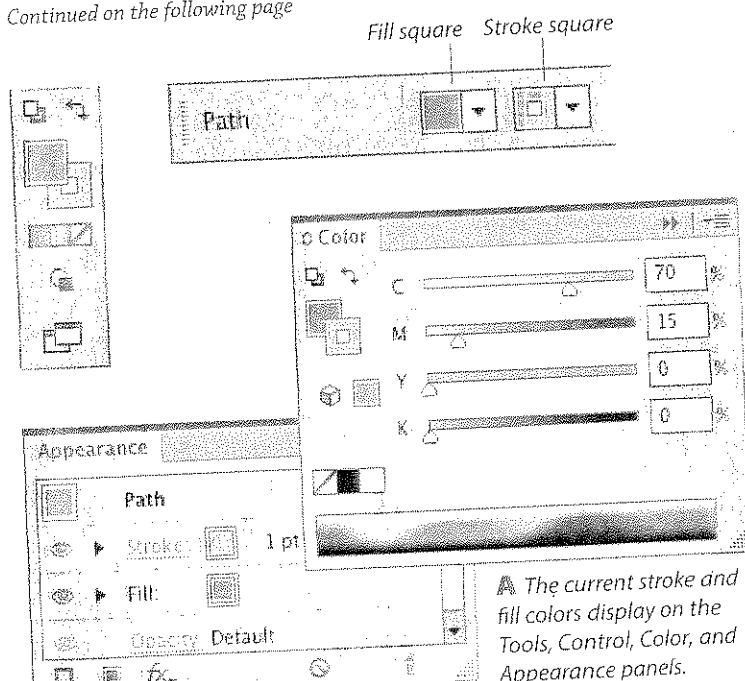In the preceding four chapters you mastered creating, selecting, and positioning objects. Here you will add colors and patterns. You will learn what kinds of colors are suitable for print or Web output. You will fill the inside or edge of an object with a solid color or pattern using numerous panels and tools, save and organize swatches in the Swatches panel, copy swatches between files, choose stroke attributes, use the Color Guide and Kuler panels, replace colors in your artwork, invert colors, colorize a grayscale image, blend fill colors between objects, and create and edit fill patterns using the new Pattern Options panel. ✭

Using color in Illustrator

The fill, which is applied to the inside of an object or an area in a Live Paint group, can be a solid color, a pattern, or a gradient (or a color of None). The stroke, which is applied to an object's path, can be a solid color, a pattern (or None), or a gradient, ✭ and it can be dashed or continuous. You can apply a brush to an object's stroke, make a stroke into an arrow, or as we describe on page 162, change the width profile. The path to which you apply a fill and/or stroke can be open or closed.

The fill and stroke colors in the current or last selected object — or new colors that you choose when no objects are selected — display on the Tools, Color, Control, and Appearance panels.A The two current colors are applied to new objects automatically.

Fill square   Stroke square

Path

C   70 %
M   15 %
Y   0 %
K   0 %

Appearance

Path
Stroke   1 pt
Fill
Opacity Default

A *The current stroke and fill colors display on the Tools, Control, Color, and Appearance panels.*

FILL & STROKE

10

IN THIS CHAPTER

In this chapter, you will use the Color, Swatches, Color Guide, Kuler, Appearance, Pattern Options, and library panels; the Color Picker; and the Eyedropper tool to create and apply colors and patterns. You will also use the Control, Stroke, and Appearance panels to change the weight, style (dashed or solid), alignment (position on the path), and endcaps of a stroke, and create arrows.

Beyond this chapter, there are other fill and stroke features to explore. In Chapter 12, you will create nonuniform stroke widths using variable width profiles and the Width tool; in Chapter 14, you will apply multiple fill and stroke attributes; in Chapter 18, you will apply colors with the Live Paint Bucket tool; in Chapter 24, you will create and save gradients; and in Chapter 29, you will use the Recolor Artwork dialog to assign new colors or color groups to your artwork.

Colors for your output medium

Before delving into the specific coloring features of Illustrator, you need to know what types of colors are suitable for your artwork and your target output medium.

Colors for print output

A **solid** color (also called a spot color) is a predefined mixture of specific inks that is printed via a separate printing plate. To create PANTONE PLUS number 7489C (a medium green), for instance, your print shop would mix ink percentages of 60 cyan, 0 magenta, 80 yellow, and 7 black. To choose a solid color, you need to flip through a printed guide for a matching system (such as the PANTONE PLUS Solid Chips guide); pick a named, numbered color; then locate that color in Illustrator. You can use just solid colors if your document doesn't contain any photos, gradients, or other continuous-tone elements. Each solid color incurs a cost, so remember to factor that into your budget.

In commercial **process** printing, minute dots of the four process colors — cyan (C), magenta (M), yellow (Y), and black (K) — are printed from four separate plates. When viewing the print, your eyes (and mind) blur the dots together and read them as solid colors. (If you examine a photograph in a magazine or catalog with a magnifying lens or loupe, you will see the actual dots.) You can choose premixed process colors from a matching system, such as TRUMATCH or PANTONE PLUS Color Bridge, or enter specific process color percentages in the Color panel **A** or Color Picker.**B**

QUICK ACCESS TO THE COLORING PANELS

To quickly open a color-related panel, either click its icon in a dock or use one of these methods:

Appearance panel	Press Shift-F6
Color panel	Shift-click the Fill or Stroke square or arrowhead on the Control panel;* or click, then Shift-click the Fill or Stroke square on the Appearance panel; or press F6
Swatches panel	Click the Fill or Stroke square or arrowhead on the Control panel, or click the Fill or Stroke square on the Appearance panel twice*

When opened from the Control or Appearance panel, these panels stay open only temporarily.
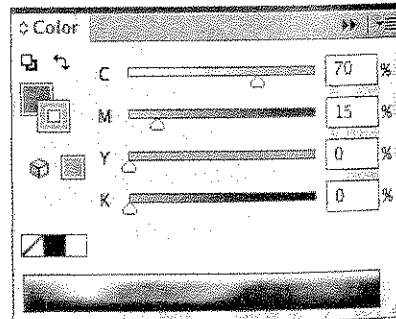
A *For print output, choose colors in the CMYK color model. CMYK colors can be mixed on the Color panel...*
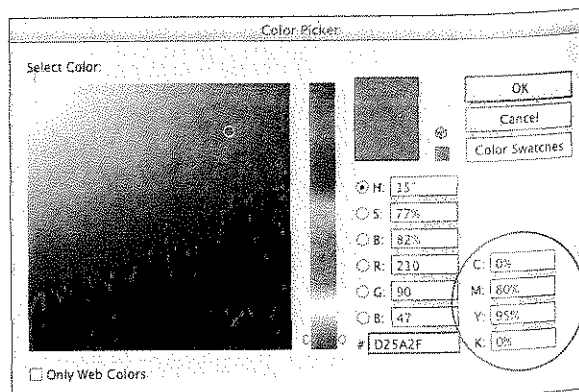
B *... or in the Color Picker.*

The four-color p
your artwork cc

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The four-color process printing method must be used if your artwork contains continuous tones.**A**

In Illustrator, you can create and apply nonglobal process colors, which can only be edited individually in selected objects, or global process colors, which can be changed either individually in selected objects or globally in all objects in which they are being used (by editing the color swatch). This is explained on page 132.

If your budget allows, you can print a file using process colors and also add a solid (spot) color or two, say, for a key graphic, such as a logo.

Colors for Web output

For Web and video output, you should either choose **RGB** colors (percentages of red, green, and blue) or enter **hexadecimal** codes.**B** Hexadecimal colors (hex colors for short) are coded using a total of six characters from among the digits 0 through 9 and the letters A through F. Following the hash symbol (#), the first two characters indicate the amount of red, the second two indicate the amount of green, and the third two indicate the amount of blue.

Note: For more accurate color matching between a document that you view onscreen and the medium in which it will be published, make sure you have chosen the proper color management settings (see Chapter 2).

In the New Document dialog (Advanced options showing), when creating a document, you can choose CMYK or RGB as the document color mode. Any colors you mix or choose in that document will conform automatically to the chosen mode. If you change the document color mode, all the colors in the artwork will be converted to the new mode. Note that the gamut of RGB colors is larger than the gamut of CMYK colors.

Note: If the final output for your file will be an inkjet print (the inkjet print won't merely be used as a mockup or proof before commercial proofing and printing), choose RGB Color as the document mode.

To change the color mode of a document:

1. To be on the safe side, copy your file via the File > Save As command (Cmd-Shift-S/Ctrl-Shift-S).

2. Choose File > Document Color Mode > **CMYK Color** (for commercial print output) or **RGB Color** (for inkjet printing, or for Web or device output). The current document color mode is listed in the document tab.

➤ If you need to reverse a document color mode change, don't choose the former mode. Instead, *choose Edit>Undo immediately*
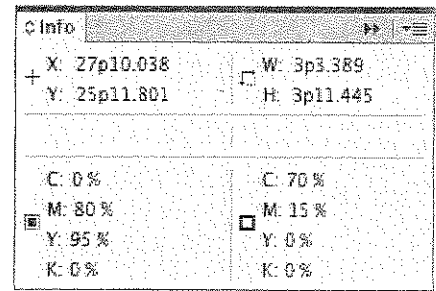
A *The extended Info panel lists the components or swatch name of the fill (on the left) and stroke (on the right) in the currently selected object. If multiple selected objects contain a nonmatching fill or stroke color, that readout area will be blank.*
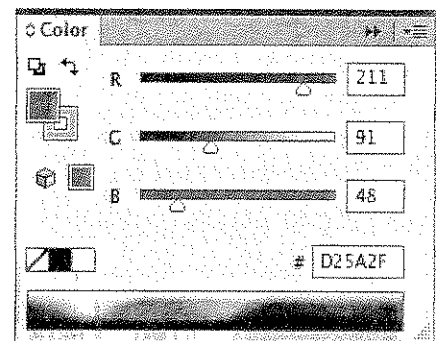
B *For Web output, use the RGB color model or enter hexadecimal codes.*

STAYING IN THE MODE

➤ You can create either process CMYK colors or RGB colors in an Illustrator document, but not both. Any process colors that you create in a document will conform automatically to the current document color mode, regardless of which mode you choose for the Color panel (see page 117). This is also true of the Color Mode menu in the Swatch Options dialog when you edit a swatch (see page 132).

➤ Embedded placed and pasted images are converted to the current document color mode automatically.

IGNORING THE "OUT OF WEB" ALERT

When designing Web graphics, you don't need to restrict yourself to Web-safe colors, which were formulated for earlier computer systems that couldn't display millions of colors. Disregard the Out of Web color warning 🏵 if it appears in the Color panel or Color Picker, and in the picker, keep the Only Web Colors option unchecked.

