10 Gradients, Blends, and Patterns

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.
- Adjust the opacity of color in a gradient.
- Blend the shapes of objects in intermediate steps.
- Create smooth color blends between objects.
- Modify a blend and its path, shape, and color.
- Create and paint with patterns.

This lesson takes approximately 60 minutes to complete. Please log in to 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.

To add texture and interest to your artwork in Illustrator, you can apply gradient fills, which are graduated blends of two or more colors, patterns, and blends of shapes and colors. In this lesson, you'll explore how to work with each of these to complete a project.

Starting the lesson

In this lesson, you'll explore various ways to work with gradients, blend shapes and colors, and create and apply patterns. Before you begin, you'll restore the default preferences for Adobe Illustrator CC. Then you'll open the finished art file for this lesson to see what you'll create.

1. To ensure that the tools function and the defaults are set exactly as described in this lesson, delete or deactivate (by renaming) the Adobe Illustrator CC preferences file. See "Restoring default preferences" in the "Getting Started" section at the beginning of the book.

● **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.

2. Start Adobe Illustrator CC.
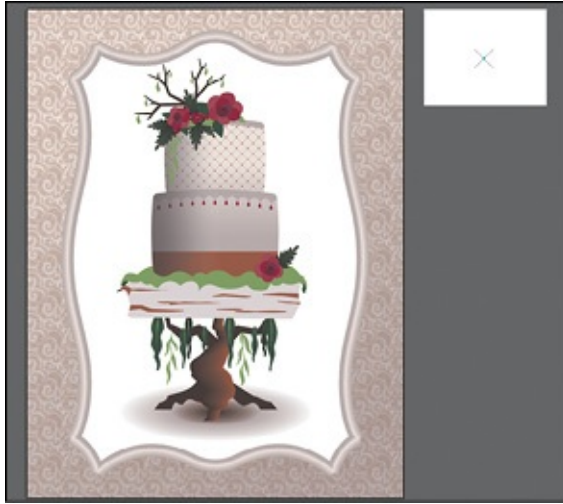
3. Choose File > Open, and open the L10_end.ai file in the Lessons > Lesson10 folder on your hard disk.

4. Choose View > Fit All In Window. If you don't want to leave the document open as you work, choose File > Close.

To begin working, you'll open an art file that you need to finish.
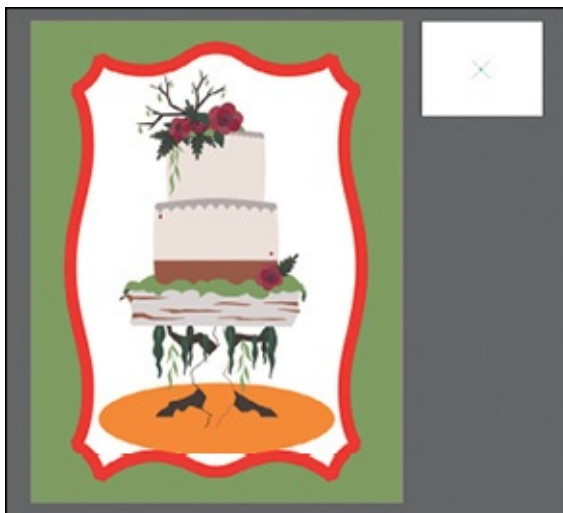
5. Choose File > Open. In the Open dialog box, navigate to the Lessons > Lesson10 folder, and select the L10_start.ai file on your hard disk. Click Open to open the file.

6. Choose View > Fit All In Window.

7. Choose File > Save As, name the file **Cake.ai**, and select the Lessons > Lesson10 folder in the Save As menu. Leave the Format option set to

Adobe Illustrator (ai) (macOS) or the Save As Type option set to Adobe Illustrator (*.AI) (Windows) and then click Save.

8. In the Illustrator Options dialog box, leave the Illustrator options at their default settings and then click OK.

9. Choose Reset Essentials from the workspace switcher in the Application bar.

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

Working with gradients

A *gradient fill* is a graduated blend of two or more colors, and it always includes a starting color and an ending color. You can create different types of gradient fills in Illustrator, including *linear,* in which the beginning color blends into the ending color along a line, and *radial,* in which the beginning color radiates outward, from the center point to the ending color. You can use the gradients provided with Adobe Illustrator CC or create your own gradients and save them as swatches for later use.

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

● **Note:** The Gradient panel you see won't match the figure, and that's okay.
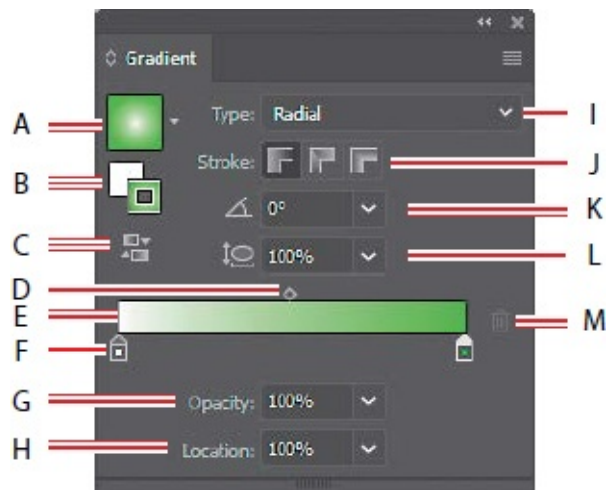
A. **Gradient**

B. **Fill box/ Stroke box**

C. **Reverse Gradient**

D. **Gradient midpoint**

E. **Gradient slider**

F. **Color stop**

G. **Opacity**

H. **Location**

I. **Gradient type**

J. **Stroke gradient type**

K. **Angle**

L. **Aspect ratio**

M. **Delete Stop**

In the Gradient panel under the gradient slider (labeled "E" in the previous figure), the leftmost gradient stop (labeled "F") is called a color stop. This marks the starting color; the right gradient stop marks the ending color. A *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, and double-clicking a color stop opens a panel where you can choose a color from swatches, or color sliders.

Applying a linear gradient to a fill

With the simplest, two-color linear gradient, the starting color (leftmost color stop) blends into the ending color (rightmost color stop) along a straight line. To begin the lesson, you'll apply a gradient fill that comes with Illustrator to the green background shape.

1. Using the Selection tool (▶), click to select the large green rectangle in the background of the artboard on the left.

