Composite Movie Ad

Tantamount Studios, one of the largest film production companies in Hollywood, is developing a new movie called "Forefathers." You have been hired to develop an advertisement that will be used to announce the movie in both print magazines and digital media.

This project incorporates the following skills:

❏ Creating a background image that can accommodate multiple trim sizes in a single file

❏ Incorporating vector graphics as rasterized layers and Smart Objects

❏ Compositing multiple photographs and scans, using various techniques to silhouette the focal object in each image

❏ Scaling and aligning different objects in relation to the page and to each other

❏ Managing individual layout elements using layers and layer groups

❏ Working with multi-layer and flattened files

❏ Saving multiple versions of a file to meet different output requirements

Here's a basic synopsis of the movie:

Most American history books teach us that our "forefathers" were esteemed, venerable men who crafted the United States out of lofty and respected ideals. But there's an old saying that history is written by the victors… In other words, who were these men really, and exactly how honorable were they? The movie is about the events during and after the American Revolution — not the war itself, but the personal aspects that drove these individuals to do what they did. It's not a war movie, and it's not a political movie. It's more a study of the human condition… How greed and power can corrupt even the most idealistic of men.

This movie is going to be one of our summer blockbusters, and we're throwing a lot of resources behind it.

The client loved the initial concept sketch I submitted last week, so we're ready to start building the files. I've had the photographer prepare the images we need, and the client has provided the studio and rating logo files. They also sent me the primary magazine specs:

– Files should be submitted as flattened TIFF files; CMYK only

– Bleed size: 8.75 × 11.25″

– Trim size: 8.5 × 11″

– Live area: 8 × 10.5″

After you have created the final file for printing, I also need you to create a flattened JPEG file for use in digital media.

To complete this project, you will:

❑ Create a single file that can contain multiple page sizes

❑ Composite multiple images into a single background file

❑ Incorporate both raster and vector elements into the same design

❑ Use selection techniques to isolate images from their backgrounds

❑ Transform and arrange individual layers to create a cohesive design

❑ Create layer groups and nested groups to easily manage files

❑ Save two different types of TIFF files for different ad requirements

Stage 1 **Setting Up the Workspace**

There are two primary types of artwork: vector graphics and raster images.

- **Vector graphics** are composed of mathematical descriptions of a series of lines and geometric shapes. These files are commonly created in illustration ("drawing") applications like Adobe Illustrator. Vector graphics are **resolution independent**; they can be freely scaled and are automatically output at the resolution of the output device.

- **Raster images** are made up of a grid of individual pixels (rasters or bits) in rows and columns (called a **bitmap**). Raster files are **resolution dependent** — their resolution is determined when you scan, photograph, or create the file. (**Line art**, sometimes categorized as a third type of image, is actually a type of raster image that includes only black and white pixels.)

Photoshop is what some people call a "paint" program — it is primarily used to create and manipulate pixel-based or raster images. Raster-image quality depends directly on the resolution; when you create files in Photoshop, you need to understand the resolution requirements from the very beginning of the process.

Pixels per inch (ppi) is the number of pixels in one horizontal or vertical inch of a digital raster file. As a general rule, commercial print jobs require 240–300 pixels per inch at the final output size to achieve good image quality in the printed piece.

Some digital media such as desktop Web browsers typically require much lower resolution, commonly 72 ppi, although monitors and mobile devices with HD display capabilities support higher-resolution images.

It is important to realize that you cannot significantly increase image resolution once a raster image has been created or captured. When you create files that will be used for both print and digital media — as in the case of this project — you should start with the higher resolution and then reduce the resolution after the composition is complete.

Note:

Why is this information important? The ad you're building in this project will be placed in print magazines, so you have to build the new file with the appropriate settings for commercial printing. When the composition is finished, you will convert it to a resolution and file format that is more appropriate for digital media display.

