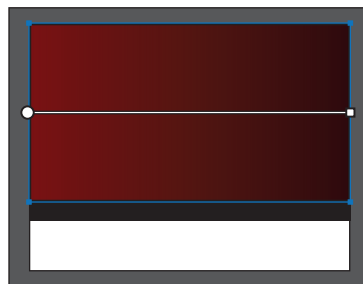
## Adjusting the direction and angle of a gradient fill

Once you have painted an object with a gradient, you can adjust the direction, origin, and the beginning and end points of the gradient using the Gradient tool.

Now, you'll adjust the gradient fill in the background shape.

- 1 Select the Gradient tool (▬) in the Tools panel.

The Gradient tool works only on selected objects that are filled with a gradient. Notice the horizontal gradient annotator (bar) that appears in the middle of the rectangle. The bar indicates the direction of the gradient. The larger circle on the left shows the starting point of the gradient (the first color stop), and the smaller square on the right is the ending point (the last color stop).

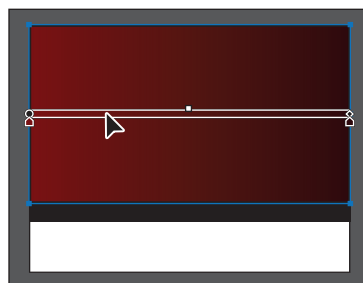


► **Tip:** You can hide the gradient annotator (bar) by choosing View > Hide Gradient Annotator. To show it again, choose View > Show Gradient Annotator.

● **Note:** If you move the pointer to different areas of the gradient slider, the appearance of the pointer may change. This indicates that different functionality has been activated.

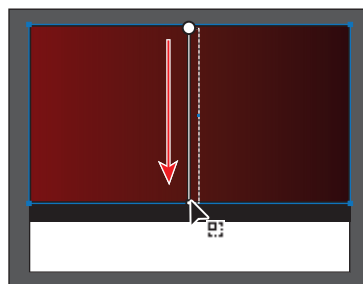
- 2 Position the pointer over the bar in the gradient annotator.

The bar turns into the gradient slider, much like the one in the Gradient panel. You can use the gradient slider to edit the gradient without opening the Gradient panel.



- 3 With the Gradient tool, Shift-click the top of the rectangle and drag down to the bottom of the rectangle to change the position and direction of the starting and ending colors of the gradient. Release the mouse button and then the key.

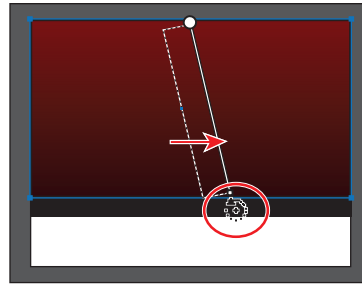
Holding down the Shift key constrains the gradient to 45 degree angles.



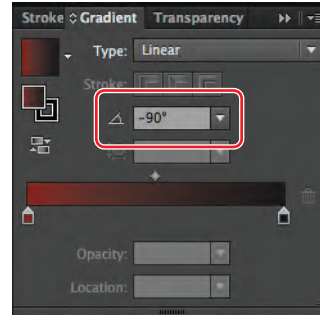
- 4 Practice changing the gradient in the rectangle. For example, drag inside the rectangle to create a short gradient with distinct color blends; drag a longer distance beyond the rectangle edges to create a longer gradient with more subtle color blends. You can also drag up to transpose the colors and reverse the direction of the blend. *Repeat step 3 before continuing to the next step.*

- 5 With the Gradient tool, position the pointer just off the small white square at the bottom of the gradient annotator. A rotation icon (⦿) appears. Drag to the right to rotate the gradient in the rectangle.

The gradient annotator is rotated to indicate the direction of the gradient when you release the mouse button.



- 6 Double-click the Gradient tool in the Tools panel to show the Gradient panel. Change the rotation angle in the Angle field to  $-90^\circ$  to return the gradient to vertical. Press Enter or Return.
- 7 With the background rectangle still selected, choose Object > Lock > Selection.
- 8 Choose File > Save.

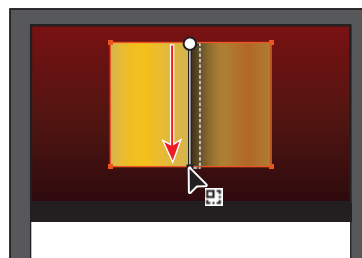
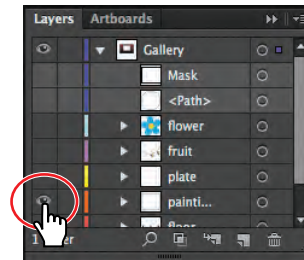


**Note:** Entering the gradient rotation in the Gradient panel, rather than adjusting it directly on the artboard, is useful when you want to achieve consistency and precision.

## Applying a gradient to a stroke

Not only can you apply a gradient to the fill of an object, but you can also apply a gradient blend to the stroke of an object. Unlike a gradient applied to the fill of an object, you cannot use the Gradient tool to edit a gradient on the stroke of an object. Next, you will apply a gradient fill and gradient stroke to a rectangle that will become a painting.

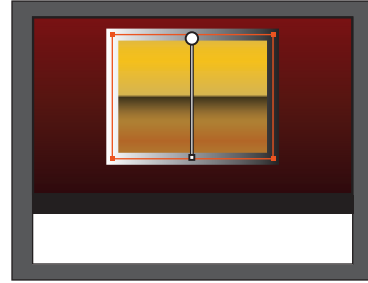
- 1 Click the Layers panel icon (☰) to expand the panel. Make sure that the triangle to the left of the Gallery layer is toggled open. Click the visibility column to the left of the painting sublayer to reveal its content.
- 2 With the Selection tool (⬇️), click to select the white rectangle that appears on the artboard.
- 3 In the Control panel, change the Fill color to the painting background swatch.
- 4 Select the Gradient tool in the Tools panel, and make sure that the Fill box is selected toward the bottom of the Tools panel. Position the pointer over the top of the rectangle, and Shift-drag down to the bottom of the rectangle to change the position and direction of the starting and ending colors of the gradient. Release the mouse button and then the key.





