

10 Vector Masks, Paths, and Shapes



You can make simple illustrations using vector paths in Adobe Photoshop or Adobe ImageReady. Working with vectors allows you to create shapes, which can be filled or stroked, and use vector masks to control what is shown in an image. This lesson will introduce you to advanced uses of vector shapes and vector masks.

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

- Differentiate between bitmap and vector graphics.
- Draw and edit layer shapes and layer paths.
- Describe and use the thumbnails and link icon for a shape layer.
- Create complex layer shapes by combining or subtracting different shapes.
- Combine vector paths to create a shape.
- Use edit mode to add and edit a text layer.
- Use a text layer to create a work path.
- Use a work path to create a vector mask.
- Load and apply custom layer shapes.

This lesson will take about 60 minutes to complete. The lesson is designed to be done in Adobe Photoshop, but information on using similar functionality in Adobe ImageReady is included where appropriate.

If needed, remove the previous lesson folder from your hard drive, and copy the Lesson10 folder onto it from the *Adobe Photoshop 7.0 Classroom in a Book* CD.

Note: Windows users need to unlock the lesson files before using them. For more information, see “Copying the Classroom in a Book files” on page 4.

About bitmap images and vector graphics

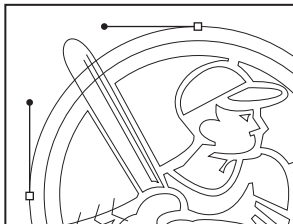
Before working with vector shapes and vector paths, it's important that you understand the basic differences between the two main categories of computer graphics: *bitmap images* and *vector graphics*. You can use Photoshop or ImageReady to work with either type of graphics; moreover, in Photoshop you can combine both bitmap and vector data in an individual Photoshop image file.

Bitmap images, technically called *raster images*, are based on a grid of colors known as pixels. Each pixel is assigned a specific location and color value. In working with bitmap images, you edit groups of pixels rather than objects or shapes. Because bitmap graphics can represent subtle gradations of shade and color, they are appropriate for continuous-tone images such as photographs or artwork created in painting programs. A disadvantage of bitmap graphics is that they contain a fixed number of pixels. As a result, they can lose detail and appear jagged when scaled up on-screen or if they are printed at a lower resolution than that for which they were created.

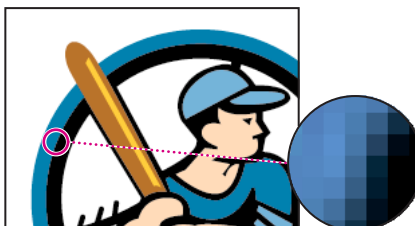
Vector graphics are made up of lines and curves defined by mathematical objects called *vectors*. These graphics retain their crispness whether they are moved, resized, or have their color changed. Vector graphics are appropriate for illustrations, type, and graphics such as logos that may be scaled to different sizes.



Logo drawn as vector art



Logo rasterized as bitmap art



Getting started

In the previous lesson, you learned how to use the pen tool to create simple shapes and paths. In this lesson, you'll learn advanced uses of paths and vector masks to create a poster for a fictitious golf tournament. You'll learn how to add text to an image by incorporating the tournament information.

Before beginning this lesson, restore the default application settings for Adobe Photoshop. See “Restoring default preferences” on page 5.

You'll start the lesson by viewing the final image, which is an example of a poster for an early autumn golf tournament.

1 Start Adobe Photoshop.

If a notice appears asking whether you want to customize your color settings, click No.

2 Choose File > Open, and open the file 10End.psd in the Lessons/Lesson10 folder.

If a notice appears asking whether you want to update the text layers for vector-based output, click Update.

Note: The “update text layers” notice might occur when transferring files between computers, especially between Windows and Mac OS.

3 When you have finished viewing the 10End.psd file, leave it open for reference.



Now you'll start the lesson by creating a new document for the poster.

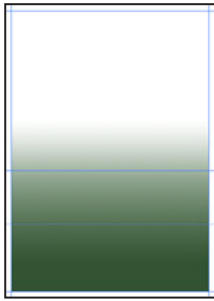
Creating the poster background

Many posters are designed to be scalable, either up or down, while retaining a crispness to their appearance. You'll create shapes with paths and use masks to control what appears in the poster.

Adding a colored shape to the background

You'll begin by creating the backdrop for a poster image.

- 1 Choose File > Open and select the 10Start.psd file in your Lessons/Lesson10 folder.

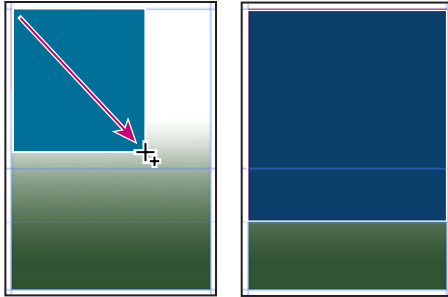


Some work on the file has been done for you; the image already contains a background layer with a green gradient fill and a series of horizontal and vertical guides. The guides are locked in position. (If you do not see the guides, choose View > Show > and make sure that the Guides command is checked, or choose it now.)

- 2 Choose View > Rulers to display a horizontal and a vertical ruler.
- 3 Using the tab for the Paths palette, drag the palette out of the Layers palette group. Since you'll be using these two palettes frequently, it's convenient to have them separated.
- 4 In the Color palette, set the foreground RGB color to a deep blue color by typing **0** as the R value, **80** as the G value, and **126** as the B value.
- 5 On the toolbox, select the rectangle tool (). Then, in the tool options bar, make sure that the Shape Layers option is selected.

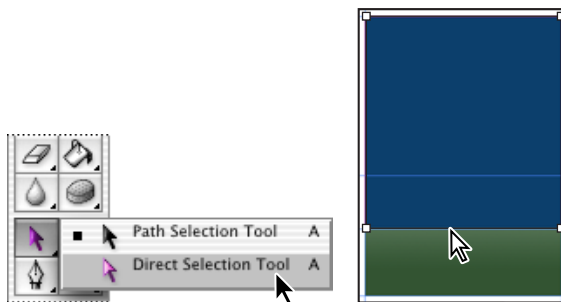


6 Drag a rectangle from the intersection of the top and leftmost guides to the third horizontal guide (about three-fourths of the way down the image, slightly below the 5-inch mark on the ruler) and the right margin of the page.