2. Click the Fill color (■) in the Properties panel, select the Swatches option
(▦), and select the gradient swatch named "White, Black." Leave the
swatches showing.
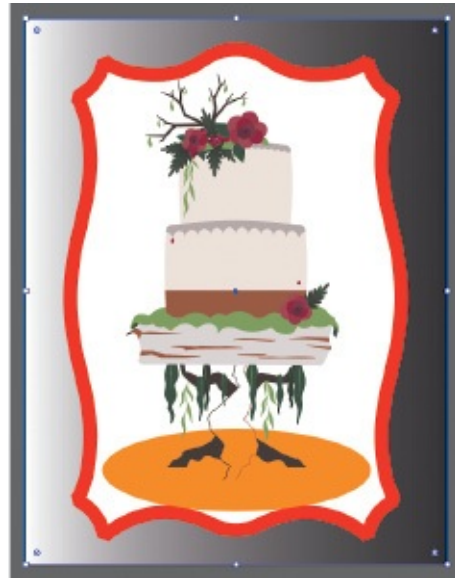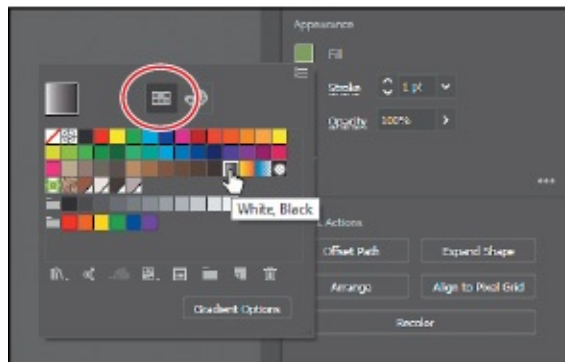
The default black-and-white gradient is applied to the fill of the selected
shape.

Editing a gradient

Next, you'll edit the colors in the default black and white gradient you
applied.

1. Click the Fill color in the Properties panel again to show the swatches, if
it's not still showing. Click the Gradient Options button in the Swatches
panel that appears to open the Gradient panel (Window > Gradient), and
perform the following:

- Make sure that the Fill box is selected (circled in the figure).

- Double-click the white, leftmost gradient stop to select the starting
color of the gradient (an arrow is pointing to it in the figure).

- Click the Swatches button (▦) in the panel that appears.

- Click to select the light brown swatch named "BG 10%."
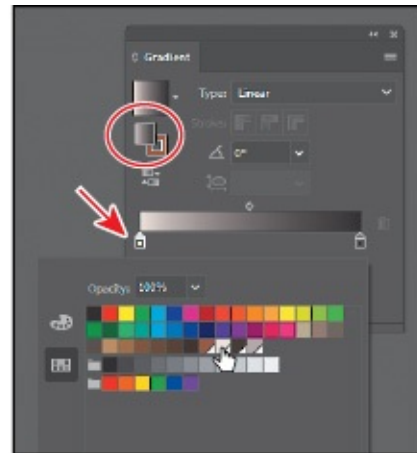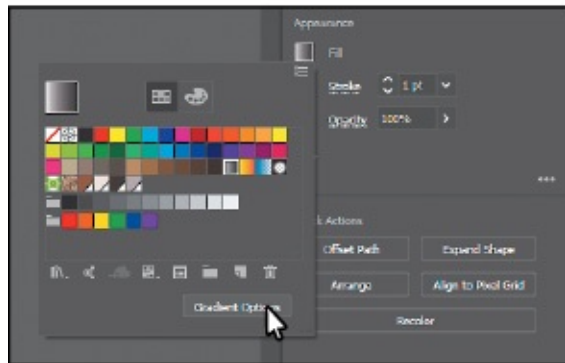
2. Click in a blank area of the Gradient panel to hide the Swatches panel.

3. In the Gradient panel, perform the following:

- Double-click the black color stop on the right side of the gradient slider to edit the color in the Gradient panel (circled in the figure). In the panel that appears, click the Color button (🎨) to open the Color panel.

- Click the menu icon (▤), and choose CMYK from the menu, if CMYK values aren't showing.

- Change the CMYK values to C=**25**, M=**25**, Y=**25**, and K=**0**.

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

- After entering the last value, click in a blank area of the Gradient panel.
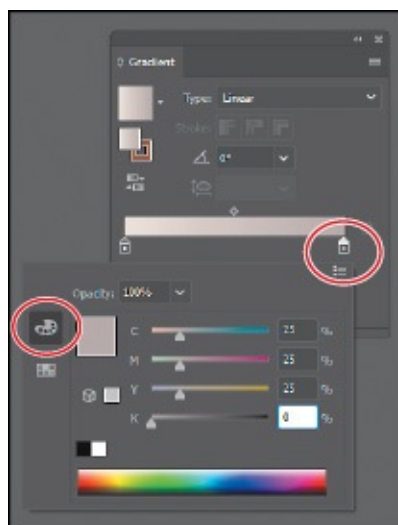
Saving a gradient

Next, you'll save the gradient you just edited as a swatch, in the Swatches panel. Saving a gradient is a great way to be able to apply it to other artwork easily and maintain consistency in the gradient appearance.

1. In the Gradient panel, click the Gradient menu arrow (▣) to the left of the word "Type," and click the Add To Swatches button (⬇) at the bottom of the panel that appears.
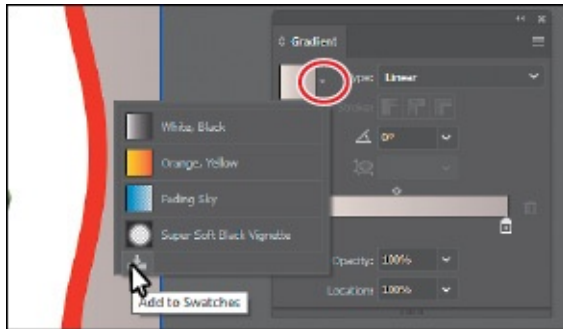

The Gradient menu you just saw lists all the default and saved gradients that you can apply.

> **Tip:** Like most things in Illustrator, there is more than one method for saving a gradient swatch. You can also save a gradient by selecting an object with a gradient fill or stroke, clicking the Fill box or Stroke box in the Swatches panel (whichever the gradient is applied to), and then clicking the New Swatch button (▣) at the bottom of the Swatches panel.