- 5 Change the Stroke weight to **30 pt** in the Control panel.
- 6 In the Control panel, change the Stroke color to the White, Black gradient. Press the Escape key to hide the Swatches panel.

Next, you will use this generic gradient as a starting point for the stroke gradient and then edit it.



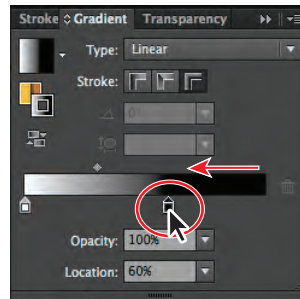
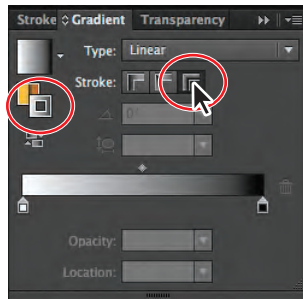
## Editing a gradient on a stroke

A gradient on a stroke has more options available than a gradient fill. Next, you will add a series of colors to the stroke gradient to create a frame for a painting.

- 1 Click the Gradient panel icon (◻) on the right side of the workspace to open the panel.
- 2 Select the Zoom tool (Q) in the Tools panel, and drag a marquee across the upper-right corner of the selected painting rectangle to zoom in to it.
- 3 Click the Stroke box in the Gradient panel to edit the gradient applied to the stroke (circled in the figure below).
- 4 Leave the Type as Linear, and click the Apply Gradient Across Stroke button (◻).

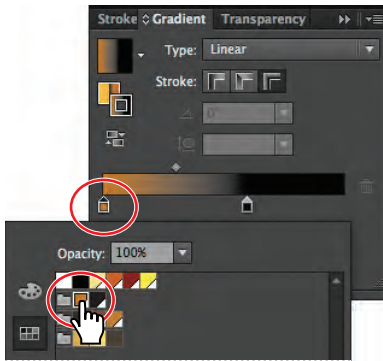
You can apply a gradient to a stroke in three ways: within a stroke (default), along a stroke, and across a stroke.

- 5 Drag the black color stop to the left until the Location shows approximately **60%**.

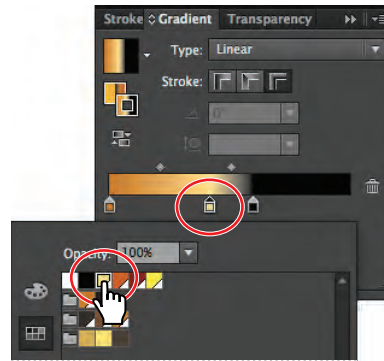


- 6 Double-click the white color stop, and click the Swatches button (◻) to show the swatches. Click to select the frame 1 swatch in the top color group. Click outside the panel to accept the selection.
- 7 Position the pointer below the color ramp, between the two color stops, to add another color stop. When the pointer with a plus (⊕) appears, click to add another color stop (see the figure). Double-click that color stop and, with the swatches showing, click the light yellow swatch at the top of the panel.

► **Tip:** You can delete a color in the color ramp by selecting a color stop and clicking the Delete Stop button or by dragging the color stop downward and out of the Gradient panel.

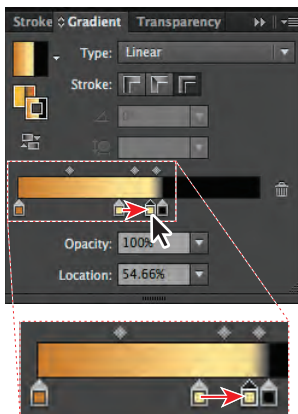


Edit the white color.

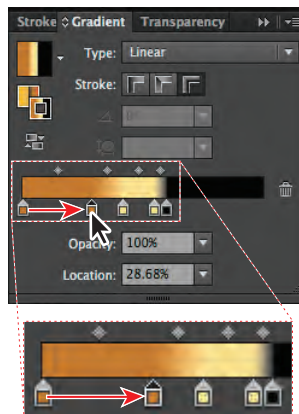


Add another color to the gradient.

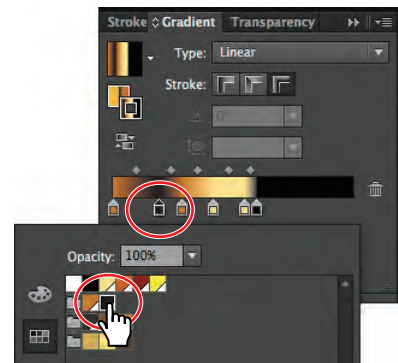
- 8 Pressing the Alt (Windows) or Option (Mac OS) key, drag the light yellow color stop to the right, close to the black color stop, and release the mouse button and then the modifier key. This is an easy way to duplicate a color in a gradient.
- 9 Pressing the Alt (Windows) or Option (Mac OS) key, drag the leftmost (brown) color stop to the right. Release the mouse button and then the modifier key, when it is positioned as you see in the figure below.
- 10 Click below the color ramp, between the two leftmost color stops, to add a final color stop. Double-click the color stop and, with the swatches showing, click the swatch named frame 2 in the top color group.



Duplicate the yellow stop.



Duplicate the leftmost color stop.



Add and edit the final color stop.

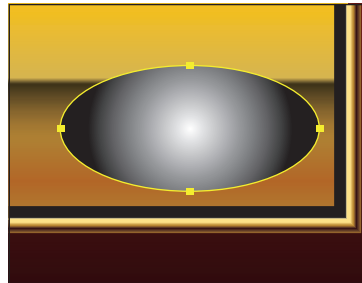
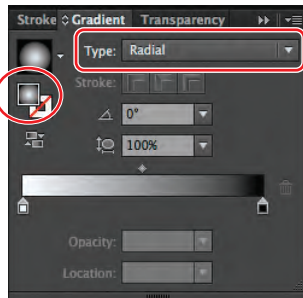
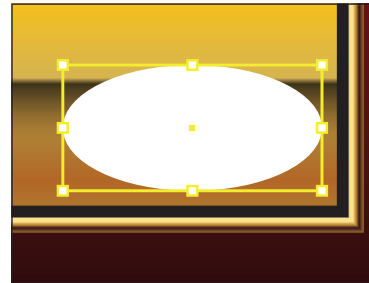
- 11 Choose Select > Deselect, and then choose File > Save.