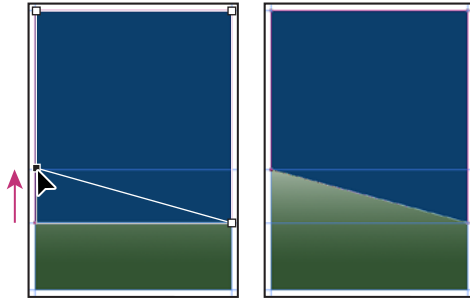
You've created a rectangle with a deep blue fill. (If you don't get that result, make sure that you've selected the rectangle tool, which is below the type tool on the toolbox, and not the rectangular marquee tool. Also make sure that the Shape Layers option is selected in the toolbar.)

7 In the toolbox, select the direct selection tool () , hidden under the path selection tool () , and click anywhere on the path (edge) of the blue rectangle to select the path, so that selection handles appear in the four corners.



8 Select the lower left handle of the blue shape, being careful to select just the handle and not a path segment.

9 Shift+drag the handle upwards to the next horizontal guide (at about the four-inch mark on the ruler) and release the mouse button when the handle snaps into place against the guide.



Now the lower edge of the blue shape slopes down from left to right.

10 Choose View > Show > Guides to hide the guides, because you are finished using them for this lesson. You'll be using the rulers again, so do not hide them yet.

11 Click anywhere inside or outside the blue rectangle in the image window to deselect the path and hide its handles.

Notice that the border between the blue shape and the green background has a grainy quality. What you see is actually the path itself, which is a non-printing item. This is a visual clue that the Shape 1 layer is still selected.

About shape layers

A shape layer has two components: a fill and a shape. The fill properties determine the color (or colors), pattern, and transparency of the layer. The shape is a layer mask that defines the areas in which the fill can be seen and those areas in which the fill is hidden.

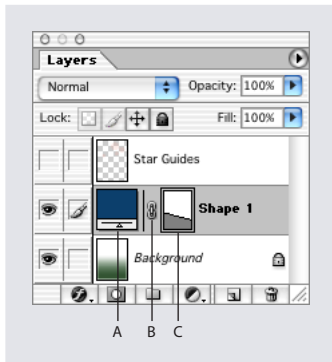
In the blue layer you've just created, the fill is your dark blue color. The color is visible in the upper part of the image, within the shape you drew, and is blocked in the lower part of the image so that the gradient green can be seen behind it.

In the Layers palette for your poster file, you'll see a new layer, named Shape 1, above the Background layer. There are three items represented along with the layer name: two thumbnail images and an icon between them.

The left thumbnail shows that the entire layer is filled with the deep blue foreground color. The small slider underneath the thumbnail is not functional but symbolizes that the layer is editable.

The thumbnail on the right shows the vector mask for the layer. In this thumbnail, white indicates the area where the image is exposed, and black indicates the areas where the image is blocked.

The icon between the two thumbnails indicates that the layer and the vector mask are linked.

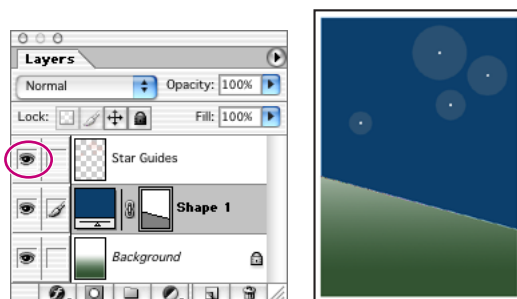


A. Fill thumbnail B. Layer-mask link icon C. Vector-mask thumbnail

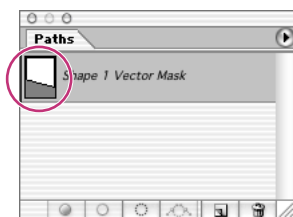
Subtracting more shapes from a shape layer

After you create a shape layer (vector graphic), you can set options to subtract new shapes from the vector graphic. You can also use the path selection tool and the direct selection tool to move, resize, and edit shapes. You'll add some stars to your "sky" (the blue rectangle you just created) by subtracting star shapes from the blue shape. To help you position the stars, you'll refer to the Star Guides layer, which has been created for you. Currently, that layer is hidden.

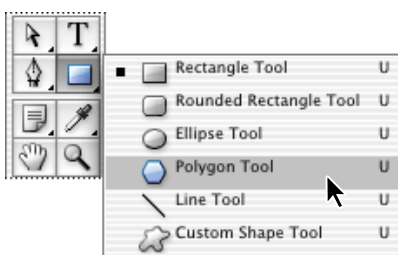
1 In the Layers palette, click the box to the far left of the Star Guides layer to display the eye icon (👁) for that layer (but leave the Shape 1 layer selected). The Star Guides layer is now visible in the image window.



2 In the Paths palette, make sure that the Shape 1 Vector Mask is selected.

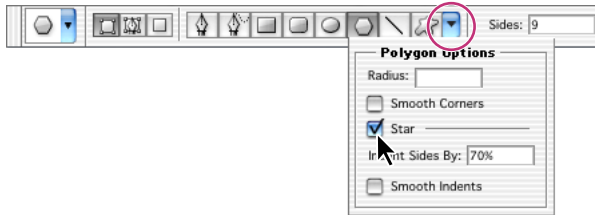


3 In the toolbox, select the polygon tool (⬡), hidden under the rectangle tool (▢).



4 In the tool options bar, select the following:

- In Sides, type **9** and press Enter.
- Click the Geometry Options arrow (immediately to the left of the Sides option) to open the Polygon Options. Select the Star check box, and type **70%** in the Indent Sides By option. Then click anywhere outside the Polygon Options to close it.

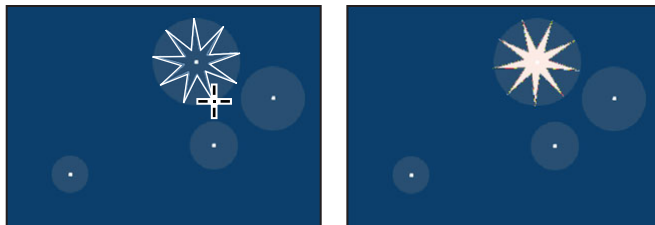


- Select the Subtract From Shape Area option (◻) or press either hyphen or minus to select it with a keyboard shortcut. The polygon tool pointer now appears as crosshairs with a small minus sign (+-).