The same raster image is reproduced here at 300 ppi (left) and 72 ppi (right). Notice the obvious degradation in quality when the resolution is set to 72 ppi.

☞ Create the New File

When you create a file in Photoshop, you can define a number of important parameters in the New Document dialog box. In this exercise you will define the size, resolution, and color mode of the file that will serve as the background for the composition you create throughout this project.

1. **Download `Liberty_Web17_RF.zip` from the Student Files Web page.**

2. **Expand the ZIP archive in your WIP folder (Macintosh) or copy the archive contents into your WIP folder (Windows).**

   This results in a folder named **Liberty**, which contains all the files you need to complete this project. You should also use this folder to save all files that you create in this project. (If necessary, refer to Page 1 of the Photoshop Interface chapter for specific instructions on expanding or accessing the required resource files.)

3. **Choose File>New.**

You have several options for creating a new file:

- Choose File>New;
- Use the associated keyboard shortcut, Command/Control-N; or
- Click the New button in the Start workspace.
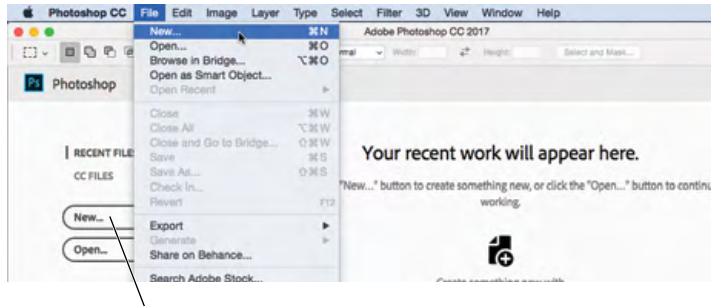
If the Start workspace is visible,
click the New button to open
the New Document dialog box.

4. **Click the Print option at the top of the resulting New Document dialog box.**

The New Document dialog box presents a number of preset sizes and prebuilt starter templates, broken in to categories based on the intended output.

When you choose the Print category, you see common page sizes such as Letter and Legal. Each preset includes a unit of measurement (for example, 8.5×11 in for the Letter preset or 210×297 mm for the A4 preset); the defined unit of measurement for each preset is automatically selected in the Preset Details section on the right side of the dialog box.

The Photo, Print, and Art & Illustration presets all automatically default 300 Pixels/Inch resolution. The Web, Mobile, and Film & Video presets all default to 72 Pixels/Inch.

The **color mode** defines the structure of the colors in your file. All presets in all categories default to the 8-bit RGB color mode. Although the file will eventually be printed, you are going to work in the RGB space to preserve the widest-possible color gamut during the development stage.

5. **In the Preset Details section, type forefathers in the Name field.**

When you save the file, the file name defaults to the name you define here.

6. **Highlight the existing Width field value and then type 8.75.**

Because this file will eventually be printed, you are defining the width to include the required bleed (1/8″) area on each side.

7. **Press Tab until the Height field is highlighted.**

Like most applications, you can press Tab to move through the options and fields in a dialog box. Pressing Shift-Tab moves to the previous field in the dialog box.
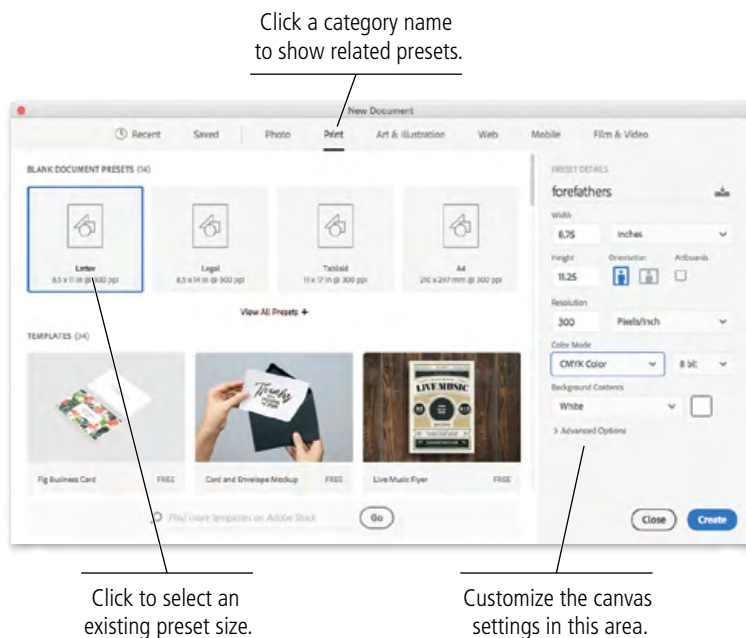
8. **Change the highlighted Height field to 11.25.**