2. Click the X at the top of the Gradient panel to close it.
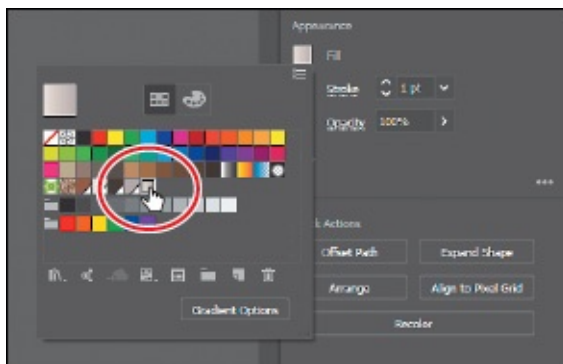
3. With the background shape still selected, click the Fill color box in the Properties panel. With the Swatches option (▦) selected, double-click the "New Gradient Swatch 1" thumbnail to open the Swatch Options dialog box.

4. In the Swatch Options dialog box, type **Background** in the Swatch Name field and then click OK.
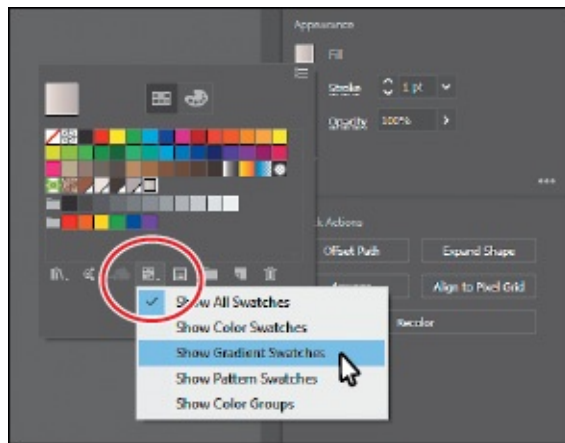
5. Click the Show Swatch Kinds Menu button (▦) at the bottom of the Swatches panel, and choose Show Gradient Swatches from the menu to display only gradient swatches in the Swatches panel.

The Swatches panel lets you sort colors based on type, like gradient swatches.

6. With the rectangle still selected on the artboard, apply some of the different gradients to the shape fill by selecting them in the Swatches panel.

7. Click the gradient named "Background" (the one you just saved) in the Swatches panel to make sure it's applied before continuing to the next step.

8. Click the Show Swatch Kinds Menu button (▦) at the bottom of the Swatches panel, and choose Show All Swatches from the menu.

9. Choose File > Save, and leave the rectangle selected.

Adjusting a linear gradient fill

Once you have painted an object with a gradient, you can adjust the direction, the origin, and the beginning and end points of the gradient applied to the artwork, using the Gradient tool. Now you'll adjust the gradient fill in the background shape.

1. With the Selection tool (▶) selected, double-click the background shape to isolate it.

This is a great way to enter Isolation mode for a single shape so you can focus on it without the other content (in this case) on top of it.

2. Choose View > Zoom Out.
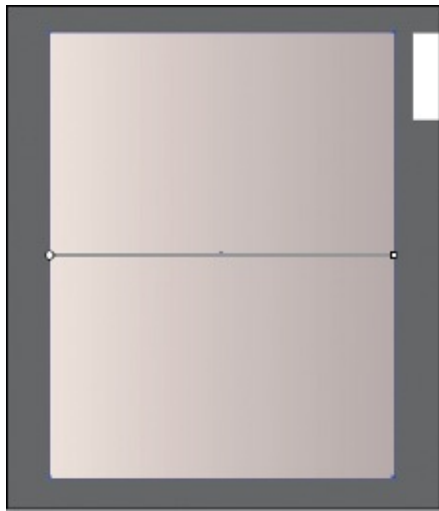
3. Select the Gradient tool (▢) in the Tools panel.

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

With the Gradient tool, you can apply a gradient to the fill of an object or edit an existing gradient fill. Notice the horizontal gradient annotator (bar) that appears in the middle of the rectangle, which 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).

4. Move the pointer over the bar in the gradient annotator.
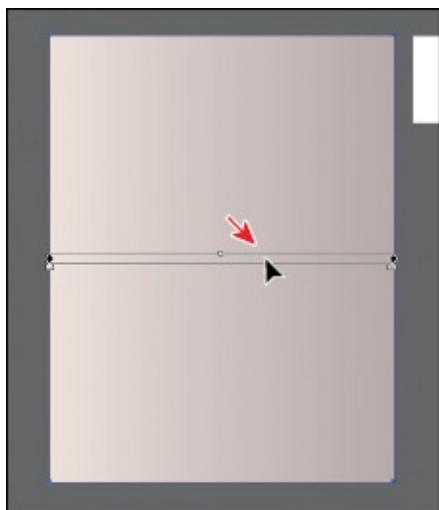
The bar turns into the gradient slider, much like the one found in the Gradient panel. You can use the gradient slider on the art to edit the gradient without opening the Gradient panel.