5 Move the polygon tool crosshairs over the center of one of the white dots and drag outward until the tips of the star rays reach the edge of the faint circle around the dot.

Note: As you drag, you can rotate the star by dragging the pointer to the side.



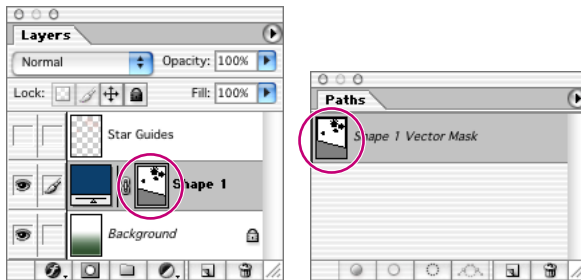
When you release the mouse, the star shape appears to fill with white. However, this is not a fill; the star is a cutout from the blue shape, and the white you see is the background layer underneath it. If the background layer were another image, pattern, or color, that's what you would see inside the star shape.

6 Repeat step 5 for the other three white dots to create a total of four stars.

Notice that all the stars have grainy outlines, reminding you that the shapes are selected. Another indication that the shapes are selected is that the Shape 1 vector mask thumbnail is highlighted (outlined in white) in the Layers palette.

7 In the Layers palette, click the eye icon for the Star Guides layer to hide it.

Notice how the thumbnails have changed in the palettes. In the Layers palette, the left thumbnail is as it was, but the vector mask thumbnails in both the Layers palette and Path palette show the slant of the blue shape with the star-shaped cutouts.



Deselecting paths

Deselecting paths is sometimes necessary to see the appropriate tool options bar when you select a vector tool. Deselecting paths can also help you view certain effects that might be obscured if a path is highlighted. Before proceeding to the next section of this lesson, you'll make sure that all paths are deselected.

- 1 Select the path selection tool (⌘), which is currently hidden under the direct selection tool (⌘).
- 2 In the tool options bar, click the Dismiss Target Path button (✓).



Note: An alternate way to deselect paths is to click in the blank area below the paths in the Paths palette.

Your paths are now deselected and the grainy path lines have disappeared, leaving a sharp edge between the blue and green areas. Also, the Shape 1 Vector Mask is no longer highlighted in the Paths palette.

Drawing paths

Next, you'll add more elements to your poster, but you'll work with these elements on different layers. Throughout this lesson, you'll create new layers so you can draw, edit, paste, and reposition elements on one layer without disturbing other layers.

Before you begin, make sure that the Shape 1 layer is still selected in the Layers palette.

- 1 In the Layers palette, click the New Layer button (📄) at the bottom of the palette to create a new layer.

A new layer, named Layer 1, appears above the Shape 1 layer in the Layers palette and is automatically selected.

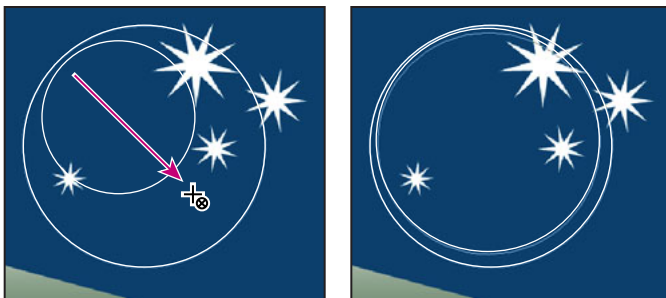
- 2 Select the ellipse tool (○), which is currently hidden under the polygon tool (⬡).
- 3 In the tool options bar, select the Paths option (📐).



- 4 Start dragging the ellipse tool in the upper left area of the poster and then hold down Shift as you continue dragging. Release the mouse button when the circle is close to the bottom edge of the blue shape.
- 5 In the tool options bar, select the Exclude Overlapping Path Areas option (⊖).



- 6 Hold down Shift and draw a second circle within the first.



7 Compare the sizes and positions of your circles to the 10End.psd image and make any necessary changes:

- To move a circle, select it with the path selection tool (⌘) and then drag it to another location. (If necessary, choose View > Snap To > Guides to deselect this command so that you can move the circles exactly where you want them.)
- To resize a circle, select it with the path selection tool and choose Edit > Free Transform Path; then hold down Shift and drag a corner handle to resize the circle without distorting its shape. When you finish, press Enter to apply the transformation.

Note: In the Paths palette, only the new Work Path appears at this time. The Shape 1 Vector Mask that you created earlier (the blue shape with star cutouts) is associated with the Shape 1 layer. Since you are not working on the Shape 1 layer now, that vector mask does not appear in the Paths palette.

Understanding work paths

When you draw a shape in Photoshop, the shape is actually a vector mask that defines the areas in which the foreground color appears. That's why you see two thumbnails in the Layers palette for each shape layer: one for the layer color and a second one for the shape itself (as defined by the layer mask).

A work path is sort of a shape-for-hire: It stands at the ready, independent of any but available to serve as the basis of a vector mask on a layer. You can use the work path repeatedly to apply it to several different layers.