## Creating and applying a radial gradient

You can create either linear or radial gradients in Illustrator. Both types of gradients have a starting and ending color. With a radial gradient, the starting color (leftmost color stop) of the gradient defines the center point of the fill, which radiates outward to the ending color (rightmost color stop). Next, you will create and apply a radial gradient fill to a plate.

- 1 Choose View > Fit Artboard In Window.
- 2 Expand the Layers panel by clicking the Layers panel icon (☰) on the right side of the workspace. Make sure that the triangle to the left of the Gallery layer is toggled open. Click to select the visibility column to the left of the plate sublayer (you may need to scroll in the Layers panel).
- 3 Use the Selection tool (⬚) to select the white ellipse in the frame of the painting.
- 4 Select the Zoom tool (🔍) in the Tools panel, and click the ellipse several times to zoom in.
- 5 In the Control panel, change the Fill color to the White, Black gradient.
- 6 Click the Gradient panel icon (🎨) to show the Gradient panel. In the Gradient panel, make sure that the Fill box is selected. Choose Radial from the Type menu to convert the linear gradient in the shape to a radial gradient. Keep the ellipse selected and the Gradient panel showing.



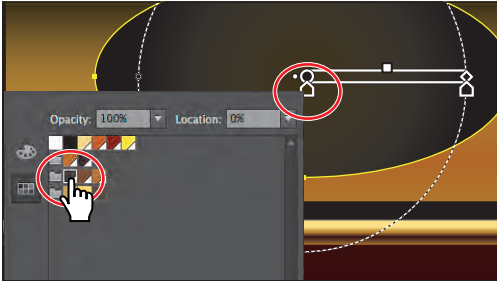
## Editing the radial gradient colors

Once you have filled an object with a gradient, you can use the Gradient tool or the Gradient panel to edit the gradient, including changing the direction, color, and origin.

Next, you will use the Gradient tool to adjust the color of each color stop and add two more colors, for a total of four colors in the radial gradient.

- 1 Select the Gradient tool (🎨) in the Tools panel.

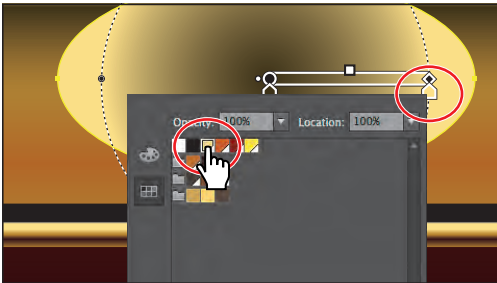
- 2 Position the pointer over the gradient annotator (bar) in the artwork to reveal the gradient slider. Double-click the white color stop on the left end to edit the color. In the panel that appears, click the Swatches button (☐), if it's not already selected. Select the color called plate 1 in the second color group. Press the Escape key to hide the panel.



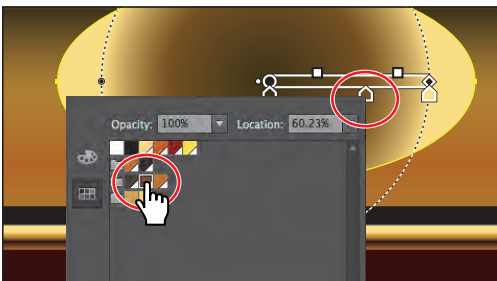
● **Note:** When you double-click the color stop, you can see the Location in the panel that appears. As you build this radial gradient, you can copy the values you see in the figures to closely match the positions of the color stops.

Notice that the gradient annotator starts from the center of the ellipse and points to the right. The dashed circle around it indicates that it is a radial gradient. You can set additional options for radial gradients, as you'll soon see.

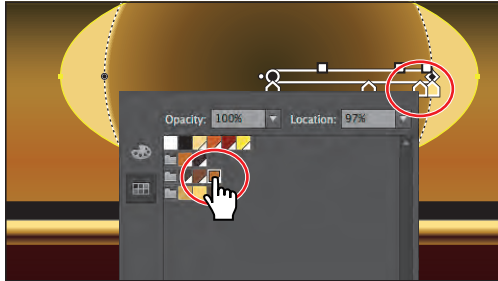
- 3 In the gradient slider, double-click the black color stop on the right. In the panel that appears, select the light yellow swatch at the top of the swatches panel. Press the Escape key to close the panel.



- 4 Position the pointer beneath the gradient slider. When the pointer with a plus sign appears (⌘+), click to add another color to the gradient. See the figure below for placement. Double-click the new color stop beneath the gradient slider. In the panel that appears, select the plate 2 swatch in the second color group. Press the Escape key to close the panel.

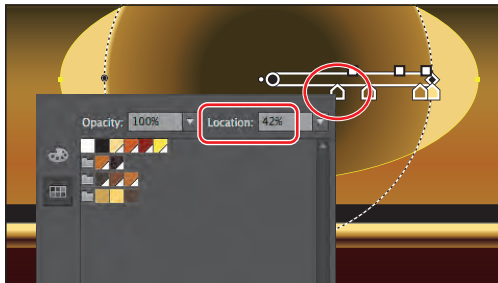


- 5 Position the pointer beneath the gradient slider, and click to add a fourth (and final) color stop. See the figure for placement. Double-click the new color stop beneath the gradient slider. In the panel that appears, select the plate 3 swatch in the second color group. Make sure that the Location is **97%**. Press the Escape key to close the panel.

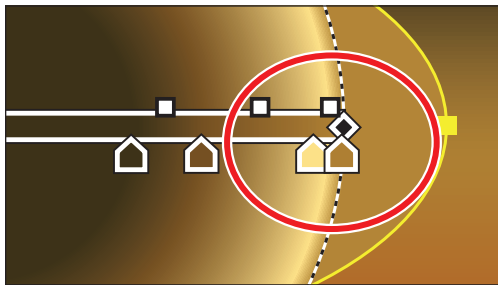


Once the colors are set in the gradient, you can always delete, add more, or even change the order of colors. Next, you will change the order of the last two colors.

- 6 Double-click the leftmost color stop, and change the Location value to **42%** in the panel that appears. Press Enter or Return to change the value and hide the panel.