Again, this size includes the require 1/8″ bleed for the top and bottom edges.

Note:

If you choose one of the templates at the bottom of the dialog box, the Create button changes to "Download" so you can download the necessary template files from Adobe Stock.

9. **Choose White in the Background Contents menu.**

   If you choose White or Background Color in this menu, the new file will include a default locked Background layer. If you choose Transparent, the new file will have a default unlocked Layer 1.

Click a category name to show related presets.

Click to select an existing preset size.

Customize the canvas settings in this area.

10. **Click Create to create the new file.**

Understanding Color Modes

The **color mode** (or color space) defines the structure of the colors in your file.

Bitmap color reproduces all pixels in the image as either black or white; there are no shades of gray.

Grayscale color reproduces all tones in the file as shades of gray. This type of image has only one channel (you learn about color channels later in this book).

RGB creates color by combining different intensities of red, green, and blue light (collectively referred to as the "additive primaries"). Computer monitors and mobile devices display color in RGB, which has a **gamut** or range of more than 16.7 million different colors. An RGB file has three color channels, one for each of the additive primaries.

CMYK ("process") color is based on the absorption and reflection of light. Four process inks — cyan, magenta, yellow, and black (collectively referred to as the "subtractive primaries") — are used in varying combinations and percentages to produce the range of printable colors in most commercial printing. A CMYK file has four color channels, one for each of the four subtractive primaries.
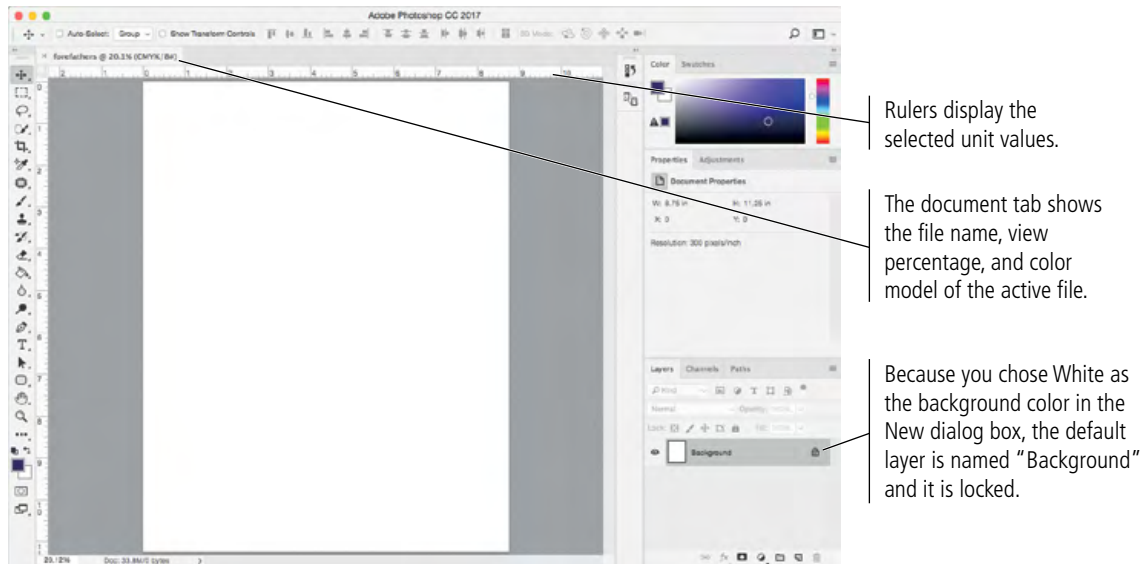
Theoretically, a mixture of equal parts of cyan, magenta, and yellow would produce black. Pigments, however, are not pure, so the result of mixing these colors is a muddy brown (called **hue error**). To obtain vibrant colors (and so elements such as type can be printed cleanly), black ink is added to the three primaries. Black is represented by the letter "K" for "key color."