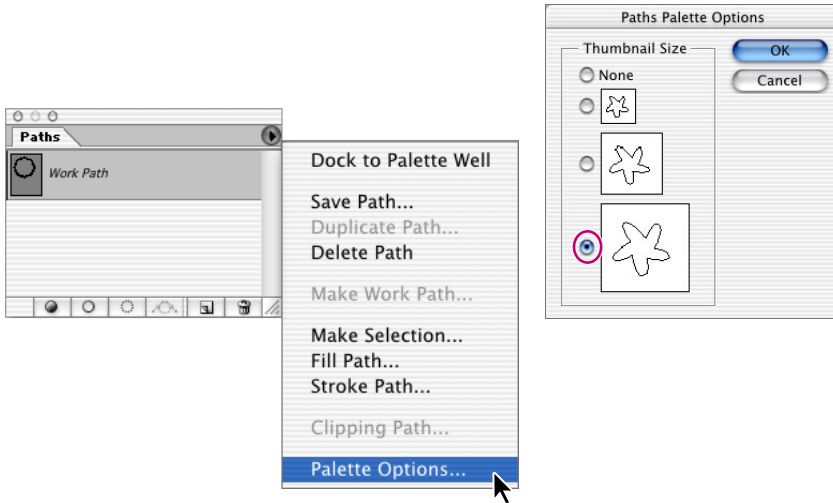
This concept differs from the approach used by many popular vector-graphics applications, such as Adobe Illustrator, so if you are used to working in that kind of program, this may take some getting used to. It may help you understand this if you bear in mind that the underlying metaphor behind Photoshop is traditional photography, where the admission of light into a camera lens determines the shapes, colors, and transparencies of the negative, and then darkroom exposure determines what areas of the photographic paper develop into areas of color or darkness and light.

The Paths palette displays only two types of paths. The first type includes any vector paths associated with the currently selected Layer. The other type is the Work Path—if one exists—because it is available to be applied to any layer.

Because a vector path is automatically linked to a layer when you create it, transforming either the layer or the vector path (such as by resizing or distortion), causes both the layer and the vector path to change. Unlike a vector path, a work path is not tied to any specific layer, so it appears in the Paths palette regardless of which layer is currently selected.

In the Paths palette, the thumbnail shows the two subpaths with a white area between them.

Note: This may be difficult to see if the palette icons are small. To enlarge them, choose *Palette Options* on the Paths palette menu and select a larger Thumbnail Size option.)



Combining paths into a filled shape

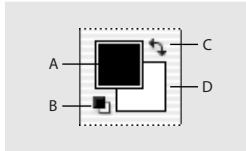
Your next task is to define the two circles as a single element, so that you can add a colored fill.

- 1 Using the path selection tool () , select one of your circles, and then hold down Shift and select the second circle. Both paths are now selected.
- 2 In the tool options bar, click the Combine button.



The Combine button is now dimmed because the two paths are now treated as one shape.

3 In the toolbar, click the Default Foreground And Background Colors button (■), which is to the lower left of the two larger color swatches and changes them back to black and white.



A. Foreground Color button

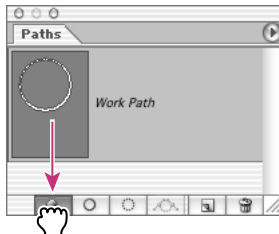
B. Default Foreground and Background Colors button

C. Switch Foreground and Background Colors button

D. Background Color button

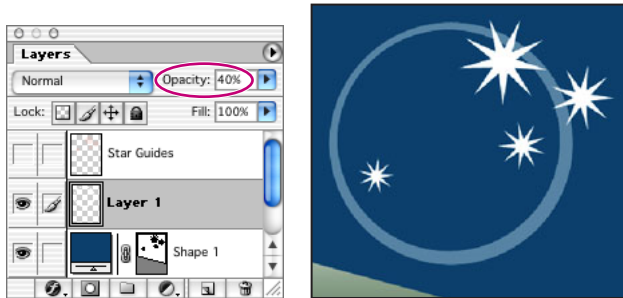
4 In the same area of the toolbar, click the Switch Foreground And Background Colors button (↻), so that the foreground is white and the background black.

5 In the Paths palette, drag the work path to the Fill Path With Foreground Color button (●) at the bottom left of the palette.



6 In the Layers palette, change the Opacity to **40%**, either by typing or by clicking the Opacity arrow to open the pop-up slider and dragging it.

You can try different Opacity values and compare the results they produce.



7 If the circle shape is still selected, click the Dismiss Target Path button (✓) in the tool options bar, and then choose File > Save.

Unlike the star-shaped cutouts on the Shape 1 layer, the area between the two circles on Layer 1 now has a white fill. Otherwise, you could not change the opacity of the white area. For example, if you experimented with reducing the layer opacity for the Shape 1 layer, the blue shape would become more transparent, but the stars would remain solid white because that is the color on the layer behind that area of Layer 1.

Working with type

In Adobe Photoshop, you create and edit type directly on-screen (rather than in a dialog box) and quickly change the font, style, size, and color of the type. You can apply changes to individual characters and set formatting options for entire paragraphs. In this part of the lesson, you'll learn about working with type by adding text to your logo.

When you click in an image with the type tool (T) to set an insertion point, you put the type tool in *edit mode*. You can then enter and edit characters on the currently targeted layer; however, you must also commit your editing in the layer or reject them before you can perform other operations, which you can do in several ways.

If you select another tool in the toolbox, this automatically commits your text changes. Or, on the tool options bar, you can click the Commit Any Current Edits button (✓) to accept the text edits or click the Cancel Any Current Edits button (⊗) to reject them. Any of these actions takes the type tool out of edit mode.

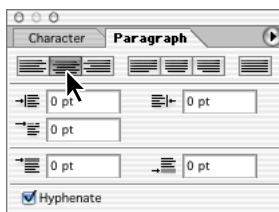
Adding type to the image in edit mode

Your first editing task is to enter formatted text into the image.

- 1 Select the type tool (T), and then choose Window > Character to open the Character palette group.
- 2 In the Character palette, select the following options:
 - For the font family, select a sans serif font (such as Myriad, one of the fonts you can install on your computer from the *Adobe Photoshop 7.0 Classroom in a Book* CD; see “Installing the Classroom in a Book fonts” on page 3).
 - For the font style, select Roman (sometimes called Plain or Regular, depending on the font family you use).
 - For the font size (T), type **38 pt**.
 - For the leading (A), type **28 pt**.



- 3 In the Character palette group, click the Paragraph palette tab, and then select the Center Text alignment option.



Notice that most of these character and paragraph options are also available in the tool options bar. Of the selections you’ve made so far, only the Leading option is not there.

4 In the toolbar, make sure that the foreground color is white.

 Try the following keyboard shortcuts for setting black and white colors: First, press D. This is the same as clicking the Default Foreground And Background Colors button on the toolbox, which sets the foreground to black and the background to white. Then, press X. This is the same as clicking the Switch Foreground And Background Colors button in the toolbox, which reverses the colors, making the foreground white and the background black.