5. With the Gradient tool selected, pressing the Shift key, drag from the top of the artboard down to the bottom of the artboard to change the position and direction of the starting and ending colors of the gradient in the rectangle. Release the mouse button and then release the key.
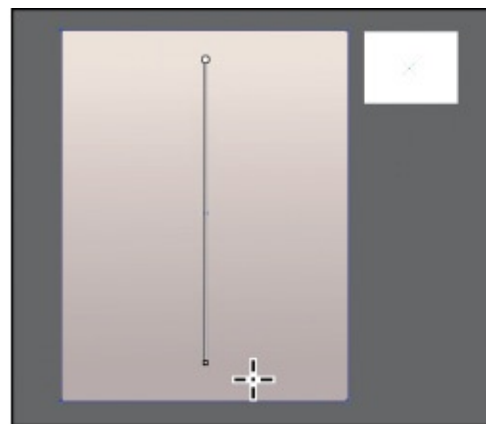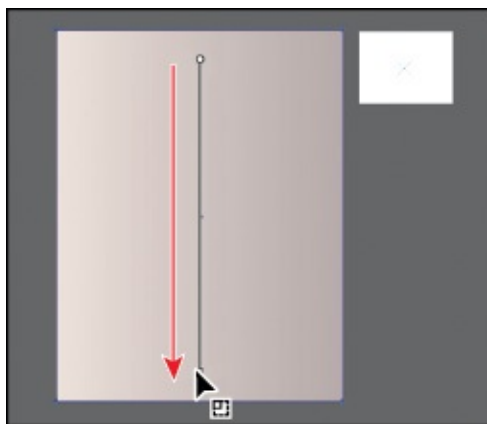
6. With the Gradient tool, move the pointer just off the small white square at the *bottom* of the gradient annotator. A rotation icon (⟳) appears. Drag to the right to rotate the gradient in the rectangle and then release the mouse button.
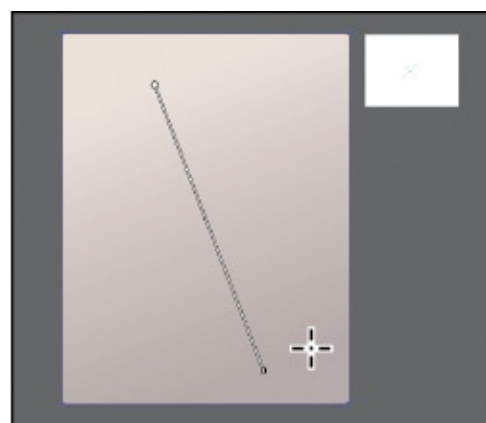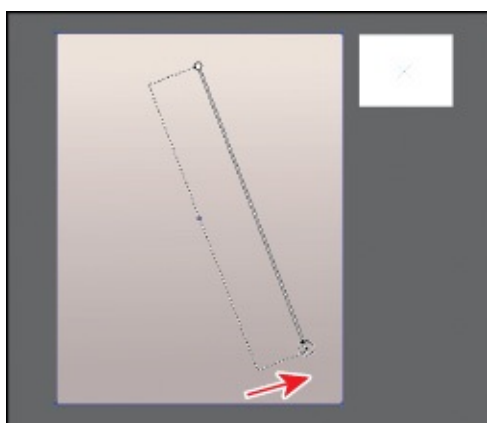
7. Double-click the Gradient tool in the Tools panel to open the Gradient panel. Ensure that the Fill box is selected in the panel (circled in the figure) and then choose **–60** from the Angle menu.
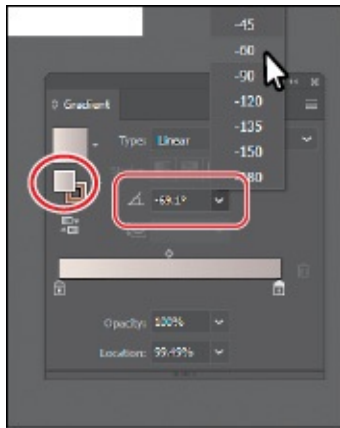
🟢 **Note:** Entering the gradient rotation in the Gradient panel, rather than adjusting it directly on the artboard, is useful when you want to achieve consistency and precision.

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8. Choose Object > Lock > Selection to lock the rectangle so you don't accidentally move it later and to make selecting other artwork easier.

9. Select the Selection tool, and press Esc to exit Isolation mode. You should see all of the artwork again.

0. Choose File > Save.

Applying a linear gradient to a stroke

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

1. With the Selection tool (▶) selected, click the red stroke of the shape around the cake to select that shape.

🟢 **Note:** The Color panel group may open. If it does, you can close it.

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2. Click the Stroke box at the bottom of the Tools panel, and click the Gradient box below the Fill box to apply the last used gradient.
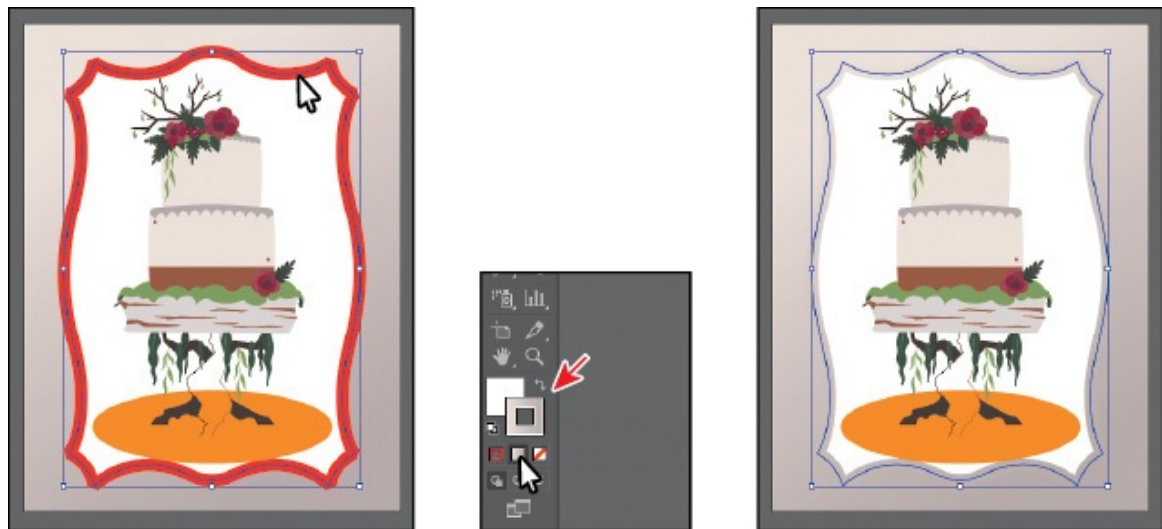
● **Note:** Depending on the resolution of your screen, you may see a single-column Tools panel.

3. Select the Zoom tool (🔍) in the Tools panel, and drag across the stroke of the selected shape to zoom in to it. Select the Selection tool.

Editing a gradient on a stroke

For a gradient on a stroke, you can choose how to align the gradient to the stroke: within, along, or across. In this section, you'll explore how to align a gradient to the stroke and also edit the colors of the gradient.

1. In the Gradient panel, click the Stroke box (if not already selected; it's circled in the figure) to edit the gradient applied to the stroke. Leave Type as Linear, and click the Apply Gradient Across Stroke button (▤) to change the gradient type.
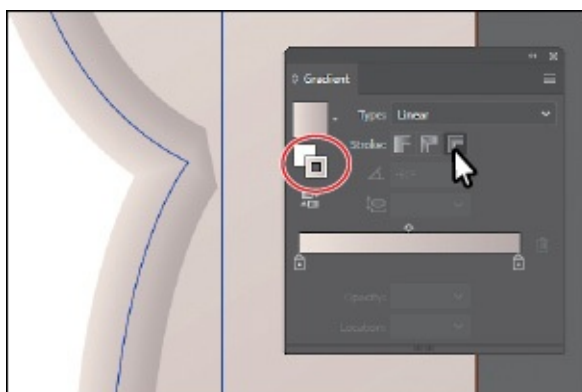

Next, you'll add colors to the gradient using a few methods.