LAB color is device independent; the colors it describes don't depend upon the characteristics of a particular printer, monitor, or scanner. In theory, LAB bridges the gap between the various color models; it is used in the background when converting images from one color space to another.

The problem with using RGB for print jobs is that the RGB colors eventually need to be converted to CMYK separations for a commercial printing press, and many colors in the RGB model do not exist in the CMYK model. Since you're creating this file for both print and digital media, it's a better idea to create it in the smaller color model to avoid unwanted color shift later in the process.

11. **If you don't see rulers on the top and left edges of the document window, choose View>Rulers to toggle rulers on.**

As we explained in the Interface chapter, the panels you see depend on what was done the last time you (or someone else) used the Photoshop application. Because workspace arrangement is such a personal preference, we tell you what panels you need to use but we don't tell you where to put them.


Rulers display the selected unit values.

The document tab shows the file name, view percentage, and color model of the active file.

Because you chose White as the background color in the New dialog box, the default layer is named "Background" and it is locked.

12. **Choose File>Save As. Navigate to your WIP>Liberty folder as the location for saving this file.**

Because you named the file when you created it (in the New dialog box), the Save As field is automatically set to the file name you already assigned. The extension is automatically added on both Macintosh and Windows computers.

13. **Choose Photoshop in the Format/Save As Type menu.**

You can save a Photoshop file in a number of different formats, all of which have specific capabilities, limitations, and purposes. While you are still working on a file, it's best to keep it as a native Photoshop (PSD) file.

Files saved as Photoshop format display a ".psd" extension.
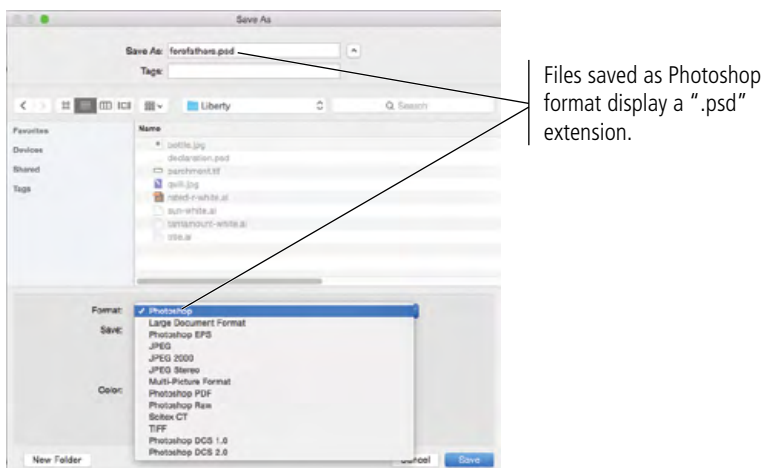
14. **Leave any remaining options unchecked and click Save.**

Since this is a very basic file with only a white background, most of the other options in the Save As dialog box are not available at this time.

15. **Continue to the next exercise.**

DEFINE THE BACKGROUND

Now that the file has been created, the next step is to add a custom background color. When you defined the file, you had three options — white, background color, or transparent. You could have defined the background color before opening the New dialog box, but it is more common to create the file first, and then set the background.