Using the basic color controls

Note: To choose new default colors for future objects, deselect all before choosing fill and stroke colors.
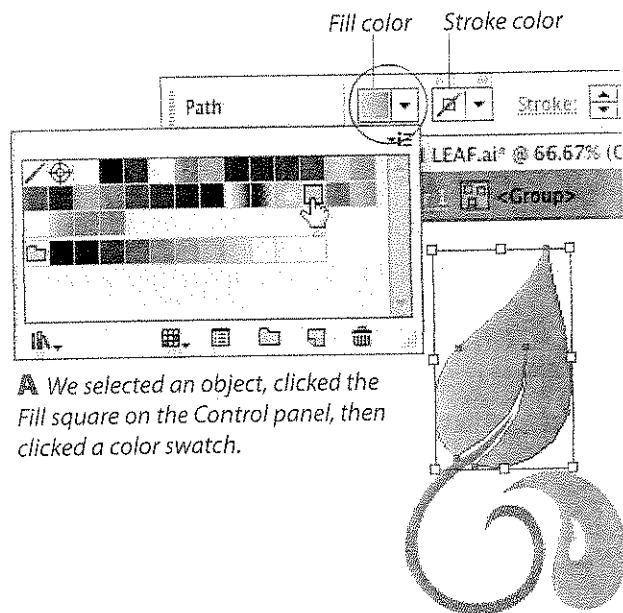
To apply a fill or stroke color, gradient, or pattern via a temporary Swatches panel:

1. Select one or more objects, or isolate an object.
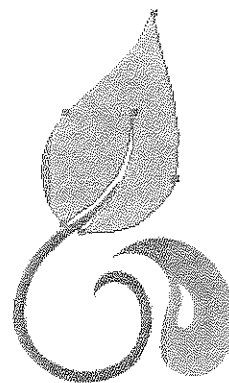
2. Do any of the following:

   On the Control panel, click the Fill or Stroke square or arrowhead,**A** then on the temporary Swatches panel that opens, click a solid-color, gradient, or pattern swatch.**B–C** Note: In Illustrator CS6, you can apply a gradient to an object's stroke! ☆ See page 327.

   On the Appearance panel,◉ click the Fill or Stroke listing,**D** click the color square or arrowhead,**E** then on the temporary Swatches panel, click a swatch.

➤ You can also change the stroke weight via the Control or Appearance panel; see page 120.
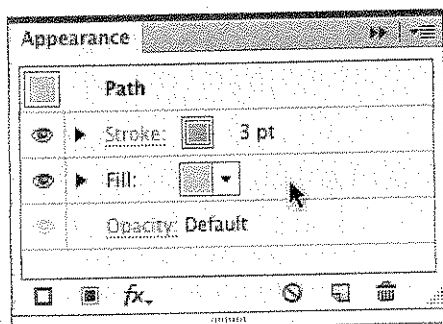
To apply a fill or stroke color of None:

1. Select one or more objects, or isolate an object.

2. Do one of the following:

   On the Tools panel or the Color panel,▦ click the Fill or Stroke square, then either click the **None** button ⊠ or press /.

   On the Control panel, click the Fill or Stroke square or arrowhead, then click the **None** button ⊠ on the temporary Swatches panel.

   On the Appearance panel,◉ click the Fill or Stroke listing, then press /.

Fill color   Stroke color

A We selected an object, clicked the Fill square on the Control panel, then clicked a color swatch.

B The new fill color appeared in the object.
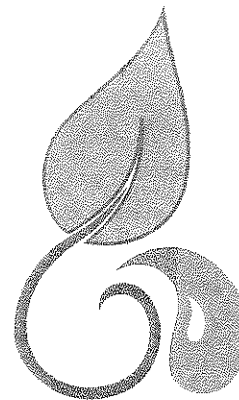
C Next, we applied a stroke color to the same object.

D Click the Fill or Stroke listing on the Appearance panel.
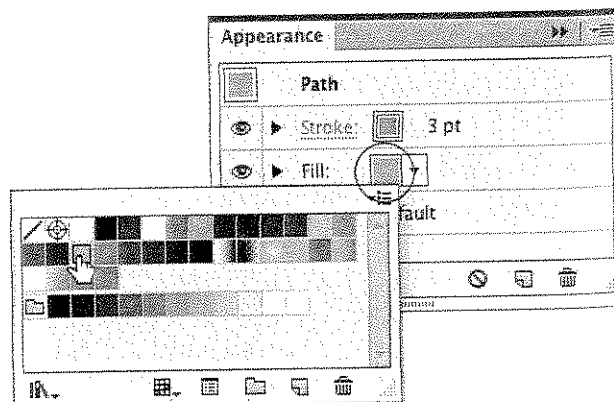
E Click the Fill or Stroke square or arrowhead to open a temporary Swatches panel, then click a swatch.

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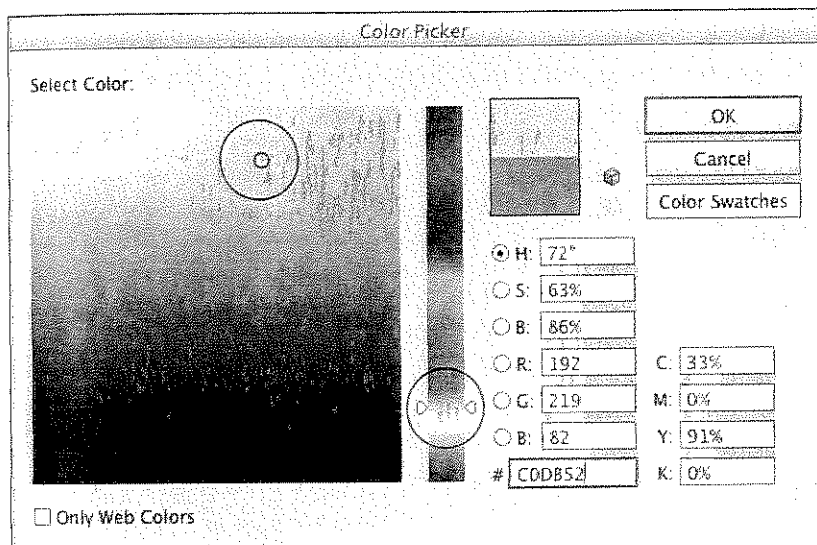
1. S

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4.

You can also apply a solid color to objects by using the Color Picker dialog or the Color Guide panel.

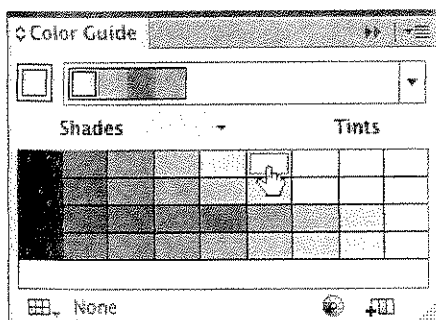## To apply a solid fill or stroke color using the Color Picker:

1. Select one or more objects, or isolate an object.

2. On the Tools or Color panel, double-click the Fill or Stroke square. The Color Picker opens.

3. Click a hue on the vertical bar in the middle of the dialog (or drag the slider), then click a brightness and saturation value of that hue in the large square.A You can also define a color by entering HSB, RGB, hexadecimal, or CMYK values.

   If your document is going to be printed and the Out of Gamut icon ⚠ appears in the dialog, click the swatch below the icon to replace the chosen color with the closest printable one.

4. Click OK.

➤ If the fill or stroke colors differ among selected objects, a question mark [?] appears in the Fill and/or Stroke square on the Tools, Color, and Control panels. The new color you choose will apply to all the selected objects.

To apply a variation of a current color via the Color Guide panel:

1. Select one or more objects, or isolate an object.

2. On the Tools or Color panel, click the Fill or Stroke square.

3. Display the Color Guide panel.

4. Click the **Set Base Color to Current Color** button in the upper left corner of the panel, then click a color variation swatch in the panel.B For more about this panel, see pages 128–130.

A In the Color Picker, click a hue on the vertical bar, then click a variation of that color in the large square.

**B** On the Color Guide panel, click a variation of the current color.

APPLYING BLACK OR WHITE

➤ To apply a white fill *and* a black stroke of 1 pt. to a selected object, click the Default Fill and Stroke button on the Tools panel or press D.

➤ To apply a white or black fill or stroke separately to a selected object, click the Fill or Stroke square on the Color panel, then click the White or Black selector on the Color panel ✭ (shown below) or click the White or Black swatch on the Swatches panel.
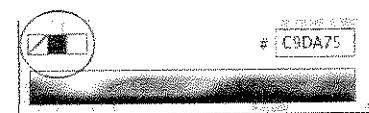
Saving colors as swatches

The Swatches panel is used for storing and applying process and solid colors, patterns, gradients, and color groups. Swatches that you add to the panel save only with the current file. To learn more about this panel, see pages 124–127.

To save the current fill or stroke color as a swatch:

1. Click the Fill or Stroke square on the Color panel.

2. Do either of the following:

   Select or isolate an object that contains the color to be saved as a swatch.

   Deselect, then choose a color via the Color Picker, click a color on the Color Guide panel (see the preceding page), or specify values via the Color panel (see the facing page).

3. Display the Swatches panel so it stays open, either expanded in a dock or as a floating panel.

4. Hold down Option/Alt and click the **New Swatch** button on the Swatches panel.**A–B**

➤ To rename a swatch, double-click it, then enter a name in the Swatch Name field; or put the panel into a list view (via the panel menu), then double-click the name on the panel. ✷
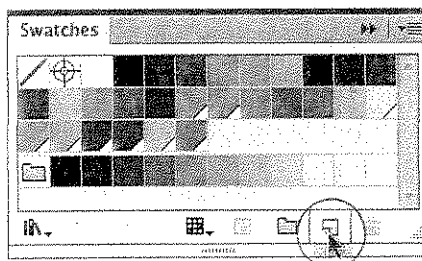
To save the colors being used in a document as swatches:
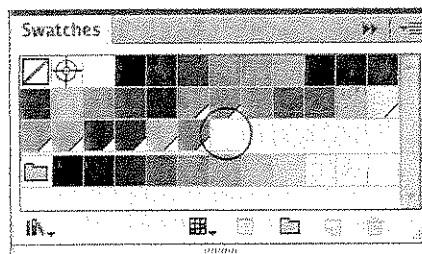
Do either of the following:

Deselect, then from the Swatches panel menu, choose **Add Used Colors**.

Select one or more objects, then from the Swatches panel menu, choose **Add Selected Colors**.

Note: Both commands convert nonglobal process colors to global process colors (see page 132).
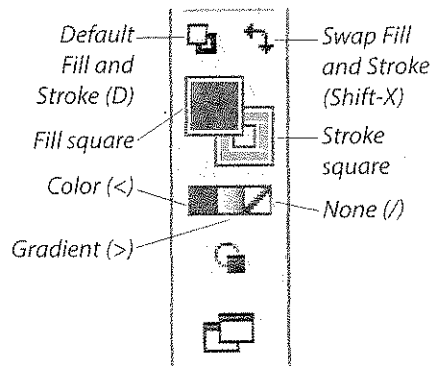
A Click the color square on the Color or Tools panel, then Option/Alt click the New Swatch button on the Swatches panel.

B The new swatch appears on the panel.

SHORTCUTS FOR COLORING OBJECTS

Toggle the Fill and Stroke squares (Tools and Color panels)	Press X
Make the fill color the same as the stroke color, or vice versa	Drag one square over the other on the Tools panel or Color panel
Swap the current fill and stroke colors	Press Shift-X or click the Swap Fill and Stroke button on the Tools panel
Apply a fill of None	Click the None button ⬚ on the Color or Tools panel, or press /
Reapply the last solid color after applying a gradient, pattern, or None	Click the Last Color button on the Color panel or the Color button on the Tools panel, or press <
Reapply the last gradient after applying a solid color, pattern, or None	Click the Gradient button on the Tools panel, or press >

Default Fill and Stroke (D)
Swap Fill and Stroke (Shift-X)
Fill square
Stroke square
Color (<)
None (/)
Gradient (>)

These color controls are located at the bottom of the Tools panel.

Choosing colors via the Color panel

Via the Color panel, you can choose an RGB or hexadecimal color for Web output or a CMYK color for print output.

To apply a color via the Color panel:

1. Select one or more objects, or isolate an object—or to choose colors for an object to be created, deselect.

2. Do one of the following:

   On the Color panel, ⬚ click the Fill or Stroke square.

   On the Control panel, Shift-click the Fill or Stroke square or arrowhead to open a temporary Color panel.

   On the Appearance panel, ⬚ click the Fill or Stroke listing, then Shift-click the square or arrowhead for that listing to open a temporary Color panel.