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

2. Position the pointer below the gradient slider, between the two color stops. When the pointer with a plus sign (▷₊) appears, click to add another color stop like you see in the middle part of the following figure.
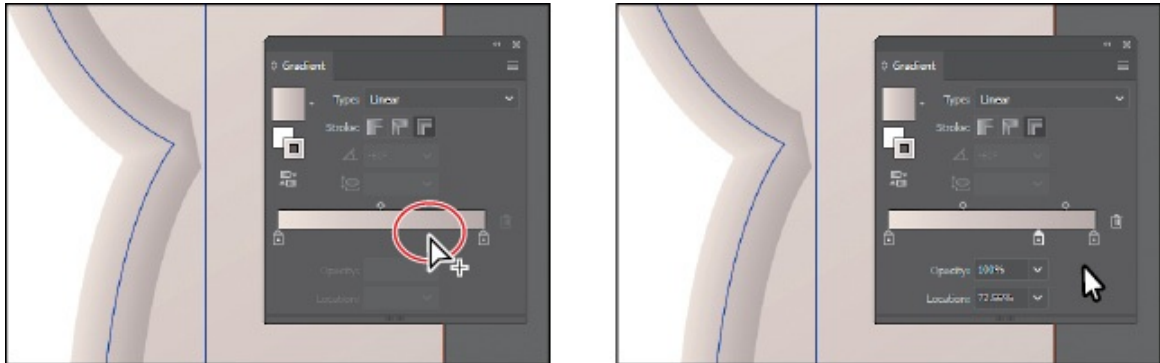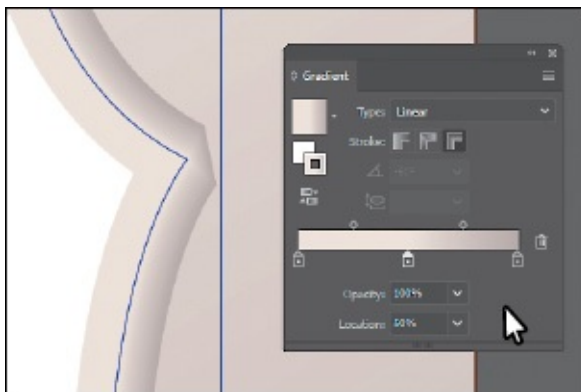

3. Double-click that new color stop and, with the swatches selected (▦), click the swatch named "BG 10%." Press the Escape key to hide the swatches and return to the Gradient panel.
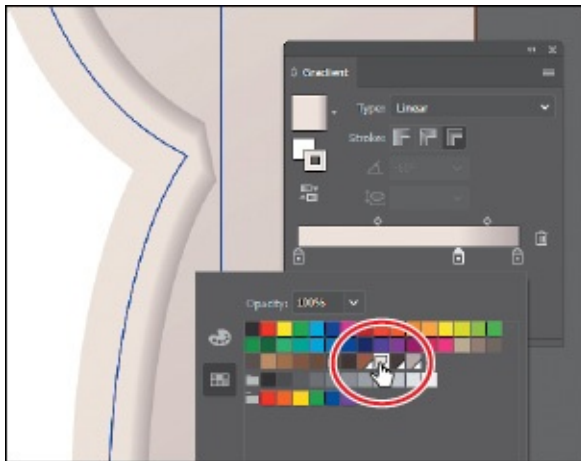

4. With the color stop still selected, change Location to 50%.

For the next few steps, you'll discover how to add a new color to the gradient by dragging to create a copy of a color stop in the Gradient panel.


5. Pressing the Option (macOS) or Alt (Windows) key, drag the color stop on the far right to the left; release the mouse button when you see *roughly*

25% in the Location value and then release the modifier key.

There are now four color stops. Next you'll see how to remove a color stop.
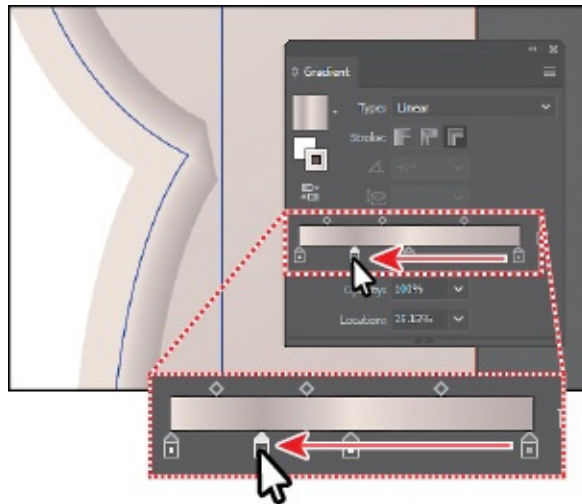
6. Drag the color stop on the far left down, away from the gradient slider. When you see that it's gone from the slider, release the mouse to remove it.
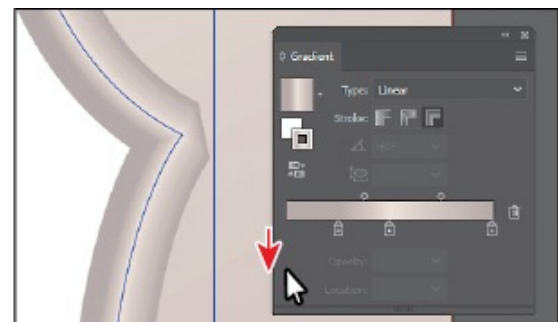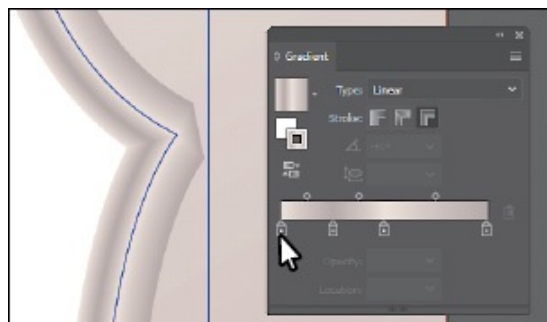

7. Click the X at the top of the Gradient panel to close it.

Applying a radial gradient to artwork

As previously noted, 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'll create and apply a radial gradient fill to a shape to make a shadow underneath the cake.