5 Click the type tool just below the “horizon” (where the blue rectangle meets the gradient green background) and slightly to the left of center. Then type the following three lines, pressing the Return key so that the lines break as shown:

the full

moon

pro-am

6 Double-click the word *moon* to select it, and then using either the tool options bar or the Character palette, change the font size to **48**.

Note: If you need to adjust the placement of the text, select the move tool () and drag the text. Then reselect the type tool.

7 Choose File > Save.



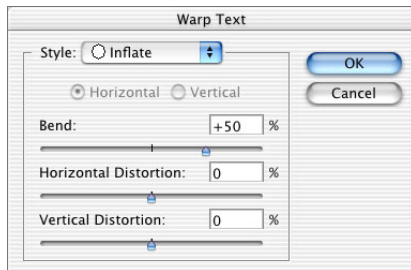
Stylizing and warping text

In keeping with the spirit of the tournament, you'll distort the text so that it suggests a full moon. After you warp the text, you can continue to edit it with the type tool, as needed. Before you begin, make sure that the "the full moon pro-am" text layer is still targeted.

- 1 With the type tool (T) selected in the toolbox, click the Create Warped Text button () on the tool options bar to open the Warp Text dialog box.



- 2 In the Style pop-up menu, select Inflate and then click OK to close the dialog box, leaving the other settings at the default values.



- 3 Drag the type tool to select the words *full* and *moon*.
- 4 In the Character palette or the tool options bar, select Bold as the font style.
- 5 Double-click the word *full* to select it (but not the word *moon*).
- 6 In the Color palette, select a bright yellow color by entering the following values: R=239, G=233, B=7.



7 In the tool options bar, click the Commit Any Current Edits button (✓) to deselect the text so that you can see the results.

8 Choose File > Save.

When you select the Commit Any Current Edits button, you deselect the text. However, that doesn't mean the text has to be absolutely final. You can still reselect it later with the type tool and make additional edits.

Adding a new text layer

You'll get a little more practice using text by adding another word to your poster.

1 In the Layers palette, select Layer 1.

2 With the type tool (T) selected, click the Default Foreground And Background Colors button to set them to black and white, respectively. (Or, press T and then D to do this.)

3 In the Character palette, select the same sans serif font that you used to type *the full moon pro-am*, select Roman as the font style, **36** as the font size, and **28** as the leading.

4 Click anywhere in the upper area of the poster (so that it is clearly separated from the area of the warped "full moon" text) and type **invitational**.

The word appears in black text in the image window. In the Layers palette, a new, active layer, named Layer 2, is above Layer 1.

5 Select the move tool (⌘) and drag the word *invitational* to center it in the lower part of the image window, just below the "the full moon pro-am" text block.

Notice that the layer name changes from "Layer 2" to "invitational" in the Layers palette.

6 Close the Character palette group.

7 Choose File > Save.



Creating work paths from text

Currently, the word *invitational* appears on a type layer, not as a work path. That's about to change. After you use the type layer to create a work path, you can save the work path and manipulate it like any other path. Because it is a vector path instead of rasterized, the characters maintain their sharp edges.

Before you begin, compare the position of the word *invitational* in the 10End.psd sample file to your file and make sure that it is sized, spelled, and positioned exactly the way you want it to be. After you create the work paths, you won't be able to change the position easily and may have to start the process over if you aren't satisfied with the results.

- 1 In the Layers palette, make sure that the "invitational" type layer is selected, and then choose Layer > Type > Create Work Path.

On the Paths palette, notice that a new Work Path listing appears, including a thumbnail of the "invitational" text.



- 2 In the Layers palette, select the "invitational" text layer and drag it to the Delete Layer button (🗑️) at the bottom of the palette, and then choose File > Save.

Now, only the grainy outlines of the work path remain to represent the word *invitational*.

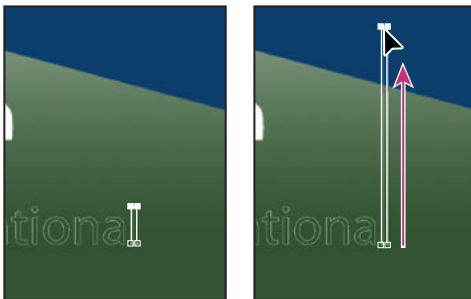


Creating work paths from a type layer leaves the original type layer intact and fully editable as text—that is, you can still use the type tool to select and alter it. However, you are going to use just the work paths to manipulate the shape of the text. You don’t want to keep the “invitational” text layer because it would appear in the poster and visually compete with what you’re going to create from the work path.

Altering the appearance of the work paths

You can now start working with the new work path as vector shapes. You’ll use the direct selection tool, which can be used to edit any path.

- 1 Zoom in to 200 or 300% so that you can easily see the details in the letter L of the word *invitational* and at least an inch of the blue shape directly above it.
- 2 In the toolbox, select the direct selection tool () , hidden under the path selection tool ().
- 3 In the image window, click the “L” part of the work path.
- 4 Select the two path points at the top of the L subpath by clicking one of the points and then Shift-clicking the other. (The points appear solid when selected and hollow when not selected.)
- 5 Start dragging the two points upward and then hold down Shift to constrain the movement, stopping when the L extends to about the level of the lower edge of the shape you created from two circles. The L is now about five or six times as tall as it was originally.



- 6 Click outside the work path to deselect it, and then zoom out again so that you can see the entire poster.



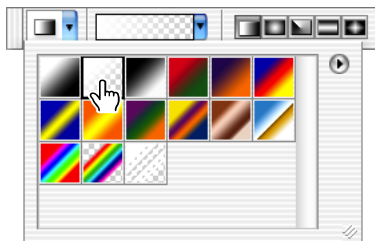
To quickly switch to 100% view, double-click the zoom tool icon (🔍) in the toolbox. To switch to Fit on Screen view, double-click the hand tool icon (🖱️).

- 7 Choose File > Save.