1. **With forefathers.psd open, choose View>Fit On Screen.**

2. **Click the Default Foreground and Background Colors button near the bottom of the Tools panel.**

    By clicking this button, you can always return to the basic black/white options.

    Default Foreground and Background Colors   Switch Foreground and Background Colors

    Set Foreground Color   Set Background Color
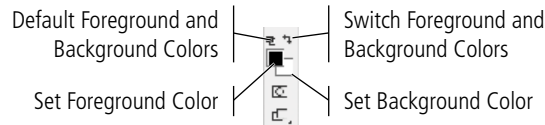
Note:

The foreground and background color swatches default to the last-used values.

3. **Click the Set Background Color button to open the Color Picker.**

    You can use the same process to define the foreground color, except you click the foreground swatch in the Tools panel instead of the background swatch.

4. **In the lower-right corner of the dialog box, define the following color values:**

    C (Cyan) = 0

    M (Magenta) = 35

    Y (Yellow) = 0

    K (Black) = 100

    Since you're working on a file in CMYK mode, it makes sense to define colors as percentages of CMYK.

    This type of color — 100% black and some percent of another color — is called **rich black** or **superblack**. It might seem like 100% black is black, but when the inks are printed, adding another ink to solid black enhances the richness of the solid black. Adding magenta typically creates a warmer black, while adding cyan typically creates a cooler black.

Drag these sliders to move through the hue spectrum.

Click in this spectrum to change the hue that appears in the preview window.

Type in the fields to define specific color values.

Click anywhere in this window to select a color.

5. **Click OK to close the Color Picker dialog box.**

6. **Look at the Layers panel.**

    As we explained in the Interface chapter, the panels you see depend on what was done the last time you (or someone else) used the Photoshop application. Because workspace arrangement is such a personal preference, we tell you what panels you need to use, but we don't tell you where to put them.

    Every file you create has at least one layer. If you use the Transparent option in the New dialog box, the default layer is called "Layer 1" and it is unlocked.

    If you define the file with a white (as you did in this project) or another color background, the default layer is named "Background." This Background layer cannot be moved, as indicated by the Lock icon. It can, however, be painted.

Note:

*Remember: Panels can always be accessed in the Window menu.*

Note:

We typically show floating panels so that we can focus on the current topic of discussion. Feel free to dock the panels, grouped or ungrouped, iconized or expanded, however you prefer.

7. **With nothing selected in the file, choose Edit>Fill.**

8. **Choose Background Color in the Contents menu and click OK.**

   The file has only one layer, so that layer is selected by default. Because no area of the file is currently selected, the Fill process fills the entire selected layer. (Depending on the accuracy of your monitor, you'll see the "rich" magenta color underneath the black — hence the name "rich black").

The Background layer now is filled with the defined background color.
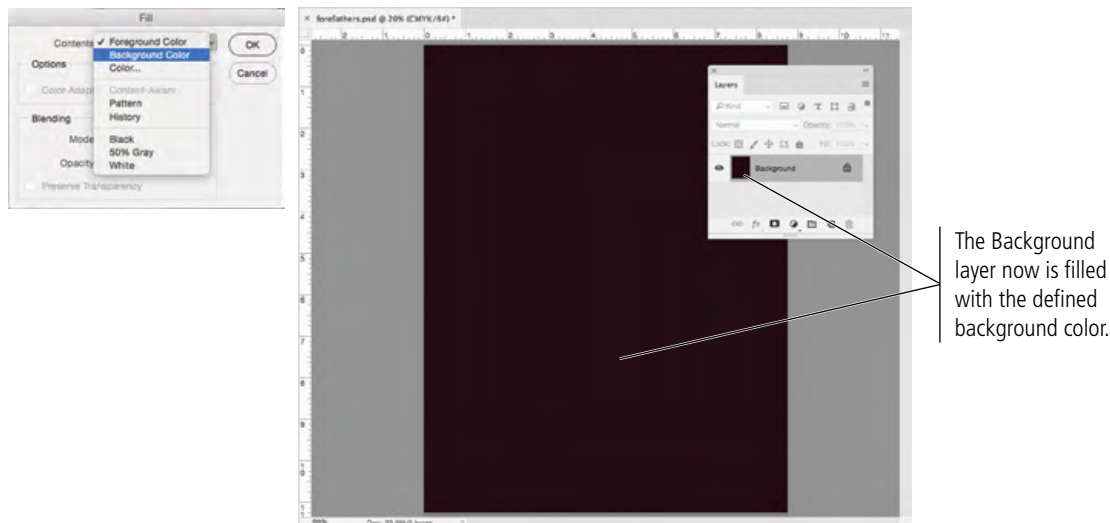
9. **Save the file and continue to the next exercise.**