- 7 Drag the rightmost (yellow) color stop to the left (just to the left of the closest brown color stop). Drag the rightmost brown color stop to the right, all the way to the end of the gradient slider. See the figure for how they should be arranged. Notice that they are still close to each other.

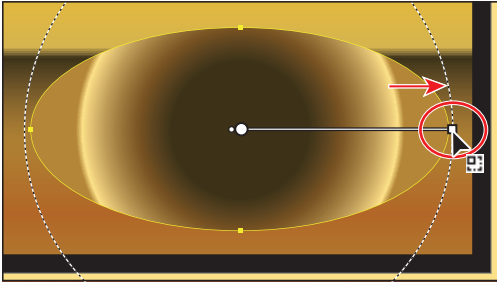


- 8 Choose File > Save.

## Adjusting the radial gradient

Next, you will change the aspect ratio of the gradient, adjust the position, and change the radius and the origin of the radial gradient.

- 1 With the Gradient tool, position the pointer over the small white box on the right end of the gradient annotator. Click and drag to the right, stopping just past the right edge of the ellipse shape, and release the mouse button. This lengthens the gradient.

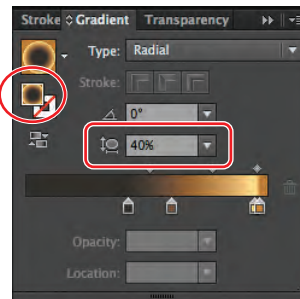


● **Note:** You may not see the dotted circle as you drag the end of the gradient annotator. It appears if you position the pointer over the gradient annotator bar first, before dragging the right end point. That's okay.

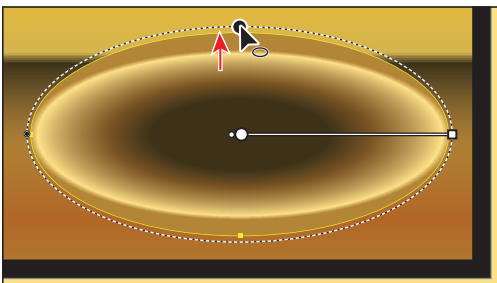
- 2 In the Gradient panel, ensure that the Fill box is selected and then change the Aspect Ratio (⌘) to 40% by selecting it from the menu.

The aspect ratio changes a radial gradient into an elliptical gradient and makes the gradient better match the shape of the plate.

- 3 With the Gradient tool, position the pointer over the gradient on the plate. Click the top black circle on the dotted path, and drag up to just past the top of the ellipse shape to change the aspect ratio.



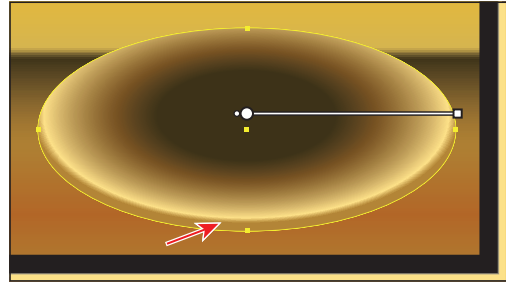
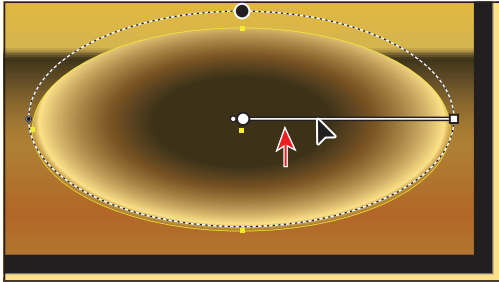
● **Note:** The aspect ratio is a value between 0.5 and 32767%. As the aspect ratio gets smaller, the ellipse flattens and widens.



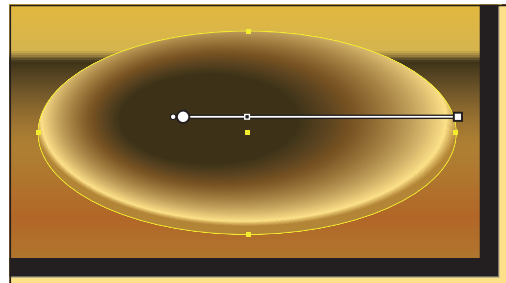
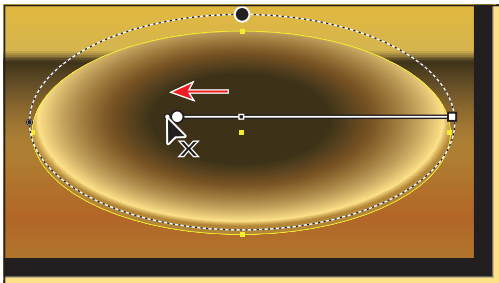
When you release the mouse button, notice that the Aspect Ratio value in the Gradient panel is now larger than the 40% set previously (it's now closer to 50%).

Next, you will drag the gradient slider to reposition the gradient in the ellipse.

- 4 With the Gradient tool, click and drag the gradient slider up a little bit to move the gradient in the ellipse. Make sure that the bottom edge of the dotted ellipse is above the edge of the ellipse.



- 5 With the Gradient tool, click the small white dot to the left of the leftmost color stop and drag to the left.



This dot repositions the center of the gradient (the leftmost color stop) without moving the entire gradient bar and changes the radius of the gradient.

- 6 Choose Edit > Undo Gradient to put the gradient back to the center.
- 7 Choose Select > Deselect and then File > Save.

## Applying gradients to multiple objects

You can apply a gradient to multiple objects by selecting all the objects, applying a gradient color, and then dragging across the objects with the Gradient tool.

Now, you'll paint a flower with a radial gradient fill, and then edit the colors in it.

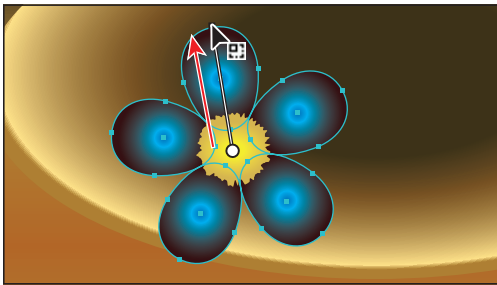
- 1 Choose View > Fit Artboard In Window.
- 2 Click the Layers panel icon (☰) to open the Layers panel. Click to select the visibility column to the left of the flower sublayer.