3. To choose a color for video or Web output, from the Color panel menu, choose **RGB** (not Web Safe RGB). For greater accuracy in sampling, expand the color spectrum bar by dragging the lower left corner of the panel outward or by dragging the left or bottom edge. ★ **A** Click a color in the spectrum bar, then, if desired, tweak the color by moving the sliders.

   For video or Web output, from the Color panel menu, choose **RGB**, then enter a hexadecimal value in the # field. Note: You can copy and paste this value into another application. ★

   To define a specific process color for print output, from the Color panel menu, choose **CMYK**. Refer to a printed guide (such as a PANTONE PLUS Color Bridge guide) for exact values, then enter C, M, Y, and K percentages. **B**

4. *Optional (but recommended):* To save the new color as a nonglobal process color swatch, Option-click/Alt-click the New Swatch button ⬚ on the Swatches panel.

➤ To specify a shade on a gray spectrum, choose Grayscale from the panel menu. Or to define a color by hue (location on the color wheel), saturation (purity), and brightness values, choose HSB.

➤ To cycle through the color models for the Color panel, Shift-click the spectrum bar at the bottom of the panel.

➤ Colors can also be defined numerically via the Color

Picker (pg 115)
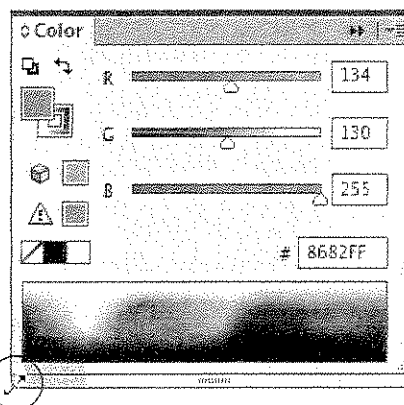
**A** *To expand the Color panel, drag the lower left corner (or the left or bottom edge).*
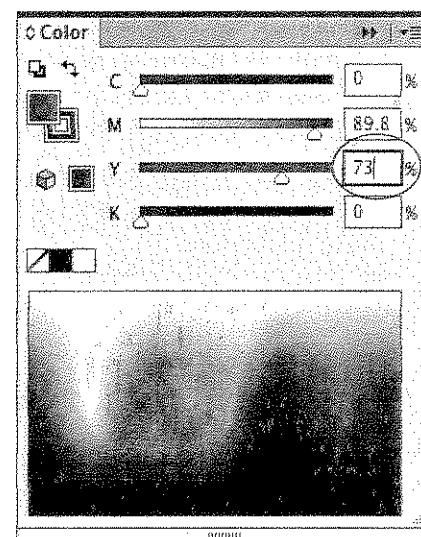
B *For print output, choose CMYK from the panel menu, then enter percentage values.*

SELECTING TYPE OR A TYPE OBJECT FOR RECOLORING

➤ To recolor all the type in a block, select it with the Selection tool or the Layers panel first.

➤ To recolor just a portion of the type in a block, select that passage with a type tool first.

➤ To recolor an object that contains path or area type (not the type), select the path with the Direct Selection tool first.

SUBSTITUTING AN IN-GAMUT COLOR

If the current RGB or HSB color has no CMYK equivalent (and therefore can't be printed on a commercial press), an Out of Gamut warning ⚠ displays on the Color panel. If you click the icon or swatch, Illustrator will replace it with the closest equivalent printable color.
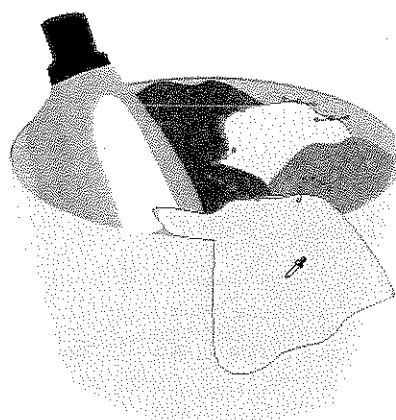
Using the Eyedropper tool

When you click an object with the Eyedropper tool, it samples the object's color and stroke attributes, displays them on the Color, Stroke, and Appearance panels, and applies them to selected objects — in one quick and easy step. Note: This tool doesn't pick up or apply variable width profiles or brush strokes.

## To sample and apply colors with the Eyedropper tool:

1. *Optional:* To specify default settings for the attributes that you want the Eyedropper tool to pick up and apply, double-click the tool 🖊 (or click the tool, then press Return/Enter). In the Eyedropper Options dialog, check the attributes that the tool is to pick up and apply (the default setting is all options checked), uncheck the attributes to be ignored, then click OK.

2. *Optional:* Select one or more objects. They will be recolored instantly with the attributes you are going to sample with the Eyedropper in step 4.

3. Choose the **Eyedropper** tool 🖊 (I).

4. Click an object in your artwork that contains the desired attributes.**A** It can be any kind of object (even a color in a placed image), and it can contain a solid color, pattern, or gradient. The object doesn't have to be selected. Depending on the current Eyedropper Options settings, the sampled colors may appear in the Fill and/or Stroke squares on the Tools, Color, Appearance, and Control panels, and the sampled stroke settings may appear on the Stroke panel.

   If you selected any objects before using the Eyedropper tool, the sampled attributes will be applied to those objects.**B**
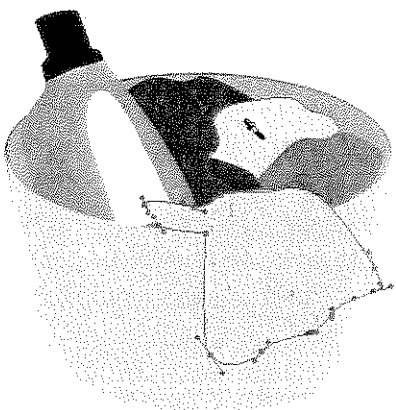
➤ Option-click/Alt-click an object to do the opposite of the above — that is, apply color attributes from the currently selected object to the object you click.**C–D**

➤ To have the Eyedropper tool sample just the color you click in a solid color, gradient, or pattern (no other attributes), click the Fill or Stroke square on the Tools or Color panel, then Shift-click the color to be sampled.

➤ To save the sampled color, drag it from the Fill or Stroke square on the Color panel to the Swatches panel.

A *Select one or more objects, then with the Eyedropper tool, click an object that contains the desired attributes.*
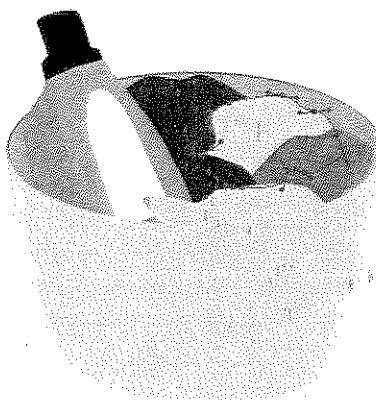
B *The attributes you sample will be applied instantly to the selected object(s).*

C *Another method is to Option-click/ Alt-click with the Eyedropper tool to apply attributes from the currently selected object to the one you click.*
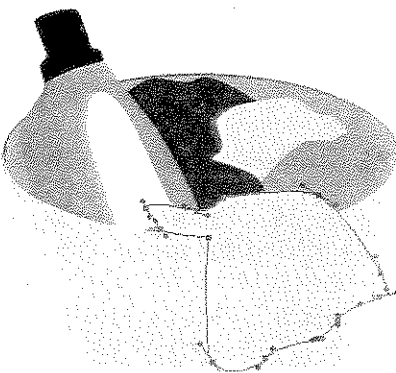
D *This is the result after we Option/ Alt clicked with the Eyedropper tool.*
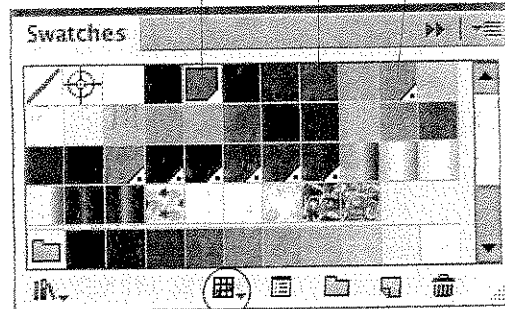
Using the Swatches panel

Via the Swatches panel menu, you can control which categories and size of swatches the panel displays.

To choose display options for the Swatches panel:

1. Display the Swatches panel.☰

2. To control which categories of swatches display on the panel, from the **Show Swatch Kinds** menu,▦▾ choose Show All Swatches for all types (colors, gradients, patterns, and color groups),**A** Show Color Swatches for just solid colors and color groups, Show Gradient Swatches for just gradients, Show Pattern Swatches for just patterns, or Show Color Groups for just color groups.

3. From the panel menu, choose a view for the currently displayed category of swatches: Small Thumbnail View, Medium Thumbnail View, Large Thumbnail View, Small List View, or Large List View. The medium and large thumbnail views are useful for identifying gradients and patterns. In the two list views, icons representing the color type and mode for each solid color also display.**B**

4. *Optional:* From the panel menu, choose Sort by Name to sort all nongrouped swatches alphabetically by name or numerically by their color contents; or choose Sort by Kind (when all swatch categories are displayed) to sort swatches in the following order: solid colors, gradients, patterns, color groups.

➤ To locate a particular swatch, choose Show Find Field from the panel menu, click in the field, then start typing the swatch name. Choose the command again to hide the field.

➤ You can drag a swatch, or multiple selected swatches, to another location on the panel. Color groups are always listed last.

➤ To learn the difference between global and nonglobal colors, see page 132.

Global process colors have a white corner but no dot. *Nonglobal process colors are plain.* *Spot colors have a dot.*

A *All four varieties of swatches (color, gradient, pattern, and color groups) are displayed on this Swatches panel because Show All Swatches is chosen on the Show Swatch Kinds menu. (This panel is in Medium Thumbnail view.)*
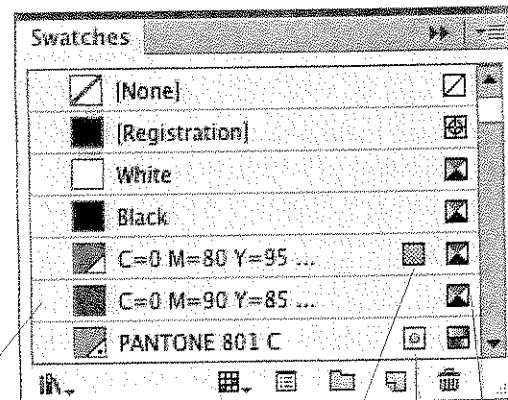
Nonglobal process color   *Global process color*   *Spot color*   *CMYK color mode*

B *When the Swatches panel is in a list view, icons representing the color type and document color mode display on the right side.*

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A convenient way to organize swatches on the Swatches panel is by putting them in color groups. If you're coordinating a group of solid colors for a specific client, project, or whatever, you will be able to locate and display them more easily if they're in groups.

When the panel is in a thumbnail view, the colors in each group are lined up in a row, beginning with the folder icon, and each group name can be identified via its tool tip. When the panel is in a list view, the name of the color group is listed next to the folder icon, followed by a nested listing of the colors in the group.

To create a color group from swatches:

1. Deselect.

2. On the Swatches panel, ≡ Shift-click to select contiguous solid-color swatches or Cmd-click/Ctrl-click to select multiple swatches (sorry, no gradients, patterns, or the color None).**A**

3. Click the **New Color Group** button 🗀 at the bottom of the panel.

4. In the New Color Group dialog, enter a Name, then click OK. The new group appears on the Swatches panel.**B**

   Note: To add a swatch to an existing color group, drag the swatch from the Swatches or Color Guide panel into the group or onto the group icon.