PLACE PAGE GUIDES

The final step in preparing the workspace is defining the live area of the page; all of the important elements of the design need to fit inside the live area.

According to your client, the magazine trim size is 8.5″ × 11″. (**Trim size** is the actual size of a page once it has been cut out of the press sheet.)

You might have noticed that you created the file 0.25″ larger than the larger file size. That's because a file for printing has to incorporate **bleeds** that will print right up to the edge of the paper; to create this effect, you have to extend the page elements and background beyond the page trim size (called **bleed allowance**). Most print applications require at least 1/8″ bleed allowance on any bleed edge.

1. **With forefathers.psd open, choose View>New Guide Layout.**

   This dialog box makes it very easy to define a page grid using non-printing guides. The dialog box defaults to add 8 columns with a 20-pixel (0.067 in) gutter. In the document window, you can see the guides (blue lines) that will be created based on the active settings in the New Guide Layout dialog box.
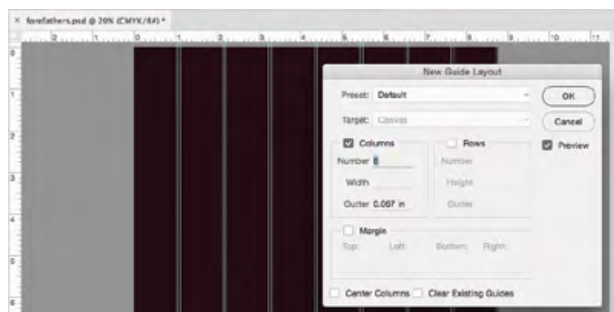
Note:

You should familiarize yourself with the most common fraction-to-decimal equivalents:

1/8 = 0.125

1/4 = 0.25

3/8 = 0.375

1/2 = 0.5

5/8 = 0.625

3/4 = 0.75

7/8 = 0.875

2. **Uncheck the Columns option and check the Margin option. Type 0.125 in each of the available margin fields.**

   You can use the Margin fields to place guides at specific distances from each edge of the canvas. You don't need to type the unit of measurement because the default unit for this file is already inches. Photoshop automatically assumes the value you type is in the default unit of measurement.

3. **Click OK to return to the document and add the required margin guides.**

   At this point you should have four guides – two vertical and two horizontal, each 1/8″ from the file edges. These mark the trim size of your final 8.5 × 11″ file.

4. **Choose View>100%.**

   It helps to zoom in to a higher view percentage if you want to precisely place guides. To complete the following steps accurately, we found it necessary to use at least 100% view.

5. **In the top-left corner of the document window, click the zero-point crosshairs and drag to the top-left intersection of the guides.**

   You can reposition the zero point to the top-left corner of the bleed allowance by double-clicking the zero-point crosshairs.

Zero-point crosshairs

Drag to here to change the 0/0 point of the rulers.