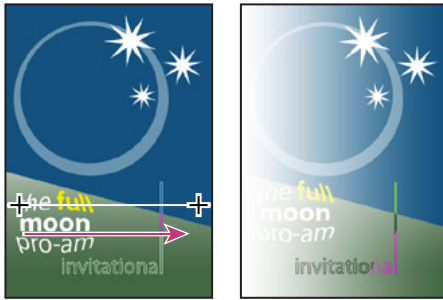
Adding a gradient layer

Right now, your “invitational” element is merely a work path, not something that would show up in print. To start the process of making it appear in the poster, you’ll create a gradient layer that you can combine with the work path in the procedure following this one.

- 1 In the Layers palette, click the New Layer button (📄) to create a new Layer 2.
- 2 In the toolbox, select the gradient tool (📏).
- 3 Set the foreground to white and the background to black, by pressing D to set the default colors (black and white) and then pressing X to reverse them (white and black).
- 4 In the tool options bar, click the pop-up arrow to open the gradient picker.
- 5 Select the second gradient option in the top row (Foreground to Transparent), and then press Enter.



- 6 Shift-drag the gradient tool from left to right across the image.



The gradient covers the entire image, with the underlying layers showing through the transparent areas.

Applying a work path to a layer as a vector mask

Your “invitational” work path is not yet applied to any layer. Now, you’ll use it to create a vector mask for the gradient layer, limiting the visible area of the gradient fill to the insides of the letter shapes.

- 1 In the Paths palette, make sure that the Work Path is selected.
- 2 Choose Layer > Add Vector Mask > Current Path.

The work path becomes the basis of a new layer mask, shown in the thumbnails on Layer 2 in the Layers palette and in the Paths palette, where the mask is identified as “Layer 2 Vector Mask.” This mask now hides the gradient in all areas of the image except the area inside the letter shapes of the word *invitational*.

- 3 Select the path selection tool () , hidden under the direct selection tool () , and then click the Dismiss Target Path button () in the tool options bar to deselect all paths.



Note: You can also click the blank area below the paths in the Paths palette to deselect all paths.

- 4 In the Layers palette, click the link icon () in Layer 2 to unlink the path from the gradient layer.
- 5 Select the move tool () , and drag left or right in the image to adjust the placement of the gradient behind the vector mask. When you are satisfied with the appearance of the gradient, choose File > Save.

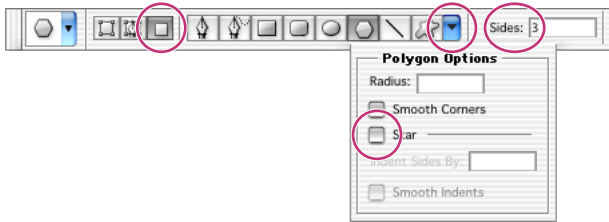
Creating a flag image and more text

In this section, you'll create a light red triangular shape for a flag in one layer and text in a separate layer. Before you begin, make sure that Layer 1 is selected in the Layers palette.

- 1 In the Layers palette, select Layer 2, and then click the New Layer button () to create another layer, Layer 3.
- 2 Select the polygon tool () , hidden under the ellipse tool () .

3 In the tool options bar, do the following:

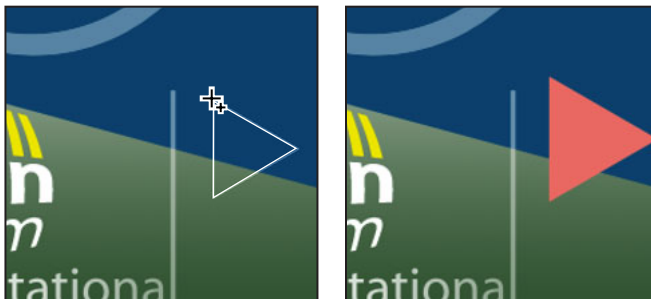
- Select Fill Pixels ()—the third of three buttons near the left end of the bar.
- Click the Geometry Options arrow (to the left of the Sides option) to open the Polygon Options pop-up palette. Deselect the Star check box, and press Enter to close the pop-up.
- In the Sides option, type 3.



Note: The Fill Pixels option converts vector graphics into rasterized images. This helps reduce the file size and speeds up processing. The flag image is a good opportunity for using this option.

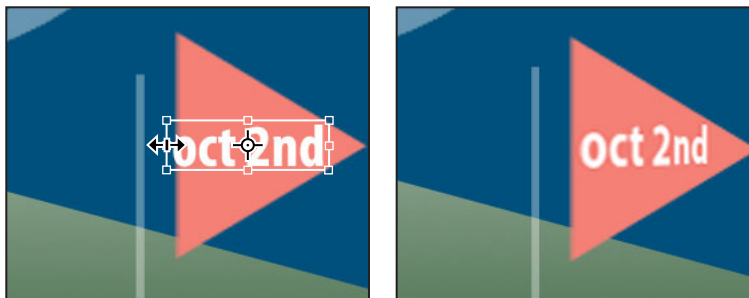
4 In the Color palette, set the foreground to a salmon color, using R= 244, G=128, and B=118.

5 Hold down Shift and drag the polygon tool to draw a triangle. Make the triangle large enough to just fit between the word *invitational* and the right edge of the image, and so that the left side of the triangle is parallel to the L.



 You can rotate as you drag to change the orientation of the triangle. .

- 6 Select the type tool (T) and select the following options in the tool options bar:
 - For font family, select the same sans serif font that you used for the word *invitational*.
 - For font style, select Bold.
 - For font size, select **30** pt.
 - Click the text color swatch and select white. Or, you can use the Color palette or the Foreground Color box on the toolbox to select white.
- 7 Type **oct 2nd** anywhere in the image. This automatically creates a new type layer (Layer 4), which appears immediately above the flag layer (Layer 3).
- 8 Select the move tool (V) and drag the “oct 2nd” text over the triangular flag shape. When you select the move tool, Layer 4 is renamed “oct 2nd” in the Layers palette. The text does not fit within the flag area, but you’ll fix that next.
- 9 With the “oct 2nd” layer selected in the Layers palette, choose Edit > Free Transform. Handles now appear around the text element.
- 10 Drag the center-left and center-right handles as needed to compress the text bounding box so that all the text fits within the triangle. Then press Enter.