➤ You can also create a color group via the Color Guide panel (see pages 128–130), the Kuler panel (see page 131), or the Recolor Artwork or Edit Colors dialog (see Chapter 29). To edit any color group via the Edit Colors dialog, double-click the group icon on the Swatches panel.

➤ To rename a color group, click its icon, then choose Color Group Options from the panel menu; or if the panel is in a list view, double-click the group name. ⭐

➤ To restack a color group among other color groups, drag its icon upward or downward.

To create a color group from artwork:

1. Select the artwork that contains the colors to be put into a new color group.**C**

2. Click the **New Color Group** button 🗀 on the Swatches panel.

3. In the New Color Group dialog, enter a name for the group; click **Selected Artwork**; if desired, check Convert Process to Global and/or Include Swatches *for Tints, then click OK.***D**
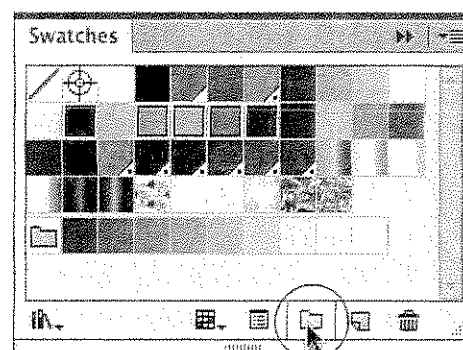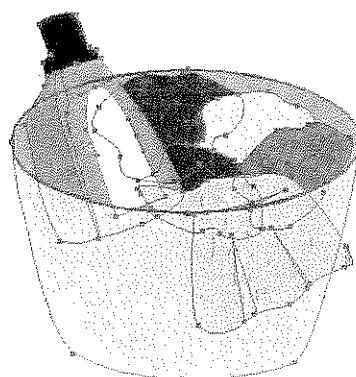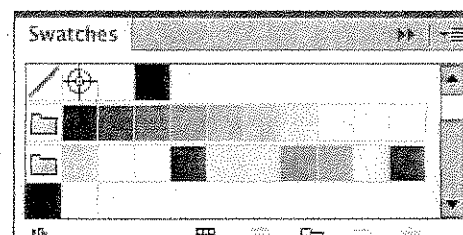
A *With several solid-color swatches selected, the New Color Group button is clicked.*
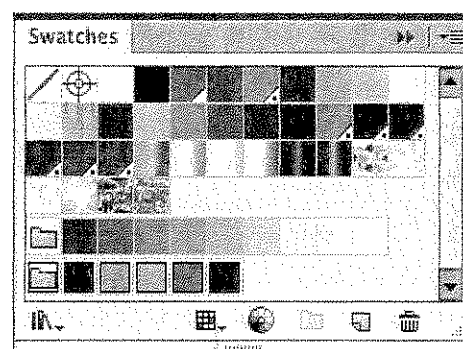
B *The new color group appears on the panel.*

C *We selected artwork in a document, then clicked the New Color Group button on the Swatches panel.*

D. The new color group appears on the panel

To copy swatches between Illustrator files:

1. Open the file into which you want to load swatches.

2. From the **Swatch Libraries** menu ▥▾ at the bottom of the Swatches panel, choose **Other Library**. The Select a Library to Open dialog opens.

3. Locate and click the Illustrator file from which you want to copy swatches, then click Open. A library of swatches opens, bearing the name of the source file.

4. In the library panel that was generated from the source file, do either of the following:

    Click a swatch or color group icon.**A–B**

    Cmd-click/Ctrl-click or Shift-click multiple swatches or click a swatch in a color group, then choose Add to Swatches from the panel menu.

5. If the Swatch Conflict dialog appears, see the sidebar at right.

➤ To quickly append spot or global process colors from one file to another, do either of the following: Copy and paste an object or group that contains those colors from one document to another, or drag the object or group from one Illustrator document window onto the tab, and then into the window, of the other document. To append nonglobal process colors, do the same, then drag from the Fill and/or Stroke square on the Color panel to the Swatches panel.


RESOLVING A SWATCH CONFLICT

➤ The Swatch Conflict dialog will appear as you copy swatches or objects between files if a global process color has the same name as an existing swatch in the current document, but different color percentages. Click Merge Swatches to have the incoming swatch adopt the color values of the existing one, or click Add Swatches to add the incoming swatch to the document (Illustrator appends a number to its name). Note: To apply the current Options setting to any other name conflicts that crop up and prevent the alert dialog from opening repeatedly, check Apply to All.

➤ If a conflict arises between spot colors, Illustrator will merge the new swatch into the existing one.
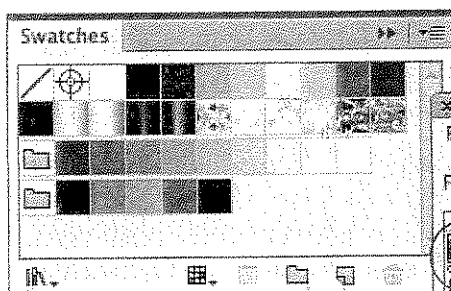
A We opened a library of swatches from another file, then clicked a color group.
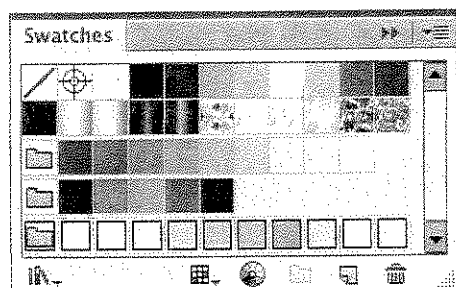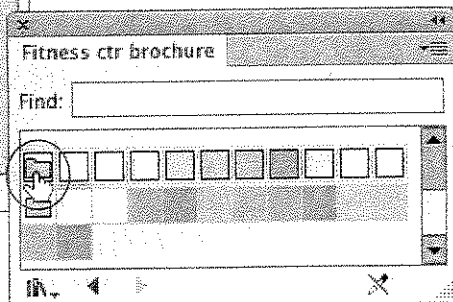
B The color group appeared on the Swatches panel for the current document.

To duplicate a swatch:

1. On the Swatches panel, click the swatch to be duplicated, then click the **New Swatch** button ▓ on the panel.

2. The New Swatch dialog opens. Change the swatch name, if desired, check Global or not (see page 132), then click OK.

➤ To bypass the dialog as you duplicate a swatch, click the swatch, then Option-click/Alt-click the New Swatch button (or drag the swatch over the button).

To delete swatches from the panel:

1. On the Swatches panel,≣ do one of the following:

   Click a swatch.

   Click the icon for a color group.

   Cmd-click/Ctrl-click (or Shift, then Shift-click) multiple swatches or color groups.

   To select only the swatches that aren't being used in your artwork, choose **Show All Swatches** from the **Show Swatch Kinds** menu,▦ then choose **Select All Unused** from the panel menu.

2. Click the **Delete Swatch** button ▥ at the bottom of the Swatches panel, then click Yes in the alert dialog; or to bypass the prompt, Option-click/Alt-click the Delete Swatch button.

➤ If you delete the swatch for a spot or global process color (or for a pattern or gradient that contains a spot or global process color) that is currently in use in your document, a nonglobal process color equivalent of the deleted color is applied to those objects automatically (see page 132).

➤ To restore a swatch that you have just deleted, choose Undo. If it's too late to use the Undo command but the deleted color is still in use in your artwork, select an object that contains the color, click the Fill and/or Stroke square on the Tools or Color panel, then Option-click/Alt-click the New Swatch button on the Swatches panel. If the swatch was a global process or spot color, you will need to reset it to Global or Spot via the Swatch Options dialog (see page 132).

➤ To restore swatches from a default library or any other library, see page 118.

Swatches and color groups that you load onto the Swatches panel will save with the current document but will disappear from the panel if you replace them with another library (such as one of the default preset libraries). Thankfully, you can collect the swatches and color groups currently on the panel into a library, for access and use in any document.

To create a custom swatch library:

1. Make sure the Swatches panel contains only the swatches or color groups to be saved in a library.

➤ To delete all the swatches that aren't being used in your artwork, choose Show All Swatches from the Show Swatch Kinds menu, ▦ choose Select All Unused from the Swatches panel menu, then click the Delete Swatch button.▥

2. From the top of the **Swatch Libraries** menu ▓ on the Swatches panel, choose **Save Swatches.**

3. The Save Swatches as Library dialog opens. Type a name for the library in the Save As/File Name field, keep the default location, and click Save.

4. User-saved libraries are listed on, and can be opened from, the User Defined submenu on the Swatch Libraries menu.

Using the Color Guide panel

Use the Color Guide panel to generate color schemes from a base color by choosing a harmony rule and/ or a variation type (Tints/Shades, Warm/Cool, or Vivid/ Muted). You can apply any resulting swatch as a fill or stroke color, save variations from the panel as a group to the Swatches panel, and edit the current color group via the Edit Colors dialog.

This panel might prove useful if you want to apply a set of coordinated colors quickly, if your projects require you to work with an approved group of colors, or if you simply want to see how your artwork might look in a different range of hues, tints, or saturation values. To get acquainted with the panel, start by choosing options for it.

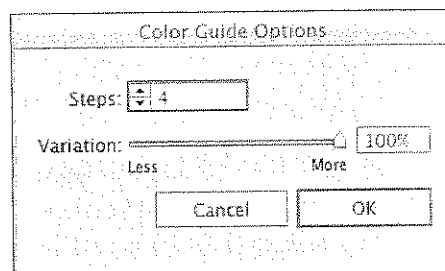## To choose variation options for the Color Guide panel:

1. Show the Color Guide panel, ▨ then choose **Color Guide Options** from the panel menu. The Color Guide Options dialog opens (formerly called the Variation Options dialog, and now featuring a percentage field ★).**A**

2. Click the up/down arrow to set the number of variation **Steps** (columns of colors) to be displayed on either side of the colors in the central column, and move the **Variation** slider to control how much the colors can vary from those in the central column.

3. Click OK.**B**

➤ To make the swatches wider, enlarge the Color Guide panel by dragging its left or right edge.

## To apply color variations via the Color Guide panel:

1. From the **Limit Color Group to Colors in Swatch Library** menu ▦▾ at the bottom of the Color Guide panel, choose None.

2. To set the base color and initial variations, do either of the following:

   Select an object,**C** then click the Fill or Stroke square on the Tools or Color panel. To have the panel generate variations based on that fill or stroke color, click the **Set Base Color to Current Color** button ▦ in the upper left corner of the Color Guide panel.

   Deselect, click the Fill or Stroke square on the Tools or Color panel, then click a swatch on the Swatches panel or select a color via the Color panel.

A In the Color Guide Options dialog, specify the number of Steps (variation columns) to be displayed on the Color Guide panel, and a degree of Variation for those colors.

Set Base Color to Current Color   Base color   Active color group
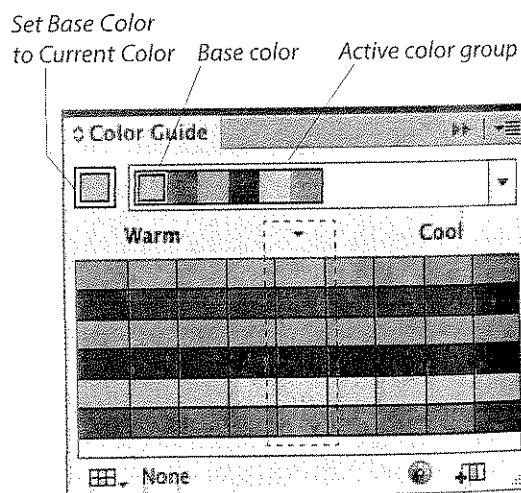
B The original colors from the active color group display in the central column of the Color Guide panel. The options for this panel are set to 4 Steps (four columns on either side of the central one) and the maximum Variation percentage.
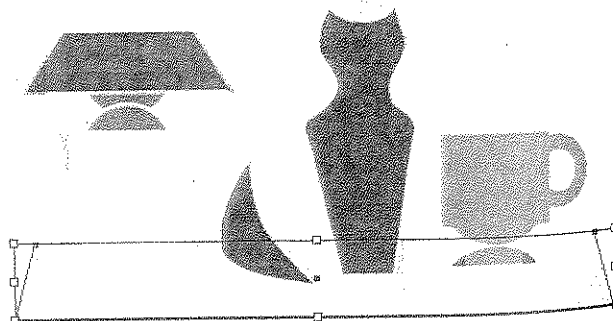
C We selected an object.