- 3 Select the Zoom tool (Q) in the Tools panel, and drag a marquee across the blue flower shapes to zoom in.
- 4 Use the Selection tool (V), and click to select one of the blue flower shapes.
- 5 Choose Select > Same > Fill Color to select all five blue flower shapes.
- 6 In the Control panel, choose the gradient named flower from the Fill color.

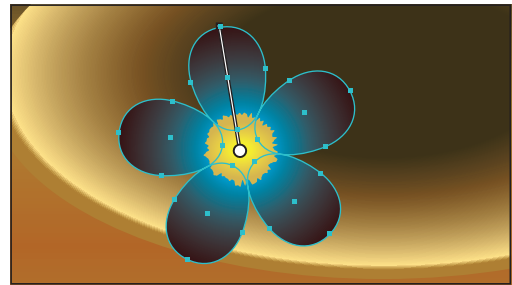
When you apply a gradient to the fill or stroke of multiple selected objects, they are applied independently.

Now, you'll adjust the gradient on the shapes so that the gradient blends across all of them as one object, and then you'll adjust the gradient itself.

- 7 Make sure that the Fill box is selected at the bottom of the Tools panel.
- 8 Double-click the Gradient tool (G) in the Tools panel to select the tool and to show the Gradient panel. Drag from the approximate center of the yellow flower center to the outer edge of one of any one of the petal shapes, as shown in the figure, to apply the gradient uniformly. Leave the flower shapes selected.



Drag across the flower shapes with the Gradient tool.



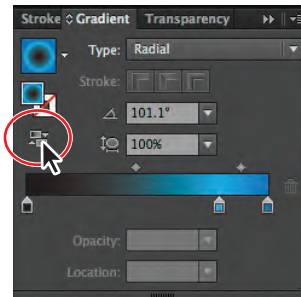
The result.

## Exploring other methods for editing gradient colors

Up to this point, you've added, edited, and adjusted the position of colors on the color ramp. Next, you will reverse a gradient and adjust the midpoint between colors on the color ramp.

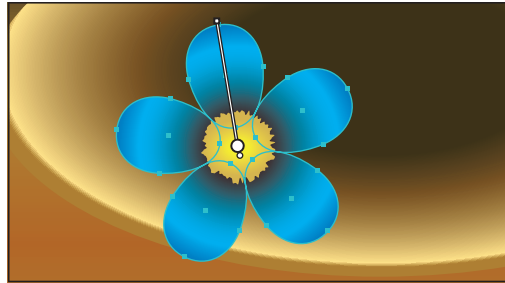
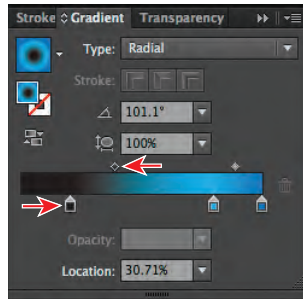
- 1 In the Gradient panel, with the Fill box selected, click the Reverse Gradient button (↔).

You can also reverse the colors in a gradient by using the Gradient tool to drag across the gradient on the artboard in the opposite direction. This will make it so that the dark color is in the center of the gradient.





- 2 In the color ramp, in the Gradient panel, drag the leftmost color stop to the right until you see approximately **20%** in the Location at the bottom of the Gradient panel (it doesn't have to be exact).
- 3 Drag the diamond icon located between the leftmost color stop and the middle color stop to the left, closer to the leftmost color stop. Drag until the Location shows a value of approximately **30%** (it doesn't have to be exact).



Another way to apply a color to a gradient is to sample the color from the artwork, using the Eyedropper tool, or drag a color swatch onto a color stop.

- 4 With the flower shapes still selected, click to select the leftmost color stop (the dark color) in the Gradient panel.
- 5 Choose View > Fit Artboard In Window.
- 6 Select the Eyedropper tool (🖱️) in the Tools panel. In the artwork, Shift-click the black rectangle at the bottom of the wall.

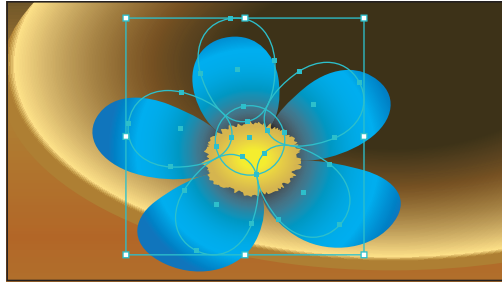
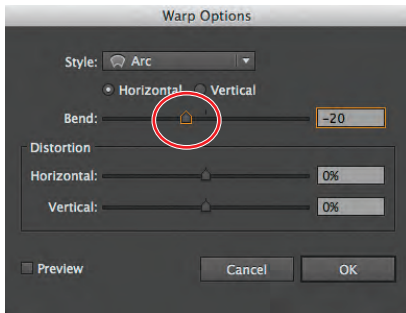


Shift-clicking with the Eyedropper tool applies the sampled color to the selected color stop in the gradient, rather than replacing the entire gradient with the color in the selected artwork.

The flower petals are complete. Now, you will group them with the flower center shape and apply a warp to give the whole flower some dimension.

- 7 Select the Zoom tool (🔍) in the Tools panel, and drag a marquee across the blue flower shapes to zoom in.
- 8 With the Selection tool (🖱️), Shift-click the yellow center shape in the flower.

- 9 Choose Object > Group.
- 10 Choose Effect > Warp > Arc. In the Warp Options dialog box, with Horizontal selected, change the Bend to **-20%** and then click OK.

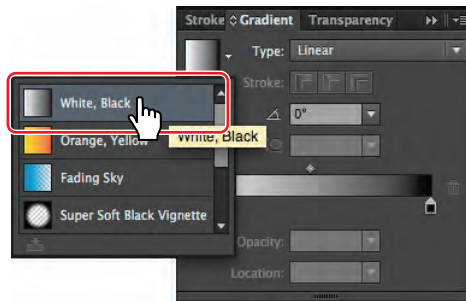


- 11 Choose Select > Deselect and then File > Save.