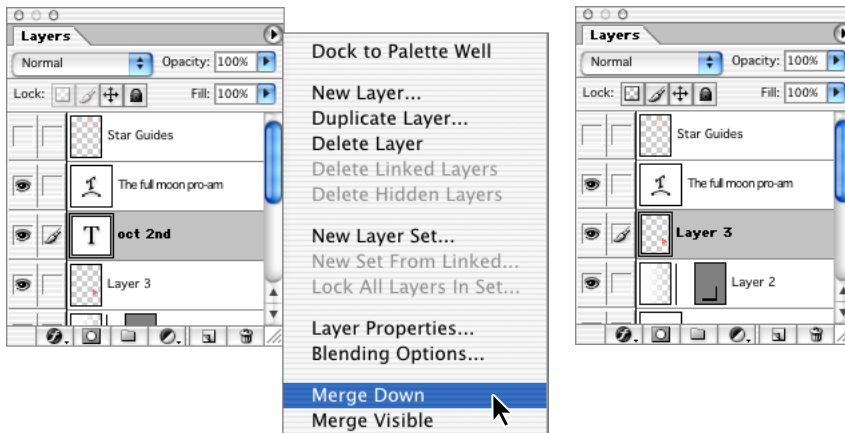
Leave the “oct 2nd” layer selected in the Layers palette for the next task.

Merging and distorting layer combinations

By merging layers, layer paths, vector masks, linked layers, or adjustment layers, you can combine several layers into one and keep your file size manageable. Typically, you want to be sure that you’ve finalized the characteristics and position of the layer contents before you merge the layers, so make sure that you’re satisfied with the appearance of the flag and the date text before starting this procedure.

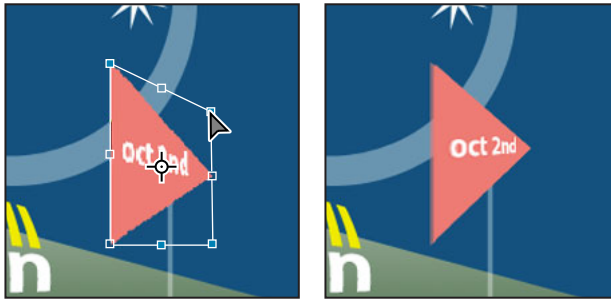
1 With the “oct 2nd” layer selected, open the Layers palette menu and choose Merge Down.

The “oct 2nd” layer and polygon shape layer are now merged into a single layer, Layer 3. From now on, you can no longer use the type tool to edit the “oct 2nd” graphic.



2 With Layer 3 selected, choose Edit > Transform > Distort. To create the illusion of foreshortening, drag the center right handle to the left until the flag is about 1 inch wide.

- 3 Drag the upper right handle slightly down and the lower right handle slightly up to further enhance the effect of a perspective view.



- 4 Press Enter (Windows) or Return (Mac OS) to apply the transformation.
- 5 Select the move tool () and drag the flag shape into position near the top of the stretched letter L in “invitational.”
- 6 Choose File > Save.

Working with defined custom shapes

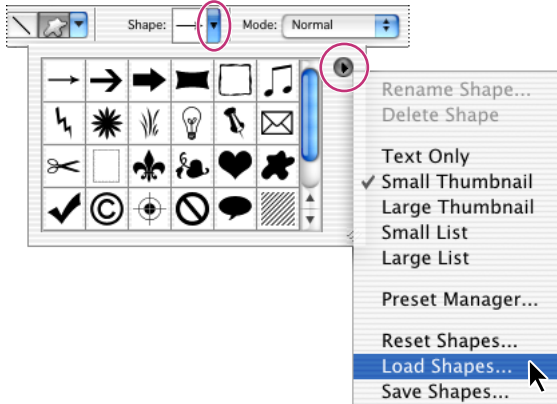
Whenever you create a shape, you can save it as a custom shape. You can load the saved shape into the Custom Shape picker and use it in other areas of an image or even in different Photoshop projects without having to redraw the shape. This is especially useful when you have logos or other symbolic elements that you use repeatedly and that require multiple steps to create.

Placing a custom shape

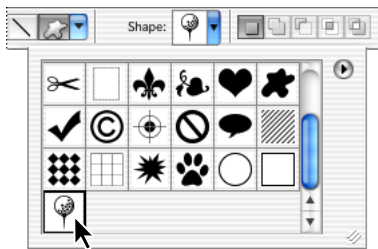
A custom shape, representing a golf ball balanced on a tee, has been created for you. In this scenario, the tournament organizers intend to print this image on various types of collateral items—mailing letterheads, registration forms, advertisements, name tags, T-shirts, Web pages, and so forth—that may be printed in different sizes and colors.

You'll now load that shape into your Custom Shape picker and then use it in your poster for the golf tournament.

- 1 In the toolbox, select the custom shape tool (🔗), hidden under the polygon tool (⬡).
- 2 In the tool options bar, click the pop-up arrow for the Shape option to open the custom-shape picker. Then click the arrow button on the right side of the picker to open the palette menu, and choose Load Shapes.



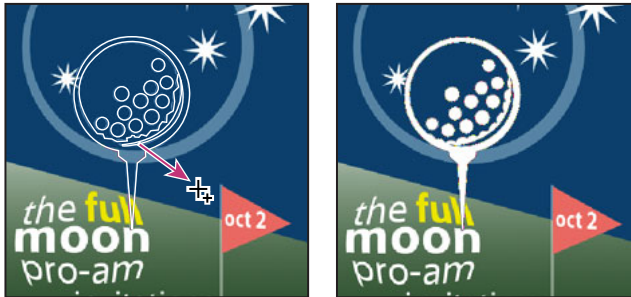
- 3 In the Load dialog box, go to the Lessons/Lesson10 folder on your hard disk and select Golfball.csh. Click Load.
- 4 Select the golf-ball shape at the bottom of the custom-shape picker (you may need to scroll or drag the corner of the picker to see the shape), and press Enter. Holding down Shift constrains the shape to its original proportions.



5 In the tool options bar, select the Shape Layers option ()—the first of the three buttons on the left side of the tool options bar.



6 Make sure that the foreground color is white (or select white now), and then hold down Shift and drag diagonally in the image window to draw and size the shape.



A new layer, Shape 2, is automatically created.