3.

4.

➤

3. The active color group displays at the top of the Color Guide panel. To control what types of variations are derived from the active color group, choose a variation type from the panel menu:

Show Tints/Shades adds progressively more black to the variations on the left side of the central column and progressively more white to the variations on the right. **A**

Show Warm/Cool adds progressively more red to the variations on the left and progressively more blue to the variations on the right.

Show Vivid/Muted progressively reduces the saturation of colors on the left and progressively increases the saturation of colors on the right. **B**

4. To apply a color variation, do either of the following:

To recolor the currently selected object, click a color in the active group at the top of the panel or click a variation swatch in the main part of the panel.

Drag a variation swatch over any selected or unselected object. **C**

Note: When you click a variation on the Color Guide panel, that color appears in the Set Base Color to Current Color button. ⬛ If you then click that button, the active color group changes and new variations are generated.

➤ To limit the harmony and variation colors on the Color Guide panel to colors in a library, from the Limit Color Group to Colors in Swatch Library menu, ⊞▾ choose a library name (e.g., Earthtone or Color Books > PANTONE + Solid Coated). The library name will be listed at the bottom of the Color Guide panel, and only colors from that library will display as variations on the panel and on the Harmony Rules menu (see the next page). To remove the current restriction, choose None from the same menu.
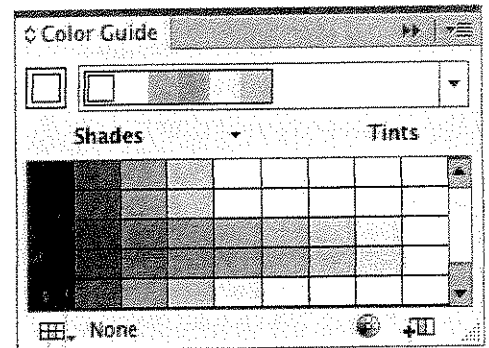
A The Show Tints/Shades option produced these colors.
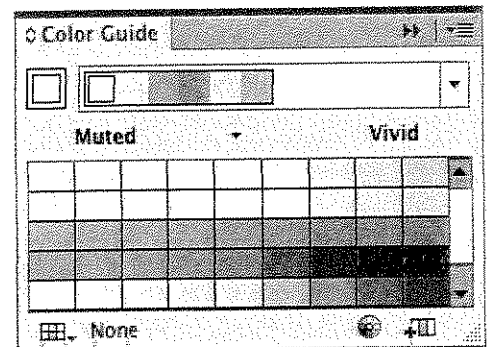
B Here the Show Vivid/Muted option is chosen instead.
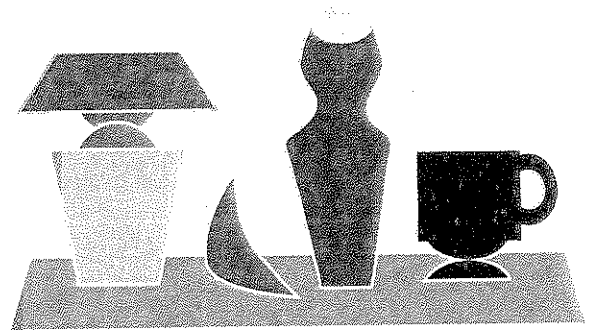
C We dragged variation swatches from the Color Guide panel over a few of the objects in the artwork.

Another easy way to change the variations on the Color Guide panel is by choosing a harmony rule, such as Complementary, Analogous, or High Contrast. A new color group and variations are generated from the same base color, in accordance with the chosen rule. We could spend hours exploring the endless variations.
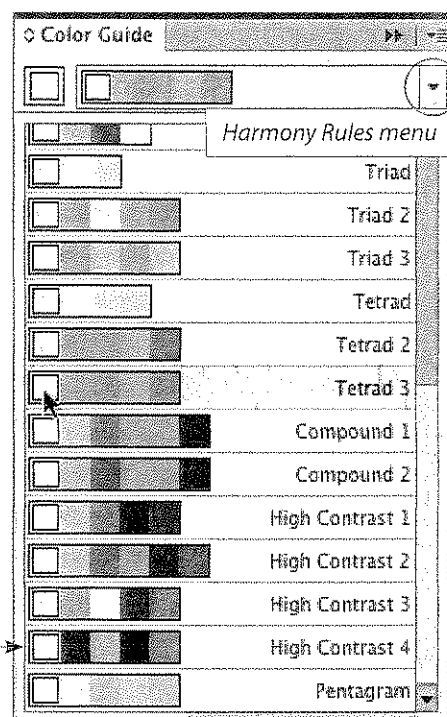
To create a color group and variations based on a harmony rule:

1. To establish a base color on the Color Guide panel, follow step 2 in "To apply color variations via the Color Guide panel" on page 128.

2. On the Color Guide panel, click to open the **Harmony Rules** menu (to the right of the active color group), **A** then click a rule. A new color group displays at the top of the panel. Below that, you will see the variations that Illustrator generated from the new color group.**B**

3. *Optional:* To produce a new color group and variations based on the chosen harmony rule, click a variation or a color in the active color group, then click the Set Base Color to Current Color button. You can also choose a different rule.

4. To recolor an object, select it, click the Fill or Stroke square on the Color panel, then click a color variation swatch, or drag a swatch over any selected or unselected object.**C**
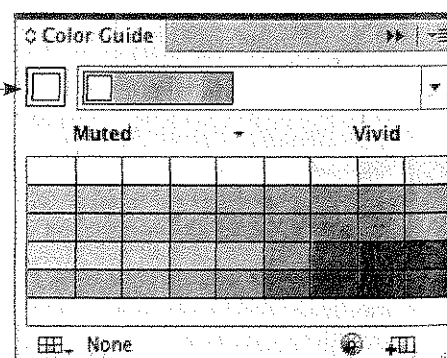
The color group and variations on the Color Guide panel are transitory. They change as soon as you reset the base color, choose a different harmony rule, or click a swatch on the Swatches panel. Thankfully, you can save either the active color group or selected variations as a color group to the Swatches panel.

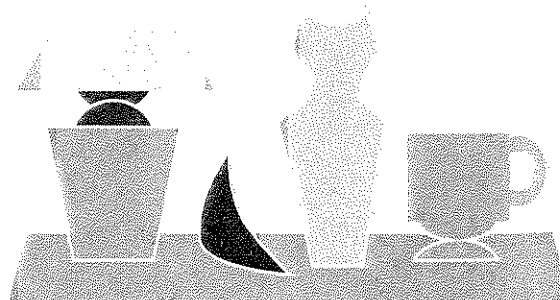## To add colors from the Color Guide panel to the Swatches panel:

1. On the Color Guide panel, do either of the following:

   To save the active color group, deselect any selected variations by clicking the blank area.

   Cmd-click/Ctrl-click (or click, then Shift-click) the desired color variations.

2. Click the **Save Color Group to Swatch Panel** button. The new group appears on the Swatches panel.

➤ To save a single variation instead of a color group, select it, then hold down Option/Alt and click the New Swatch button on the Swatches panel.

Base color

A *When you choose a harmony rule from the menu on the Color Guide panel, the base color stays the same, but the color group changes to abide by the new rule.*

Harmony Rules menu

Triad
Triad 2
Triad 3
Tetrad
Tetrad 2
Tetrad 3
Compound 1
Compound 2
High Contrast 1
High Contrast 2
High Contrast 3
High Contrast 4
Pentagram

Muted — Vivid

None

B *A new color group and variations appear on the panel, based on the new harmony rule.*

C *We dragged some new color variations onto objects in our artwork.*

Replacing colors in your artwork

Via the Select Similar Options menu on the Control panel, you can quickly select multiple objects that have a common attribute, such as the same fill color, then apply a replacement color to all the selected objects.

To replace a color, stroke attribute, or opacity setting throughout a document:

1. Select an object that contains a spot color(s), nonglobal process color(s), stroke weight, or other attribute that you want to change, and that is also in use in other objects.

2. From the **Select Similar Options** menu ▨ ▾ on the Control panel, choose an option, such as Fill Color, Stroke Color, or Fill & Stroke Color.

3. To change an attribute in the selected objects, such as an attribute that you chose in the prior step, do any of the following:

   Click the Fill or Stroke square on the Tools or Color panel, then select a different color via the Swatches, Color Guide, or Color panel, or in a swatch library panel. Tint percentages for spot colors will remain the same.

   Choose a new stroke weight or other stroke attributes on the Stroke or Appearance panel.

   Change the Opacity percentage on the Control or Appearance panel.

4. Deselect (Cmd-click/Ctrl-click a blank area of an artboard).

A global process color swatch is one for which Global is checked in the Swatch Options dialog. When you edit the values of a global process color swatch, the color updates automatically in all objects in which it is being used—whether or not those objects are selected.

To change a process color from nonglobal to global:

1. Double-click a nonglobal process color swatch on the Swatches panel. Note: Global process color swatches have a white corner and no dot; nonglobal process colors are plain (no corner and no dot).

2. The Swatch Options dialog opens.**A** Check **Global**, then click OK.

➤ To make a global swatch nonglobal, uncheck Global in the Swatch Options dialog.

To edit the values of a global process color:

1. Double-click a global process color swatch on the Swatches panel.

2. In the Swatch Options dialog, check Preview, edit the color by moving the sliders, then click OK. Existing tint percentages are preserved.

To replace a global process color that's being used in multiple objects, instead of recoloring one object at a time, you simply replace the current color swatch with a new one, and the replacement color appears in all the objects (even if they're not selected). Existing tint percentages are preserved.

## To replace a global process color swatch:

1. Deselect all objects.

2. Do one of the following:

   From the Swatch Libraries menu ▥ ▾ on the Swatches panel, choose a library name. Click a color on the library panel, then Option-drag/Alt-drag it over the global process color swatch on the Swatches panel that you want to replace.

   Click the Fill or Stroke square on the Color panel, then choose a new color via the Color panel (or double-click either square and mix a color via the Color Picker); or click a color on the Color Guide panel. Option-drag/Alt-drag the Fill or Stroke square over the global process color swatch on the Swatches panel that you want to replace.

   On the Swatches panel, Option-drag/Alt-drag one global color swatch over another.

➤ If you Option-drag/Alt-drag a nonglobal process color swatch over a global process swatch, the resulting swatch will be a global process color.
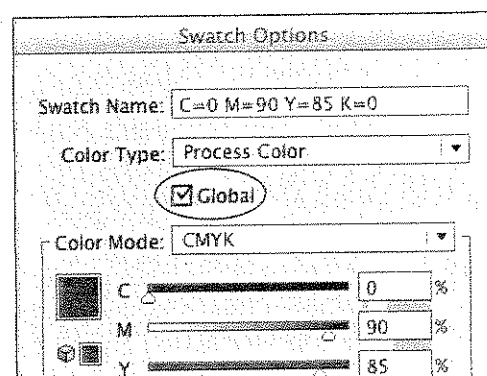
A Double-click a swatch to open the Swatch Options dialog, then check or uncheck Global.