1. Choose View > Fit Artboard In Window.

2. With the Selection tool (▶) selected, click the orange ellipse.

3. Press Command++ (macOS) or Ctrl++ (Windows) a few times to zoom in.

4. Change the fill color to the White, Black gradient in the Properties panel. Leave the Swatches panel showing.
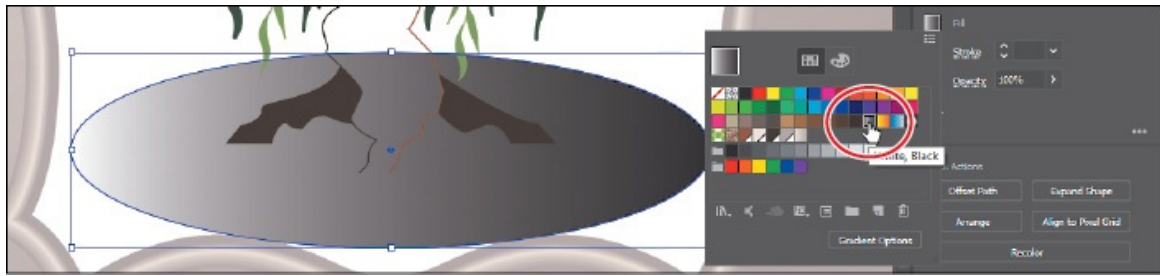
5. Click the Gradient Options button in the Swatches panel to open the Gradient panel. In the Gradient panel, make sure the Fill box is selected. Choose Radial from the Type menu to convert the linear gradient to a radial gradient.
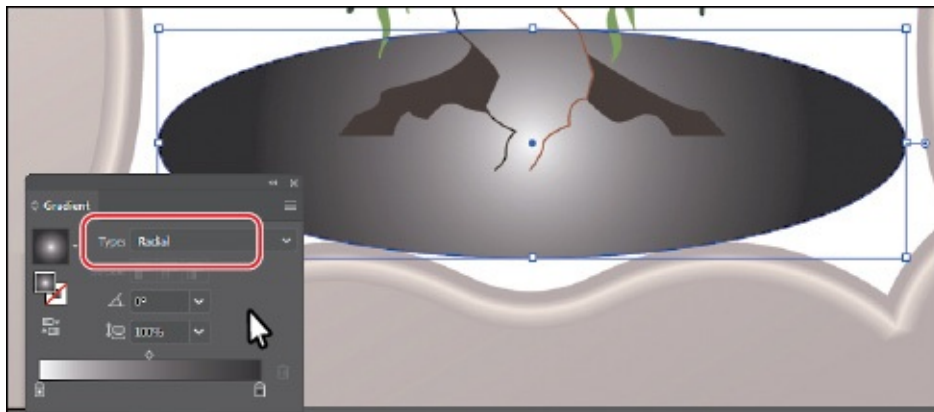

Editing the colors in the radial gradient

Previously in this lesson, you edited gradient colors in the Gradient panel. You can also edit the colors in a gradient using the Gradient tool, which is what you'll do next.

1. In the Gradient panel, with the ellipse still selected, click the Reverse Gradient button (⬛) to swap the white and black colors in the gradient.
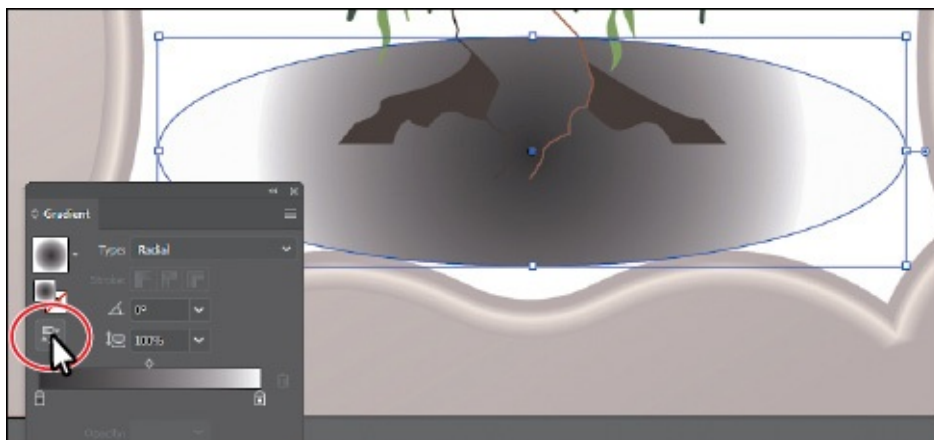
2. Select the Gradient tool (⬛) in the Tools panel.

3. Position the pointer over the gradient annotator (bar) in the ellipse to reveal the gradient slider, and perform the following:

- Double-click the black color stop in the center of the ellipse to edit the color.

- In the panel that appears, click the Swatches button (▣), if it's not already selected.

- Select the swatch named "Radial 1."
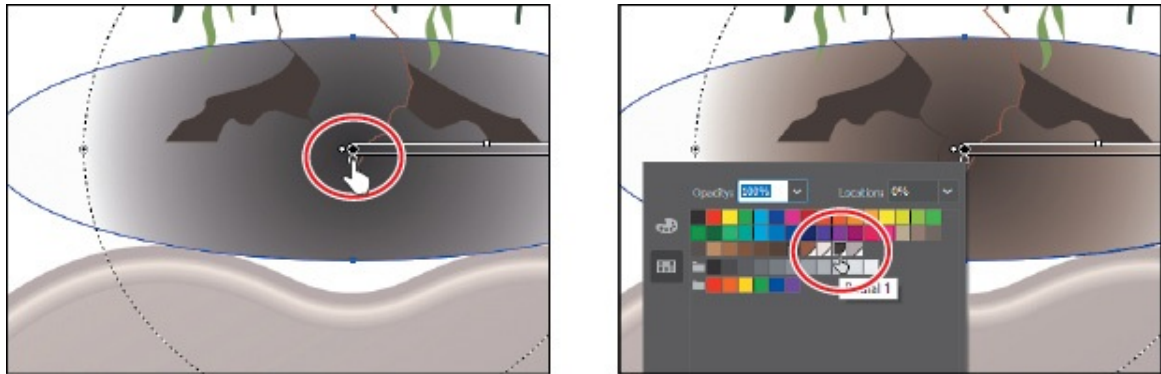
Notice that the gradient annotator starts from the center of the ellipse and points to the right. The dashed circle around the gradient annotator when the pointer is over it indicates that it is a radial gradient. You can set additional options for radial gradients, as you'll soon see.

4. Press Escape to hide the panel.

5. Position the pointer beneath the gradient slider, in the middle. When the pointer with a plus sign (▷₊) appears, click to add another color to the gradient (see the first part of the following figure).

6. Double-click the new color stop. In the panel that appears, click the Swatches button (▣), and select the swatch named "Radial 2." Change Location to **45%**. Press Enter or Return to change the value and hide the panel.

▶ **Tip:** When you edit a color stop that has a swatch applied, you can easily see which swatch is applied because it is highlighted in the panel.