## Adding transparency to gradients

By specifying different opacity values for the different color stops in your gradient, you can create gradients that fade in or out and that show or hide underlying images. Next, you will create a light for the painting and apply a gradient that fades to transparent.

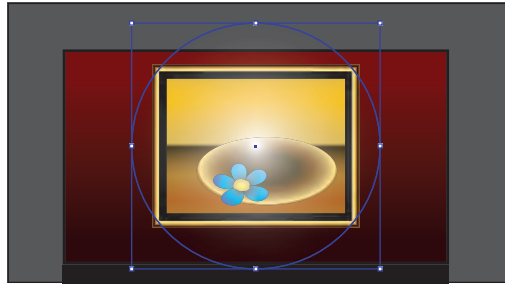
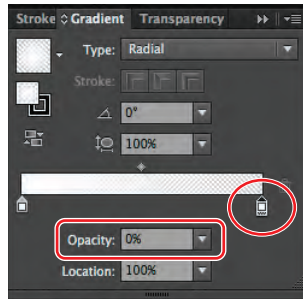
- 1 Click the Layers panel icon (☰) to open the Layers panel. Click to select the visibility column to the left of the <Path> object.
- 2 Choose View > Fit Artboard In Window.
- 3 Using the Selection tool (⬚), click to select the white ellipse now showing on the artboard.
- 4 Open the Gradient panel by clicking the Gradient panel icon. Ensure that the Fill box is selected, click the Gradient menu button (▾), and then select White, Black.
- 5 Choose Radial from the Type menu in the Gradient panel. Double-click the rightmost color stop (the black color). In the panel that appears, click the Swatches button (📄) and select the color swatch named White. Press the Escape key once to hide the swatches.



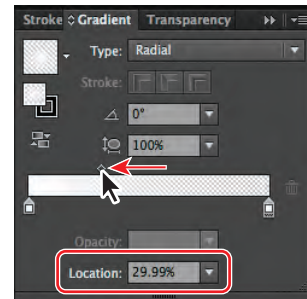
► **Tip:** The Fading Sky and Super Soft Black Vignette default gradients are also great starting points for fading to transparency.

● **Note:** You'll see the purpose of the white-to-white gradient in the next step, when you will change the transparency of the rightmost color stop.

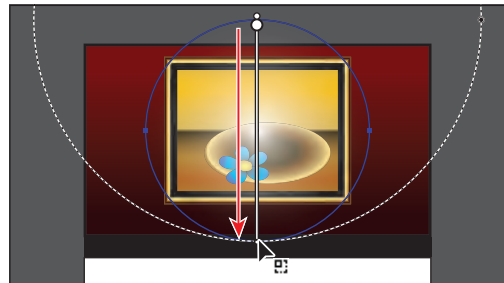
- 6 With the rightmost color stop selected, change the Opacity to 0.



- 7 Drag the gradient midpoint (the diamond shape) to the left until you see a value of approximately 30% in the Location field. Click the Gradient panel tab to collapse the Gradient panel group.
- 8 Press Ctrl+- (Windows) or Command+- (Mac OS) once to zoom out to see the entire selected circle.



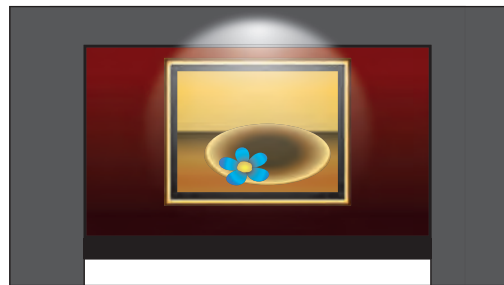
- 9 Select the Gradient tool (▬) in the Tools panel. Holding down the Shift key, drag from the top to the bottom of the ellipse shape. Be careful not to drag the Aspect Ratio button.



- 10 In the Control panel, change the Stroke Color to [None].

- 11 Choose Effect > Blur > Gaussian Blur. In the Gaussian Blur dialog box, change the Radius to 60 and then click OK.

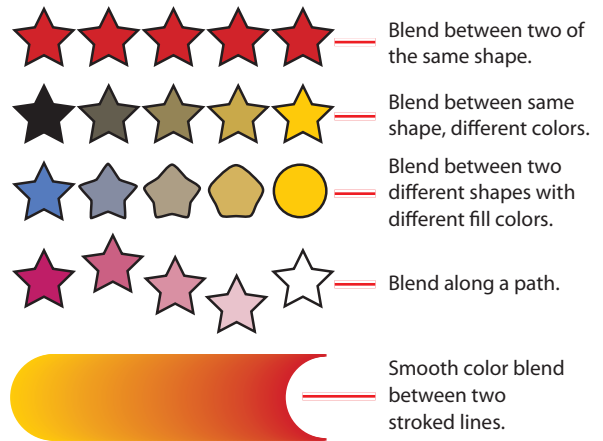
- 12 Choose Select > Deselect and then File > Save.



# Working with blended objects

You can blend two distinct objects to create and distribute shapes evenly between two objects. The two shapes you blend can be the same or different. You can also blend between two open paths to create a smooth transition of color between objects, or you can combine blends of colors and objects to create color transitions in the shape of a particular object.

When you create a blend, the blended objects are treated as one object, called a blend object. If you move one of the original objects or edit the anchor points of the original object, the blend changes accordingly. You can also expand the blend to divide it into distinct objects.



## Creating a blend with specified steps

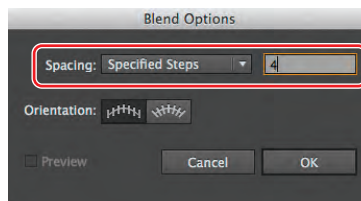
Now, you'll use the Blend tool to blend three shapes that will make up the wood floor of the gallery.

- 1 Choose View > Fit Artboard In Window.
- 2 Click the Layers panel icon (☰) to open the Layers panel. Click to select the visibility column to the left of both the floor and the fruit sublayers. Click the visibility column to hide the <Path>, flower, plate, painting, and wall sublayers. Click the Layers panel tab to collapse the panel group.



Before you blend shapes, you can set the options for how they blend.