Creating a pattern

If you tried to create patterns in a previous version of Illustrator, you will be especially delighted by the new pattern-making features. Not only is it amazingly simple to create patterns and apply them, but editing them is a cinch, too. Illustrator even takes care of making seamless repeats. Best of all, you can see your changes live throughout the whole process.

To create a pattern: ★

1. Select one or more Illustrator objects (or a group). The objects may contain fill and stroke colors, including a gradient (but not a pattern). For suggestions, see the sidebar at right.

2. Do either of the following:

   Choose Object > Pattern > **Make**. The Pattern Options panel displays.

   Show the Pattern Options panel,⊞ A then choose **Make Pattern** from the panel menu.

   The document is put into pattern-editing mode (it's like isolation mode),B and a new pattern swatch appears on the Swatches panel.C

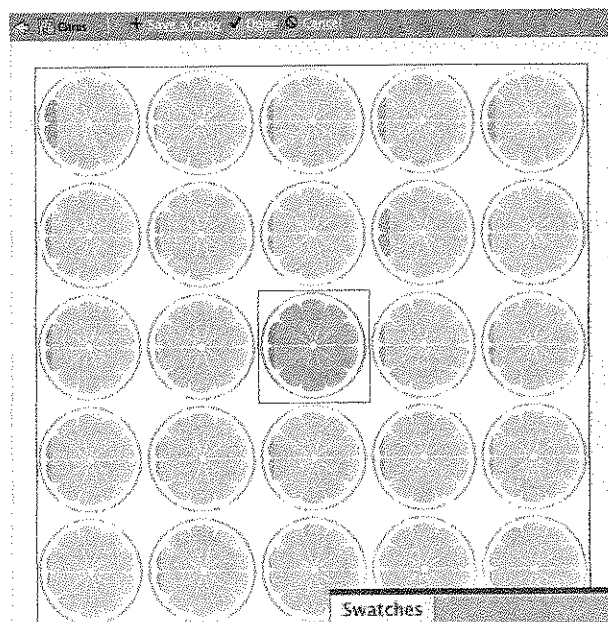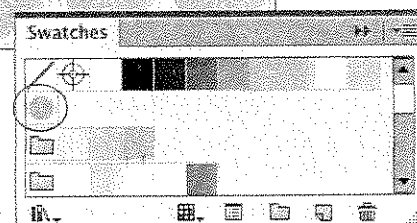*Continued on the following page*

A We selected an object, then chose Make Pattern from the Pattern Options panel menu. The artwork appeared in the swatch on the

Panel

B The command also put the document into pattern-editing mode ...

C and created a pattern swatch

Note: By default, an alert will inform you that Illustrator added the new swatch to the Swatches Panel. Click "Don't Show Again" if you want to prevent the alert from reappearing; click OK.

➤ The blue (default color) tile edge in the center of the artboard defines the edge of the pattern tile.

3. On the Pattern Options panel, do the following:

Enter a **Name** for the pattern.

From the **Tile Type** menu, choose a tiling configuration.**A** If you choose a Brick option, also choose a Brick Offset option.

4. To change the spacing between the tiles, check **Size Tile to Art**, and if desired, click the Maintain Spacing Proportions button. Click in the **H Spacing** or **V Spacing** field, then press the up or down arrow on the keyboard (use a positive value to increase the spacing, or a negative value to decrease it).**B**

5. If your artwork contains multiple objects, uncheck **Size Tile to Art**, then try dragging an object, and see how the pattern changes immediately in the preview.

If you move any object so it overhangs the tile edge, Illustrator will replicate that object on the opposite side of the tile, to create a continuous, seamless pattern. To control the stacking position of the overhanging objects, click one of the **Overlap** buttons in each pair: Left in Front or Right in Front, and Top in Front or Bottom in Front (**A–B**, next page).

Check **Move Tile with Art** to force the tile edge to move if you drag all the pattern object(s), or uncheck this option when you need to move all the objects separately from the tile edge.

6. To scale the tile separately from the artwork, do either of the following:

To specify dimensions, uncheck **Size Tile to Art**; if desired, click the Maintain Width and Height Proportions button to maintain the current aspect ratio; then enter **Height** and **Width** values (press Tab to apply) or click in either field and press the up or down arrow.

Click the **Pattern Tile** tool in the panel, then adjust any handle (Shift-drag to maintain the proportions of the tile) (**C**, next page). When you're done, click the tool again to deselect it.
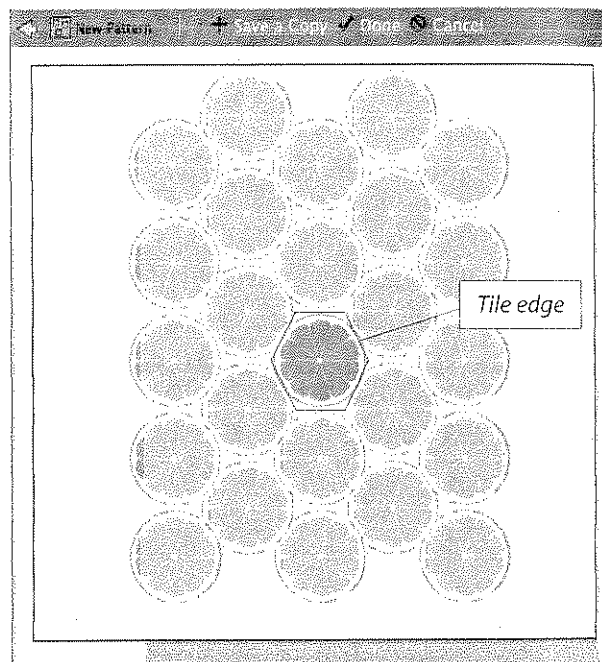
A We chose the Hex by Column option from the Tile Type menu.
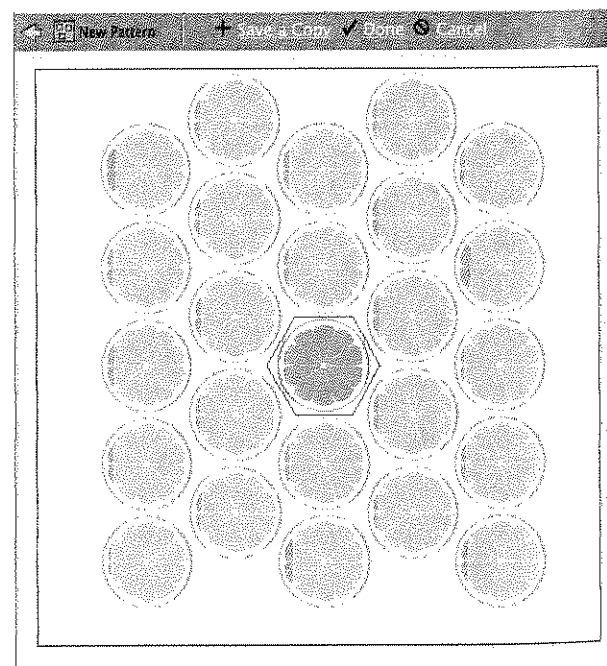
**B** We increased the H Spacing and V Spacing values to 12 pt.

B H

➤ Shrinking the tile will cause some objects to straddle the tile edge. Double-check that you're still happy with the Overlap settings.

➤ At any time if you want to remove the custom scaling and refit the tile edge to the objects, check Size Tile to Art.

7. For the preview, do any of the following (these options affect how the pattern previews, not how it looks or repeats when used in your artwork):

From the **Copies** menu, choose how many times you want the pattern to repeat in the preview (the default setting is 5 x 5).

To make it easier to differentiate between the actual object(s) used to produce the pattern and the copies produced by the pattern feature, check **Dim Copies To**, then enter or choose an opacity value (In **A**, the copies are dimmed to 60%).

Check **Show Tile Edge** to display the tile edge. This option isn't available when the Pattern Tile tool is selected.

Check **Show Swatch Bounds** to display a swatch boundary, which marks the outermost area of objects that will be repeated in the tile.

8. To exit pattern-editing mode and accept the swatch, at the top of the document window, click **Done** (or press Esc) or click the bar.

(To exit pattern-editing mode and delete the new swatch from the Swatches panel, click Cancel.)

Continued on the following page

Swatch boundary   *Tile edge*
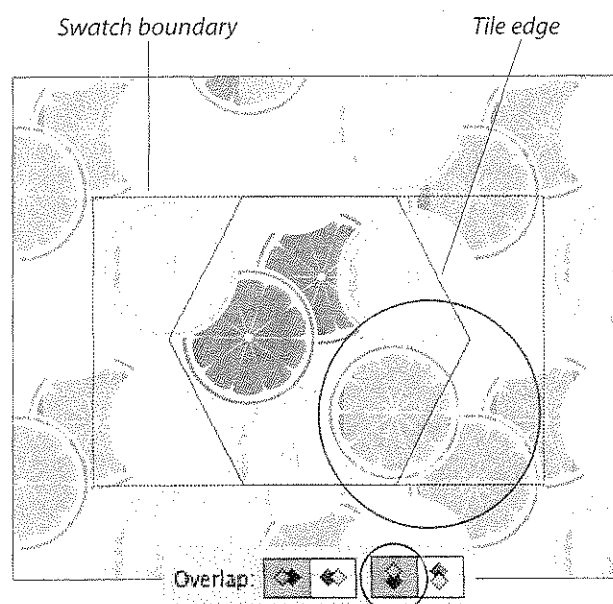
A *To add some variation to the pattern, we duplicated the original orange slice (group of objects) a few times, then recolored some of the copies. We unchecked Size Tile to Art, then dragged a couple of objects so they straddled the tile edge. This is the default Overlap option of Top in Front. (Here both the tile edge and swatch boundary are displayed.)*
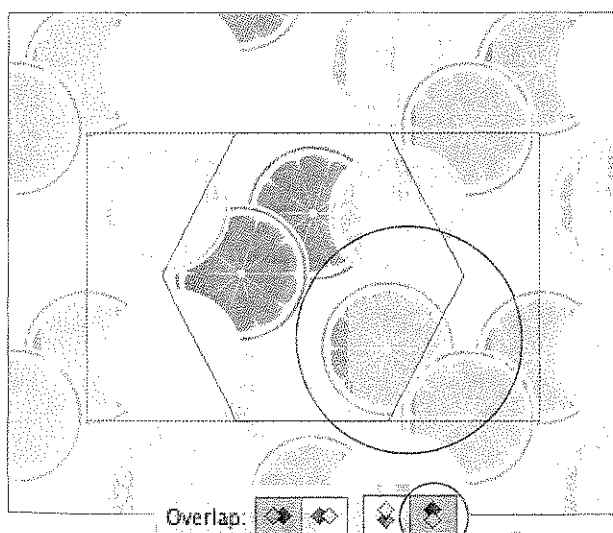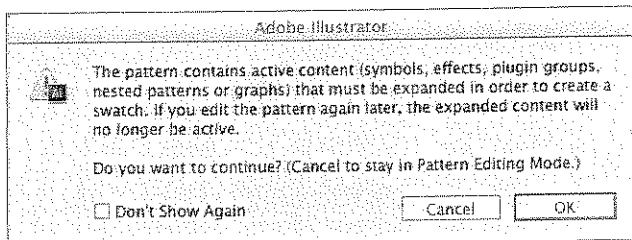

B. Here the Overlap option of Bottom In Front was clicked.
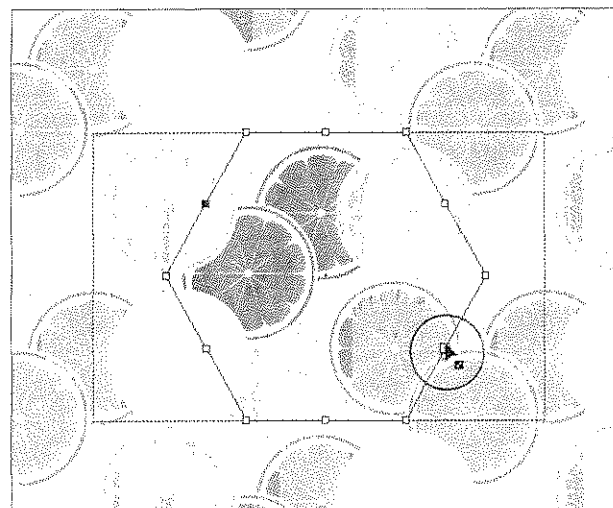
C With the Pattern Tile, the tile edge can be resized manually

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Note: If objects in the pattern contain "live" appearances, an alert may inform you that Illustrator must expand those items in order to create a pattern swatch.**A** If you click OK, the live aspect of those objects will no longer be editable (e.g., a brush can't be edited via the Brushes panel), but that's not necessarily a problem. If you prefer to edit or eliminate any live items from the pattern, click Cancel, edit or discard those objects, then exit pattern-editing mode.