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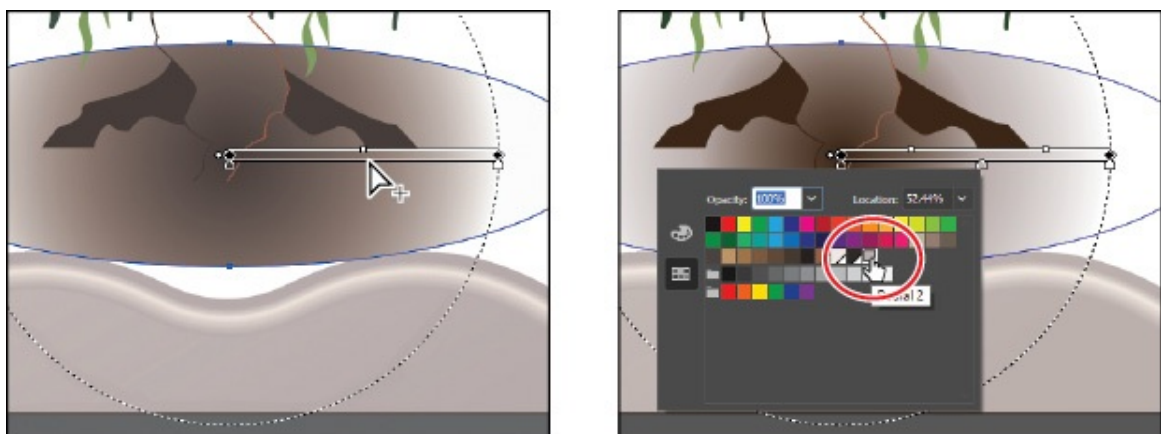
7. Choose File > Save.

Adjusting the radial gradient

Next, you'll change the aspect ratio of the radial gradient and change the radius and the origin of the radial gradient.

1. With the Gradient tool (▣) selected and the ellipse still selected, move the pointer over the right end of the gradient annotator (see the first part of the following figure). When the pointer changes (▸), drag to the right, stopping at the right edge of the ellipse shape, and release the mouse button to lengthen the gradient.
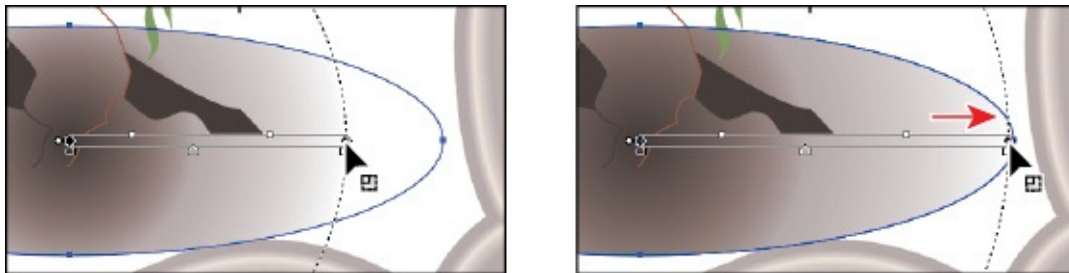

● **Note:** You may not see the dotted circle as you drag the end of the gradient annotator. That's okay. It appears if you position the pointer over the gradient annotator bar first, before dragging the right end point.

▶ **Tip:** You can also drag the gradient slider to reposition the gradient in the ellipse.

▶ **Tip:** You can drag the small white dot to the left of the larger white dot to reposition the center of the gradient without moving the entire gradient bar. This also changes the radius of the gradient.

2. In the Gradient panel, ensure that the Fill box is selected and then change the Aspect Ratio (▣) to **30%** by selecting it from the menu. Leave the panel open.
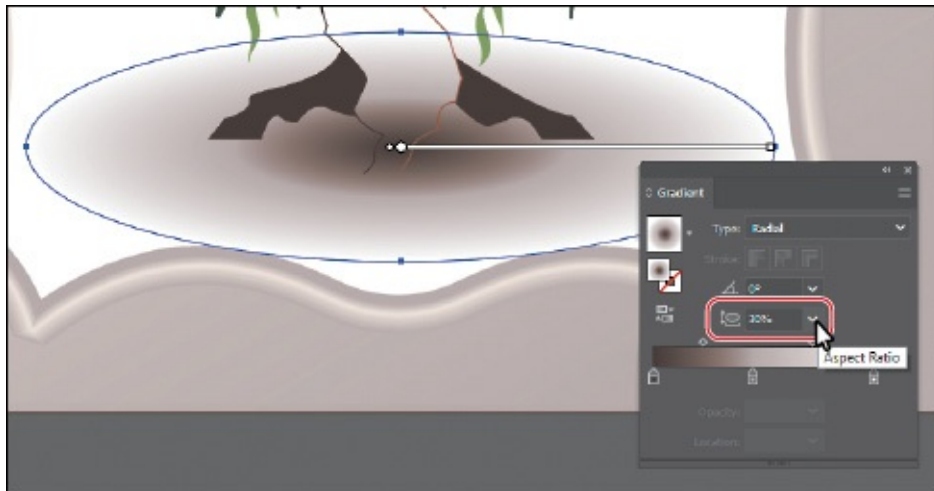
The aspect ratio changes a radial gradient into an elliptical gradient and makes the gradient better match the shape of the artwork. Another way to edit the aspect ratio is to do so visually. If you position the pointer over the gradient on the selected artwork with the Gradient tool selected and then position the pointer over the top black circle that appears on the dotted path, the pointer changes to ◖◗. You can then drag to change the aspect ratio of the gradient.

● **Note:** The aspect ratio is a value between 0.5% and 32,767%. As the aspect ratio gets smaller, the ellipse flattens and widens.

3. Select the Selection tool (▶) in the Tools panel, and double-click the Scale tool (⬚) in the Tools panel. Change the Uniform Scale value to **80%**, and click OK.
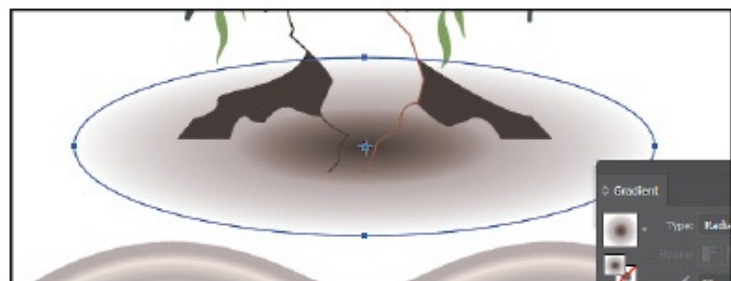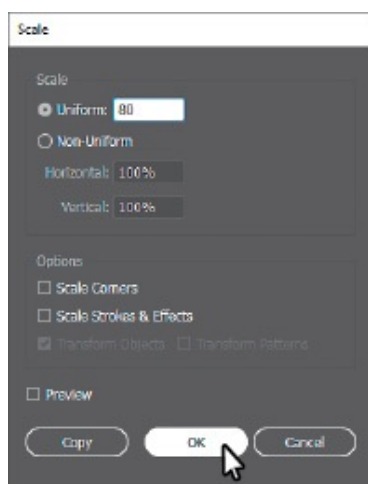
If you transform a shape with a gradient applied, such as scaling or rotating the shape (among other types of transformations), the gradient transforms as well. By the way, double-clicking the Scale tool, like other Transform tools, is the same as choosing Object > Transform > Scale (in this case).