This new zero point will be the origin for measurments in this file.
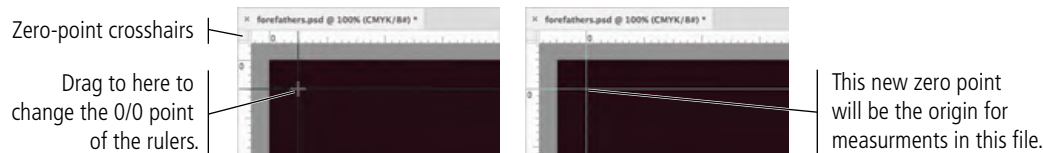
6. **Choose the Move tool in the Tools panel.**

   For this file, the live area (the area in which important objects should be placed) should be 0.25″ inset from the trim edge. This is how we determined that number:

   | [Width] | $8.5″ - 8.0″ = 0.5 \div 2 = 0.25″$ |
   | [Height] | $11″ - 10.5″ = 0.5″ \div 2 = 0.25″$ |

   In the next few steps you will add guides that identify the live area.

7. **Click the horizontal page ruler at the top of the page and drag down to create a guide positioned at the 1/4″ (0.25″) mark.**

   If you watch the vertical ruler, a marker indicates the position of the cursor. The live cursor feedback shows the precise numeric position of the guide you are dragging.

   You might need zoom in further to place precise guides; we found it necessary to zoom in to 200% to accurately place them.
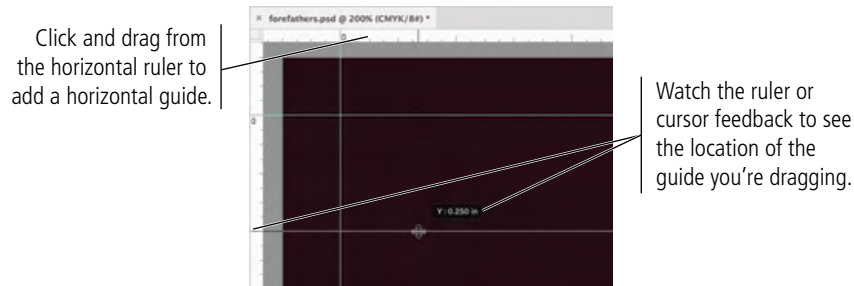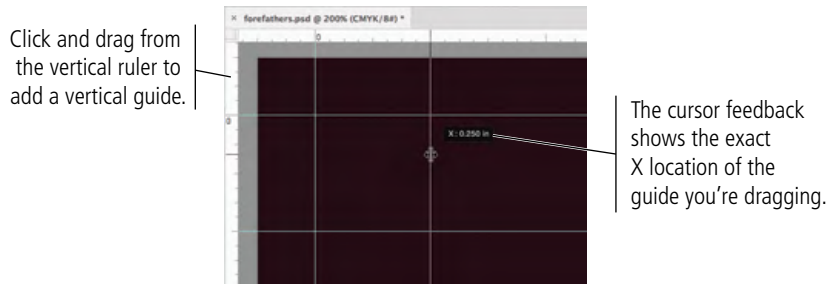
Click and drag from the horizontal ruler to add a horizontal guide.

Watch the ruler or cursor feedback to see the location of the guide you're dragging.

8. **Click the vertical ruler at the left and drag right to place a guide at the 0.25″ mark.**

   Watch the marker on the horizontal ruler to judge the guide's position.

Click and drag from the vertical ruler to add a vertical guide.

The cursor feedback shows the exact X location of the guide you're dragging.

9. **Double-click the intersection of the two rulers.**

   This resets the file's zero point to the original position (the top-left corner of the canvas).
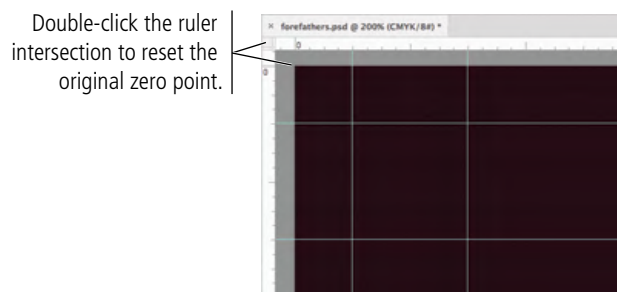
Double-click the ruler intersection to reset the original zero point.