9. You can apply the pattern to any object as a fill **B** and/or as a stroke (**A–B**, next page).

➤ You can also create a pattern by choosing the Make Pattern command with no objects selected, then creating some artwork within the tile edge.
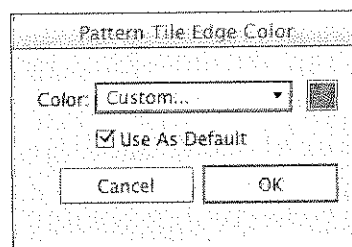

A This alert informs you that your pattern artwork contains live objects.

B You don't necessarily have to create geometric or hard-edged patterns — you can also create textures. Loosely drawn paths (with brush strokes), top left, were used to create a pattern, which is used as a fill in the object above. The pattern settings are shown on the panel at right.
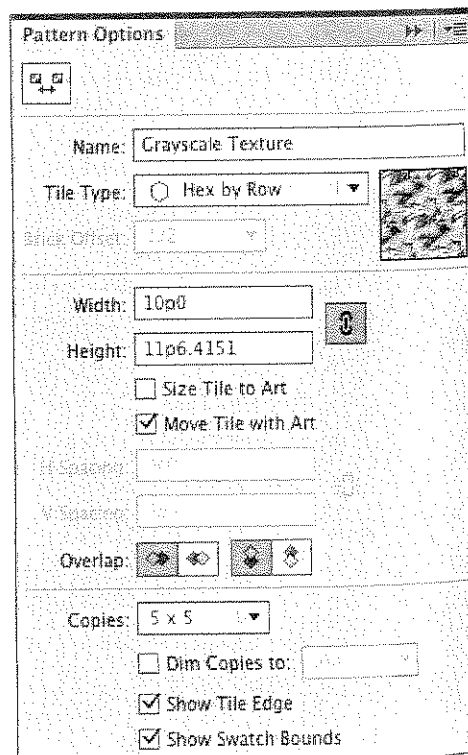
KEEPING THE PATTERN OPTIONS PANEL OPEN

By default, the Pattern Options panel closes when you exit pattern-editing mode (when you click Done or Save a Copy). To keep the panel open even while you're not creating or editing a pattern, uncheck Auto-Close on Exiting Edit Mode on the panel menu.
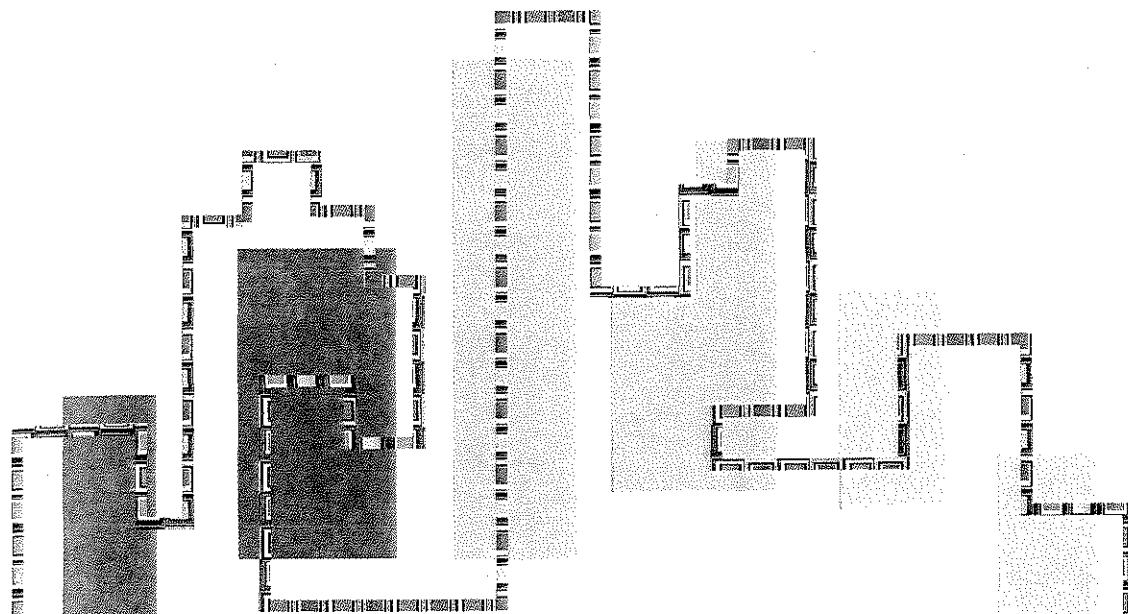
CHANGING THE PATTERN TILE EDGE COLOR

To change the color of the pattern tile edge, choose Tile Edge Color from the Pattern Options panel menu (or choose Object > Pattern > Tile Edge Color). In the dialog, choose a color from the menu, or click the swatch and choose a color from the picker. To establish your color choice as the new default color, check Use as Default.
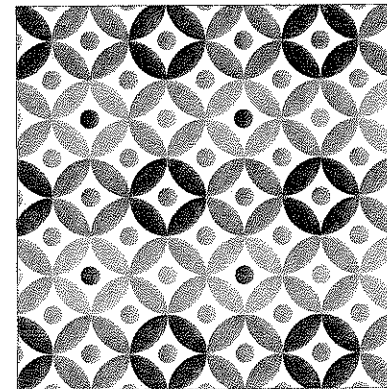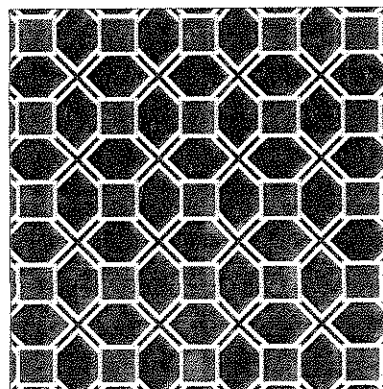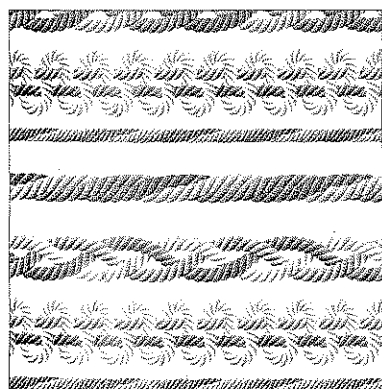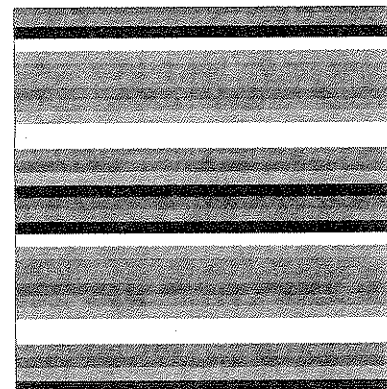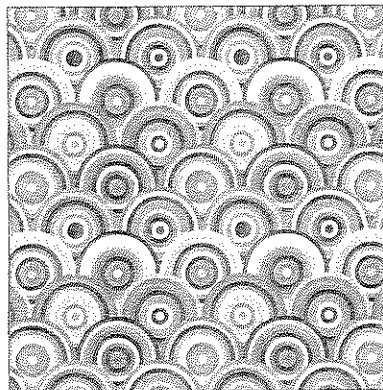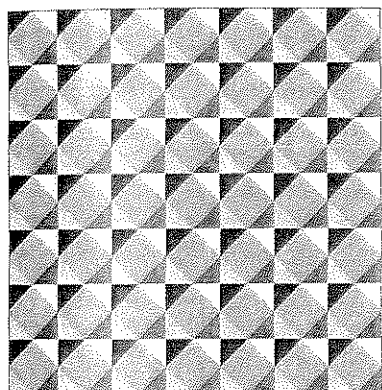
A *A pattern is applied to the stroke of an object.*

Editing a pattern

Once you have mastered creating a simple pattern, for added interest, try throwing in a few more objects, transforming some of the objects, changing their transparency settings, or applying an effect. In pattern-editing mode, all the controls are available that you would normally use to edit objects in Illustrator. You can reposition, reshape, recolor, or add a brush stroke or variable width profile to any object, and add and delete objects.

To edit a pattern: ★

1. On the Swatches panel, do either of the following:

   Double-click a pattern swatch.

   Click a pattern swatch, then click the **Edit Pattern** button.▤

2. The Pattern Options panel displays and the document is put into pattern-editing mode.

3. *Optional:* To preserve a copy of the original swatch, click Save a Copy, enter a name in the New Pattern dialog, then click OK. An alert may appear, informing you that the original pattern (not the copy) will remain onscreen, ready for editing. Click OK.

4. Edit the components of the pattern using any Illustrator features or tools:

   Recolor or reposition any of the objects, or apply transformation edits, such as scaling or rotation.**A–C**

   Add objects to the pattern.

   Change any settings on the Pattern Options panel as per steps 4–7 on pages 136–137 (e.g., decide whether you want Size Tile to Art on or off).

   Change the opacity (**A–B**, next page) or blending mode for any object via the Appearance panel; see Chapter 27.

   Apply an effect (**C**, next page); see Chapter 15. See the Note in step 8 on page 138.

   ➤ The swatch thumbnail on the Pattern Options panel updates as you edit the pattern.

   Adjust the stacking of objects that straddle the tile edge via the Overlap buttons on the Pattern Options panel (or via the Layers panel).

5. To exit pattern-editing mode and apply your edits to the swatch, at the top of the document window, click **Done** (or press Esc) or click the bar.