4. Choose Select > Deselect and then choose 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 apply a linear gradient fill to the two shapes that make up the cake.

1. Choose View > Fit Artboard In Window.

2. With the Selection tool (▶) selected, click the cream-colored cake shape and, pressing the Shift key, click the other cake shape to select both.

3. Click the Fill color in the Properties panel. In the panel that appears, make sure the Swatches option (▦) is selected, and select the Background gradient swatch.
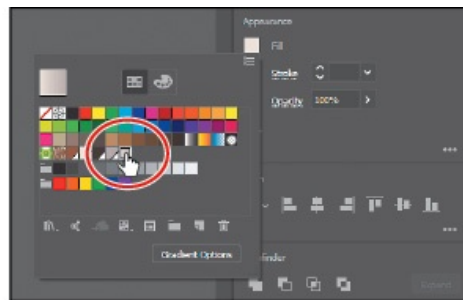
4. Select the Gradient tool (▯) in the Tools panel. Choose View > Hide Gradient Annotator so the bars that appear in the shapes are temporarily hidden.

5. Drag from the middle of the upper shape to the bottom shape. Leave the shapes selected.

Dragging across multiple shapes with the Gradient tool allows you to apply a gradient across the shapes.

Adding transparency to gradients

By specifying varying 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 artwork. Next, you'll apply a gradient that fades to transparent on the cake shapes. To do that, you'll copy the cake shapes and apply a gradient to the copies.

1. Select the Selection tool (▶). With the cake shapes still selected, choose Edit > Copy and then choose Edit > Paste In Front.

2. Choose Object > Arrange > Bring To Front to bring them on top of the other cake shapes.
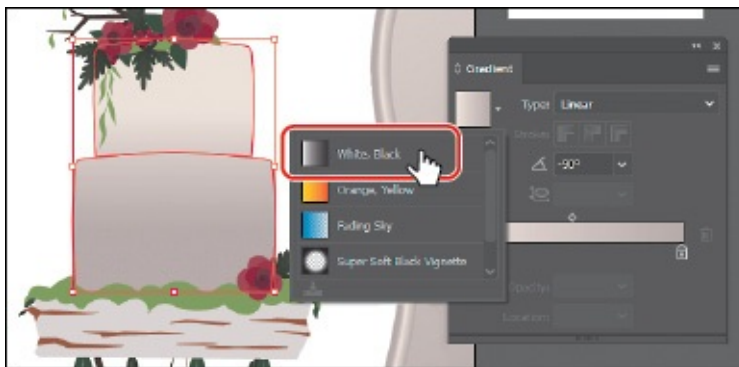
3. In the Gradient panel, ensure that the Fill box is selected. Click the Gradient menu arrow (▣) and then select White, Black to apply the generic gradient to the fill.

4. Click the Reverse Gradient button (▦) in the Gradient panel so the gradient starts with black (black will be the color stop on the left of the gradient slider).
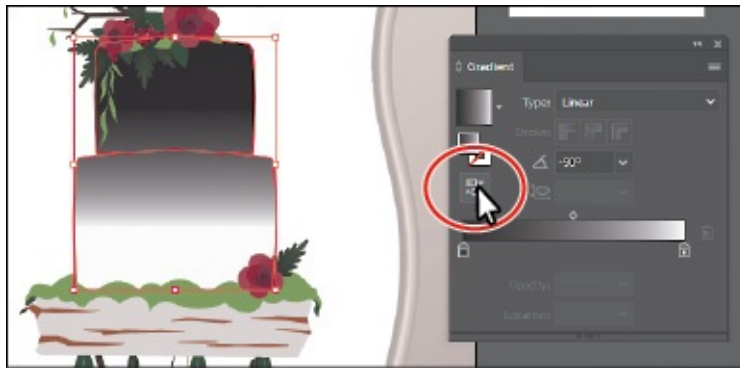
5. Select the Gradient tool (▣) in the Tools panel, and drag from the left edge of the widest cake shape to the right, going to the middle of the shapes.

6. In the Gradient panel, click the black color stop in the Gradient panel. Change Opacity to **40%** Click the white color stop and change Opacity to **0%**.
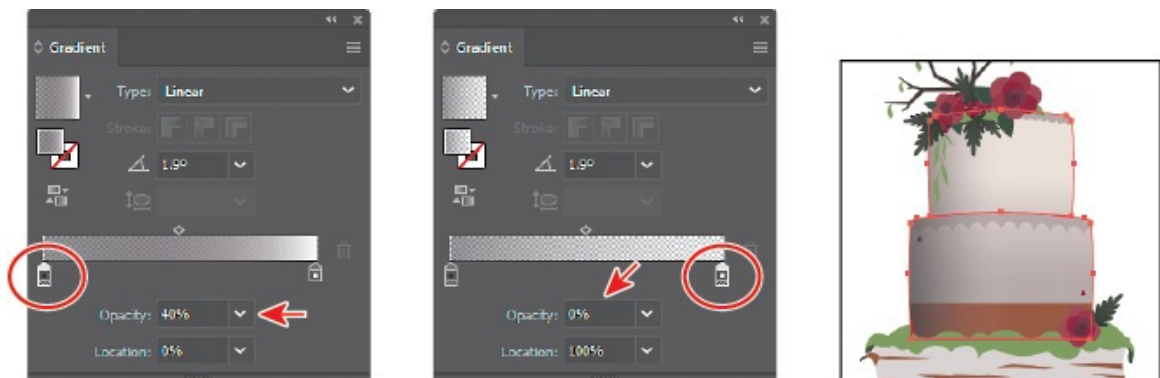
7. Drag the gradient midpoint (the diamond shape) to the right until you see a value of approximately 60% in the Location field.