7 Adjust the golf-ball shape as needed:

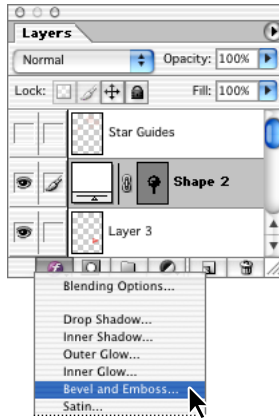
- To move the shape, select the path selection tool () and drag it into position so that the bottom of the golf tee is just to the right of the word *moon*.
- To resize the shape, choose Edit > Free Transform, and Shift-drag one of the corner handles. The golf ball should be about half the height of the poster.

8 When you are satisfied with the golf-ball image, press Enter or click the Dismiss Target Path button () on the tool options bar (if it is available).

Adding layer styles to a custom shape

You're almost finished with your poster project. Right now, your golf-ball shape is simply a composite, solid-white shape, unlike the golf ball you saw in the sample End file. You'll create the same results with very little effort by applying layer styles to the custom shape.

- 1 In the Layers palette, make sure that the Shape 2 layer is selected.
- 2 Click the Layer Style button (🔗) at the bottom of the Layers palette, and choose Bevel And Emboss on the pop-up menu that appears.

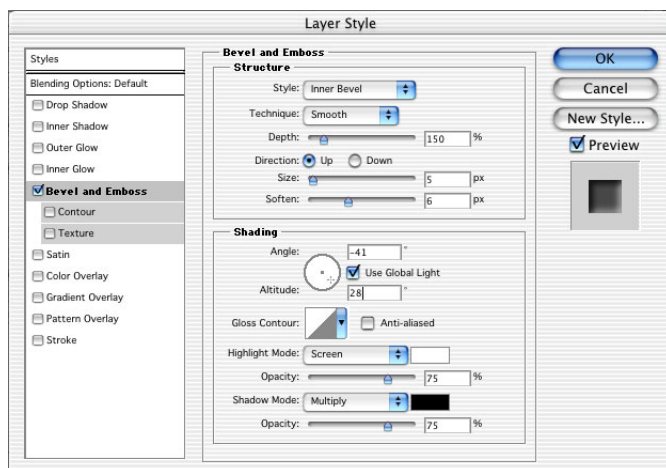


- 3 Make sure that the Preview check box is selected and then move the Layer Styles dialog box so that you can watch the changes to the golf-ball shape as you make style selections.
- 4 In the Structure area of the Layer Style dialog box, use the following settings:
 - For Style, use Inner Bevel.
 - For Technique, use Smooth.
 - For Depth, type or drag the slider to set the value at about **150%**.
 - For Direction, use Up.
 - For Size, use **5 px**.
 - For Soften, type or drag the slider to set the value at **6 px**.

Do not close the dialog box yet.

5 In the Shading area of the Layer Style dialog box, make sure that the following settings are selected:

- For Angle, use **-41°** (being careful to make the number negative).
- For Altitude, use **28°**.



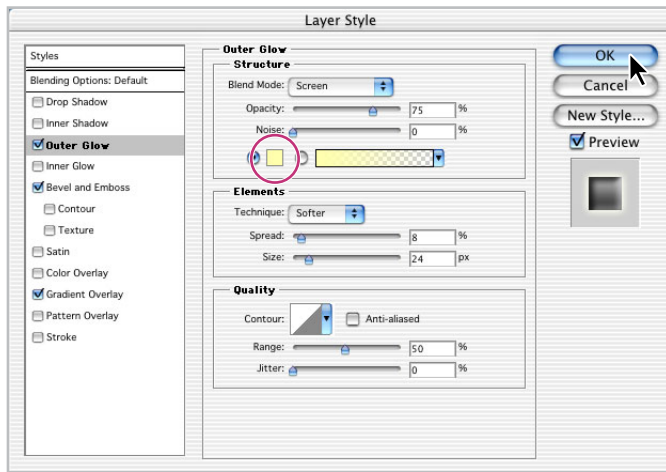
Leave the dialog box open for the next step.

6 In the Styles list on the left pane of the Layer Style dialog box, select the Gradient Overlay check box. Do not click OK yet.

7 In the Styles list, click the Outer Glow listing so that it is highlighted and its check box is automatically selected. Then select the following settings on the right side of the dialog box:

- In the Structure section, click the color swatch to open the color picker, and select a pale yellow color by setting the following values: R=255, G=255, B= 190, and then click OK to close the color picker.
- In the Elements section, leave Technique set as Softer, enter **8%** for Spread, and enter **27** for Size.

8 Review the settings and then click OK to close the dialog box.



Although you opened the Layer Styles dialog box just once, you applied a total of three different layer styles: Bevel and Emboss, Gradient Overlay, and Outer Glow.

9 If necessary, click a blank area in the Paths palette to deselect the Shape 2 Vector Mask, and then save your work.

Congratulations! You've finished your work on the poster.

Review questions

- 1 What is the difference between a bitmap image and a vector graphic?
- 2 What does a layer shape do?
- 3 What tools are used to move and resize paths and shapes?
- 4 Does the type tool create vector shapes?
- 5 What is the purpose of merging layers?

Review answers

- 1 Bitmap or raster images are based on a grid of pixels and are appropriate for continuous-tone images such as photographs or artwork created in painting programs. Vector graphics are made up of shapes based on mathematical expressions and are appropriate for illustrations, type, and drawings that require clear, smooth lines.
- 2 A layer shape stores the outline of a shape in the Paths palette. You can change the outline of a shape by editing its path.
- 3 You use the path selection tool (⌘) and the direct-selection tool (⌘) to move, resize, and edit shapes. You can also modify and scale a shape or path by choosing Edit > Free Transform Path.
- 4 No, the type tool adds text, not vector shapes, to an image. If you want to work with the characters as vector shapes, you must create a work path from the type. A work path is a temporary path that appears in the Paths palette. Once you create a work path from a type layer, you can save and manipulate it like any other path. You cannot edit characters in the path as text. However, the original type layer remains intact and editable.
- 5 Merging combines several layers into one to keep your file size manageable. When you've finalized the characteristics and positioning of a layer's contents, you can merge the layer with one or more other layers to create partial versions of your composite image.