➤ You can load and edit patterns from any Illustrator library. To copy pattern swatches between
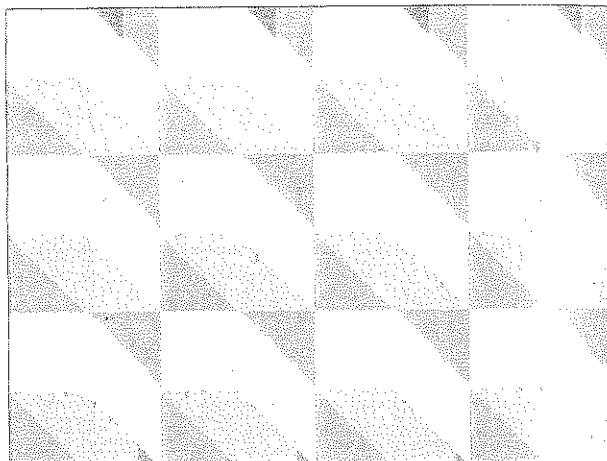
A *Some patterns (especially geometric ones) look best in a basic grid (Tile Type option), with all the objects oriented vertically. If it's working, don't mess with it!*
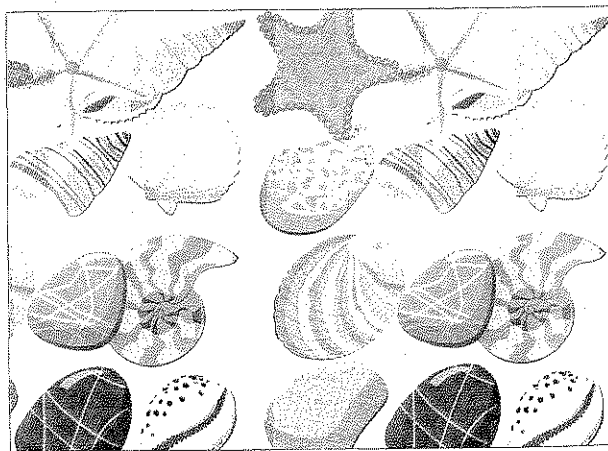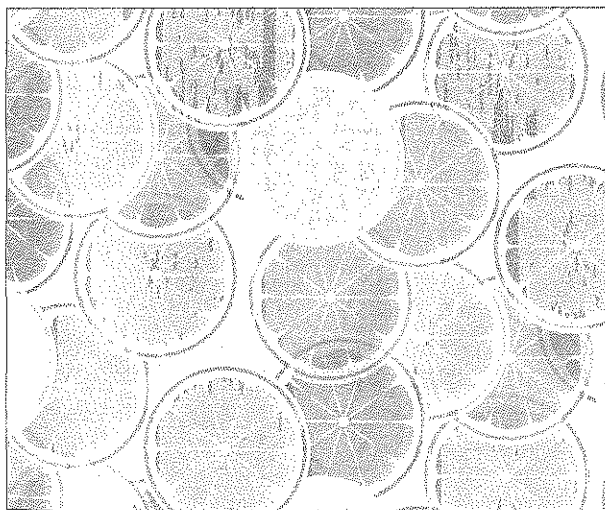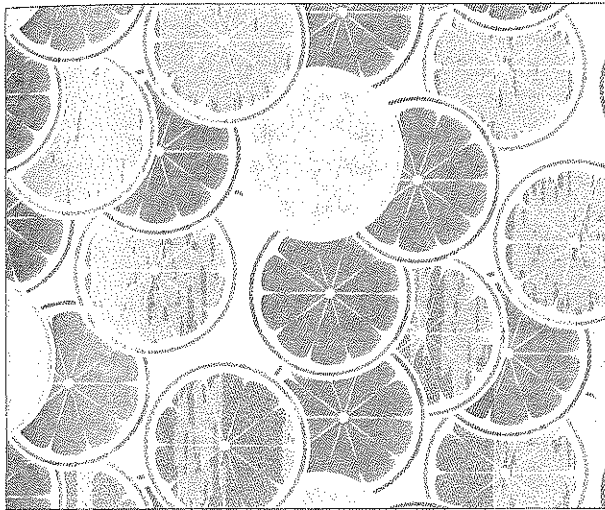

B *The orientation, scale, and placement of these objects is fairly uniform, which doesn't suit the naturalistic subject matter.*
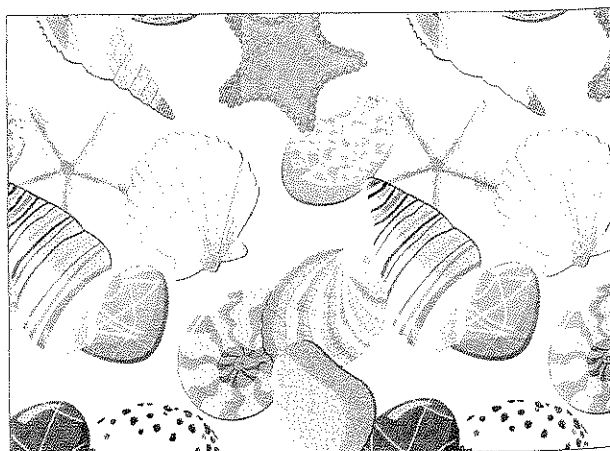
C *Some objects were repositioned to extend beyond the tile edge, and some were rotated or scaled. Better.*

Illustrator documents, see the steps on page 126 (or for a quick approach, copy and paste an object that contains a pattern from one document to another). Pattern swatches from previous versions of Illustrator can be edited using the Pattern Options panel in Illustrator CS6.
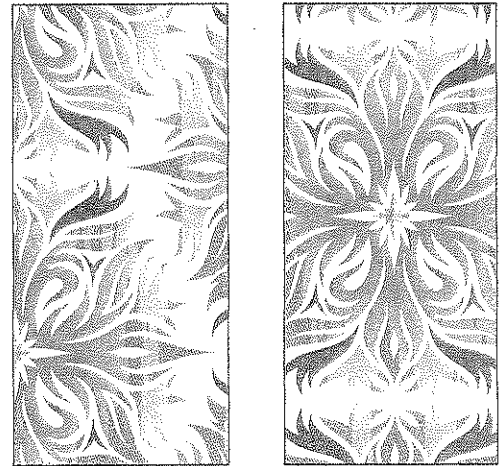
➤ Any object that you want to include in a pattern must be situated at least partially within the tile edge. Illustrator won't discard any objects that are fully outside the tile; they just won't be included.

➤ If you're having trouble seeing the edits you're making to selected objects in pattern-editing mode, hide the selection borders temporarily by pressing Cmd-H/Ctrl-H (View > Hide Edges). Be sure to re-enable the display of edges when you're done.

REPOSITIONING A PATTERN IN AN OBJECT

To reposition a pattern fill or stroke within an object while keeping the object stationary, hold down ~ (tilde) and drag inside it with the Selection tool. To learn about settings for transforming patterns, see the sidebars on pages 147 and 149.



A *This is the original pattern.*

B *We lowered the Opacity setting for some of the objects in this pattern.*
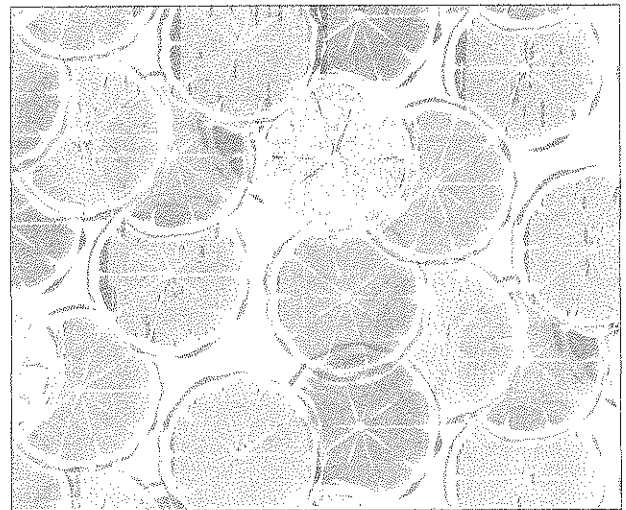
C *We applied the Roughen effect to all the objects (and clicked the OK button in the alert dialog regarding pattern*

Blank areas in a pattern are transparent.**A** In fact, this can be an asset if you want to layer multiple pattern fills in separate objects in your artwork. On the other hand, if you want to build an opaque, solid-colored background into the pattern, follow these steps.

## To add a background to a pattern: ★

1. On the Swatches panel, do either of the following:

   Double-click a pattern swatch.

   Click a pattern swatch, then click the **Edit Pattern** button.▦

2. With the Rectangle tool,▢ draw a rectangle to fit the tile edge. To prevent gaps from appearing in the pattern, let it overhang the tile edge slightly on the top or bottom and on one side. Apply a fill color.

3. With the rectangle selected, on the Layers panel, drag the rectangle listing downward to the bottom-most position in the stack of pattern objects.

4. Because the background object extends to the tile edge, Illustrator will calculate it as part of the overlap, and parts of other objects that overhang the tile edge may become blocked.**B** To prevent this from happening, make sure no objects straddle any corners of the tile edge (in other words, an object can extend off only one side).**C**

5. To exit pattern-editing mode and apply your edits to the swatch, at the top of the document window, click **Done** (or press Esc) or click the bar.
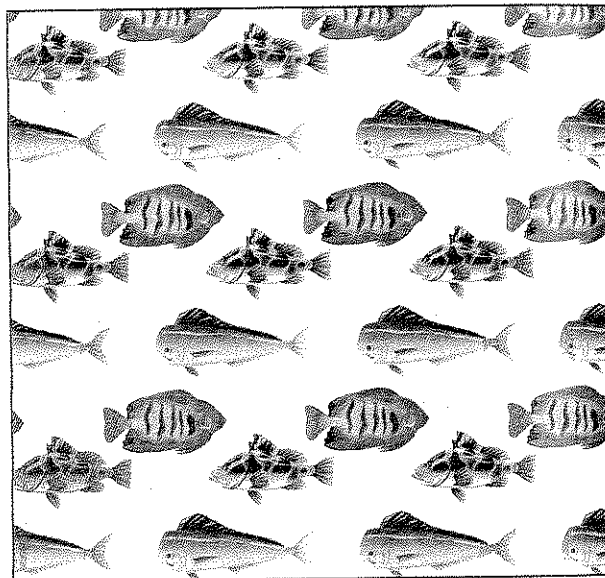
A *Empty areas in a pattern are transparent. An aqua blue object is stacked behind an object containing a pattern fill.*
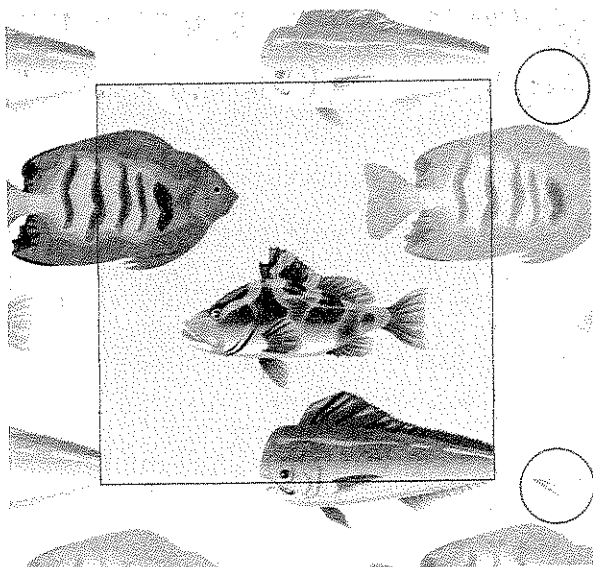
B *If you add a colored background object that meets the tile edge, some parts of objects could be hidden due to overlap limitations.*
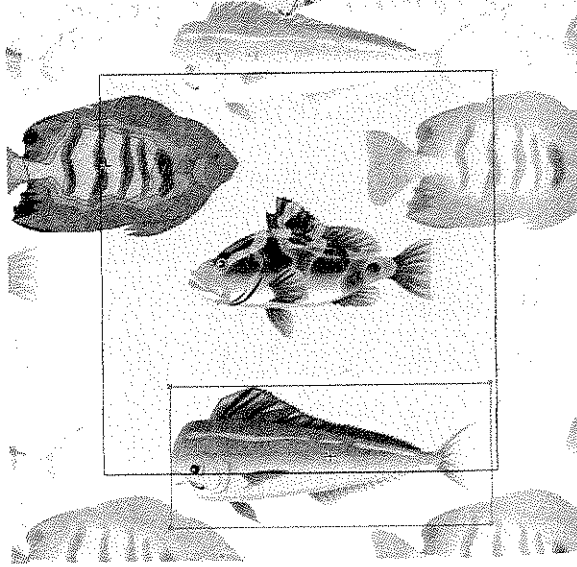
C *For the best results when adding a background, allow objects to overhang the tile edge on just the left or right edge or just the top or bottom edge.*

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