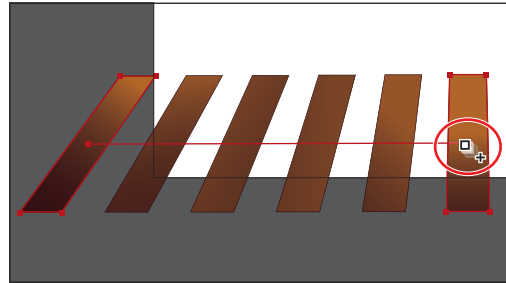
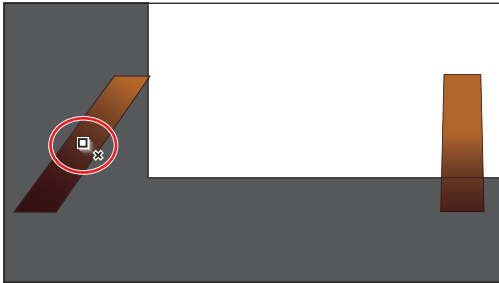
- 3 Double-click the Blend tool (☞) in the Tools panel to open the Blend Options dialog box.
- 4 Choose Specified Steps from the Spacing menu, and change the number of steps to 4. Click OK.



► **Tip:** You can also make a blend by selecting objects and choosing Object > Blend > Make.

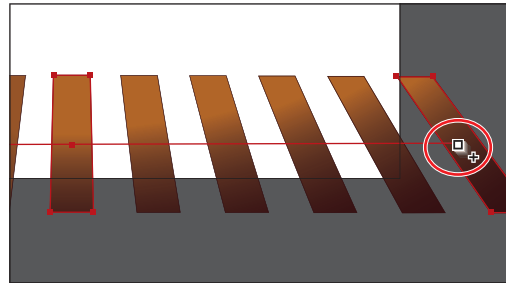
- 5 Scroll down in the Document window so that you can see the three brown floor shapes.

- Using the Blend tool, position the pointer over the gradient-filled rectangle on the far left. Click when the pointer displays an X (⌘+X). Then, hover over the middle rectangle until the pointer displays a plus sign (⌘+), indicating that you can add an object to the blend. Click the middle rectangle to add it to the blend. There is now a blend between these two objects.



- Click the rightmost rectangle with the Blend tool pointer (displaying the plus sign) to add it to the blend and complete the blend object.

**Note:** If you wanted to end the current path and blend other objects, you would first click the Blend tool in the Tools panel and then click the other objects, one at a time, to blend them.

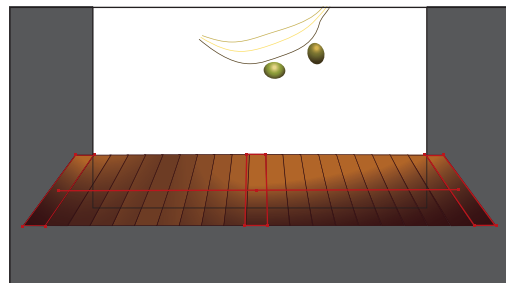
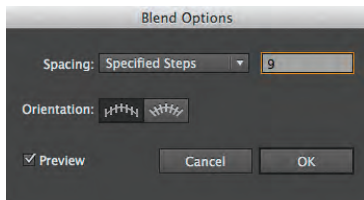


## Modifying a blend

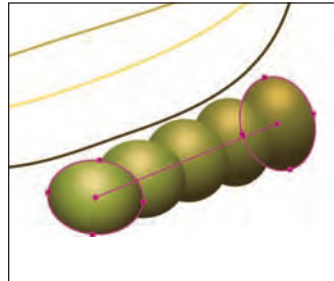
Now, you'll modify the blend object using the Blend Options dialog box. You'll also create another blend and edit the shape of the path, called the spine, that the objects blend along.

**Tip:** To edit the blend options for an object, you can also select the blend object and then double-click the Blend tool.

- With the blended rectangles still selected, choose Object > Blend > Blend Options. In the Blend Options dialog box, change the Specified Steps to **9** and then click OK.



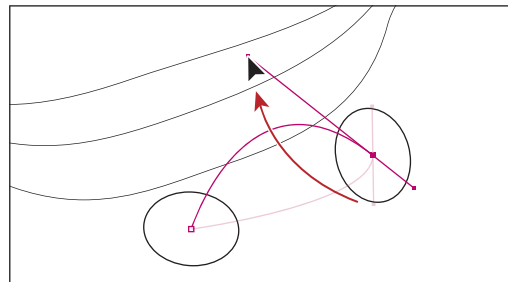
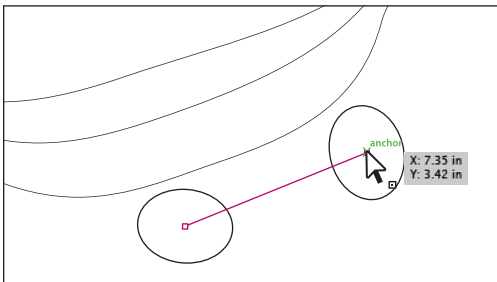
- 2 Choose Select > Deselect.
- 3 Select the Zoom tool (Q) in the Tools panel, and drag a marquee across the green grapes to zoom in. You may need to scroll up in the Document window.
- 4 With the Blend tool, click the first green grape on the left and then click the green grape on the right to create a blend.
- 5 Double-click the Blend tool (C) in the Tools panel to open the Blend Options dialog box. Change the specified steps to 3. Click OK.
- 6 Choose View > Outline.



In Outline mode, you can see the outlines of the two original grapes and a straight path between them. These three objects are what a blend object is composed of, by default. It can be easier to edit the path between the original objects in Outline mode.

- 7 Make sure that the Smart Guides are selected (View > Smart Guides).
- 8 Select the Direct Selection tool (A) in the Tools panel. Click the anchor point on the right end of the path to select that anchor point. In the Control panel, click the Convert Selected Anchor Points To Smooth button (S) to smooth the curve. With the Direct Selection tool, drag the bottom direction handle up and to the left. See the figure for help.

**Note:** You are editing the spine. However you edit the spine, the blend objects will follow.



- 9 Choose View > Preview to see the change.
- 10 Choose Select > Deselect.

You can modify the blend instantly by changing the shape, color, or position of the original objects. Next, you will edit the position of the grape on the left and see the effect on the blend.

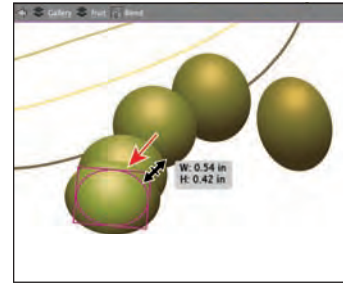
- 11 With the Selection tool (V), click the blended grapes to select them.
- 12 Double-click anywhere on the blend object to enter Isolation mode.

This temporarily ungroups the blended objects and lets you edit each original grape (but not the grapes created by blending), as well as the spine.

**Tip:** A quick way to reshape the spine of a blend is to blend the shapes along another path. You can draw another path, then select the blend as well, and choose Object > Blend > Replace Spine.

► **Tip:** You can reverse a blend by choosing Object > Blend > Reverse Front To Back.

**13** Click to select the grape on the left. With the Selection tool, press Shift+Alt (Windows) or Shift+Option (Mac OS) and drag a corner bounding point toward the center to make the grape smaller. Release the mouse button and then the keys.

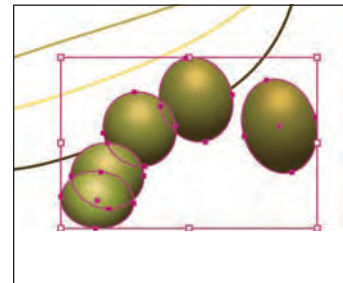


**14** Press the Escape key to exit Isolation mode.

The blended objects are considered a single blend object. If you need to edit all the grapes (including the grapes that the blend created), you can expand the blend. Expanding the blend converts the blend to individual objects. You can no longer edit the blend as a single object because it has become a group of individual grape shapes. Next, you will expand the blend.

► **Tip:** To release, or remove, a blend from the original objects, select the blend and choose Object > Blend > Release.

**15** Choose Object > Blend > Expand. With the grapes still selected, notice the word “Group” on the left side of the Control panel.



The blend is now a group of individual shapes that you can edit independently.

**16** Choose Select > Deselect.

**17** Choose File > Save.

## Creating and editing smooth color blends

You can choose several options for blending the shapes and colors of objects to create a new object. When you choose the Smooth Color blend option, Illustrator combines the shapes and colors of the objects into many intermediate steps, creating a smooth, graduated blend between the original objects.

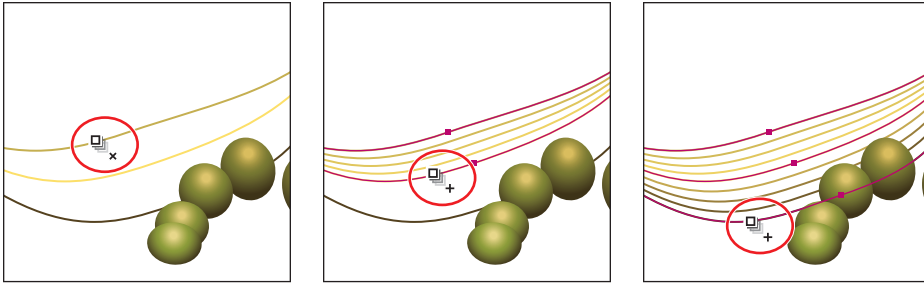
Now, you'll combine three shapes into a smooth color blend to make a banana.

**1** Choose View > Fit Artboard In Window. Press Ctrl++ (Windows) or Command++ (Mac OS) twice to zoom in.


You will now blend the three paths that are behind the blended grapes. All of the paths have a stroke color and no fill. Objects that have strokes blend differently than those that have no stroke.

**2** With the Blend tool, position the pointer over the top line until it displays an X (⌘x), and then click. Click the middle (yellow) line with the Blend tool pointer that displays a plus sign (⌘+) to add it to the blend. Position the pointer over the third line (away from the grapes), and click when a plus sign (+) appears next to the pointer.

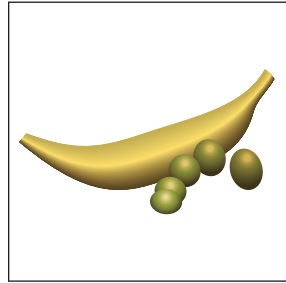





You've created a blend with the same settings as before (a specified step blend). Next, you will change the blend settings for the banana so that it blends as smooth color.

- 3 Double-click the Blend tool () in the Tools panel. In the Blend Options dialog box, choose Smooth Color from the Spacing menu to set up the blend options, which will remain set until you change them. Click OK.


- 4 Choose Select > Deselect.



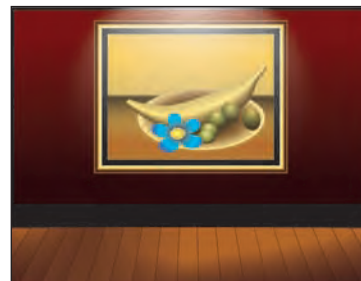
When you make a smooth color blend between objects, Illustrator automatically calculates the number of intermediate steps necessary to create the transition between the objects. Once you've applied a smooth color blend to objects, you can edit it. Next, you will edit the paths that make up the blend.

- 5 Using the Selection tool () , double-click the color blend (the banana) to enter Isolation mode. Click to select the middle path, and change the Stroke color in the Control panel to any color you want. Notice how the colors are blended. Choose Edit > Undo Apply Swatch to return to the original stroke color.
- 6 Double-click away from the blend paths to exit Isolation mode.
- 7 Choose View > Fit Artboard In Window.
- 8 Open the Layers panel and click to select the visibility column for all of the sublayers, including the Mask sublayer, to make all objects visible on the artboard.

► **Tip:** Creating smooth color blends between paths can be difficult in certain situations. For instance, if the lines intersect or the lines are too curved, unexpected results can occur.

- 9 In the Layers panel, click to select the Gallery layer.
- 10 Click the Make/Release Clipping Mask button () at the bottom of the Layers panel.

This uses the first shape (the Mask shape) as a clipping mask to hide artwork that is outside the bounds of the shape.



- 11 Choose File > Save, and close all open files.