10. **Zoom out so you can see the entire canvas in the document window (View>Fit On Screen).**

11. **Choose View>New Guide. In the resulting dialog box, choose the Horizontal option and type 10.875 in the field and click OK.**

This dialog box makes it easy to precisely position guides without dragging, which means you won't have to continually adjust the view percentage to find an exact position.

This dialog box always measures the position of guides from the canvas's top-left corner, regardless of the zero point as reflected in the rulers.
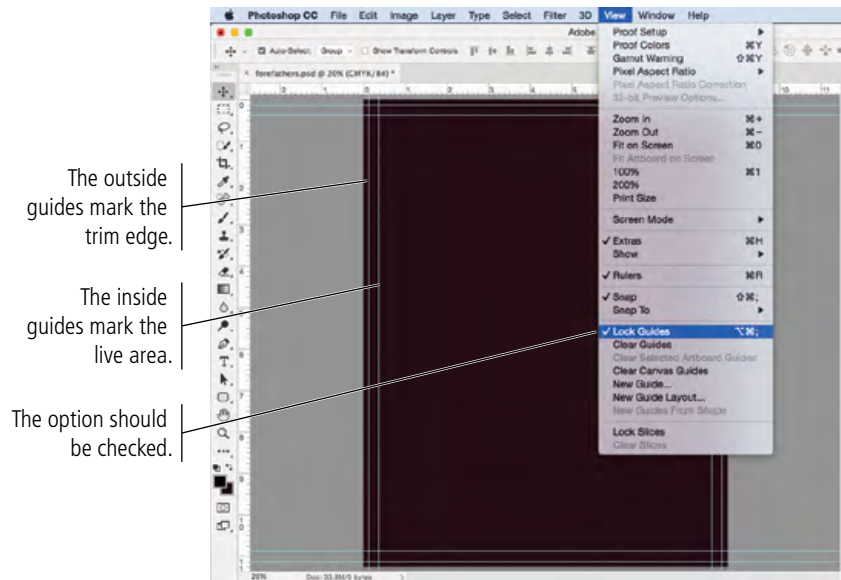

There's the new guide.
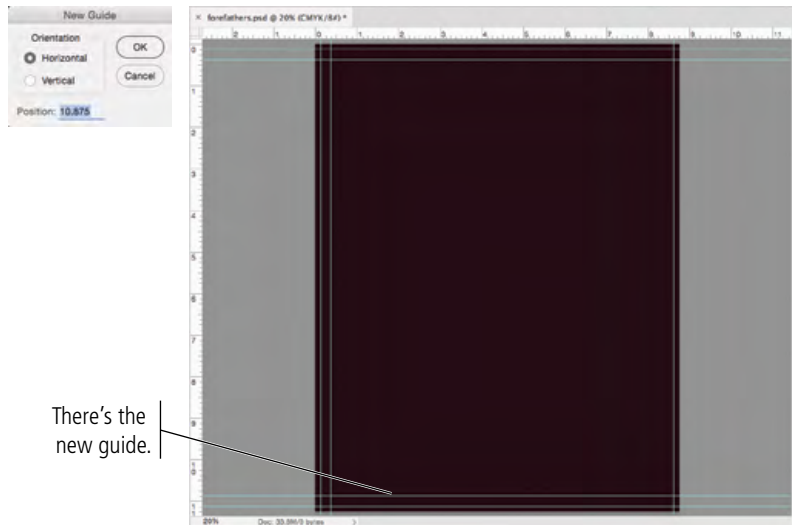
12. **Choose View>New Guide again. Choose the Vertical option and type 8.375 in the field. Click OK.**

There's the new guide.
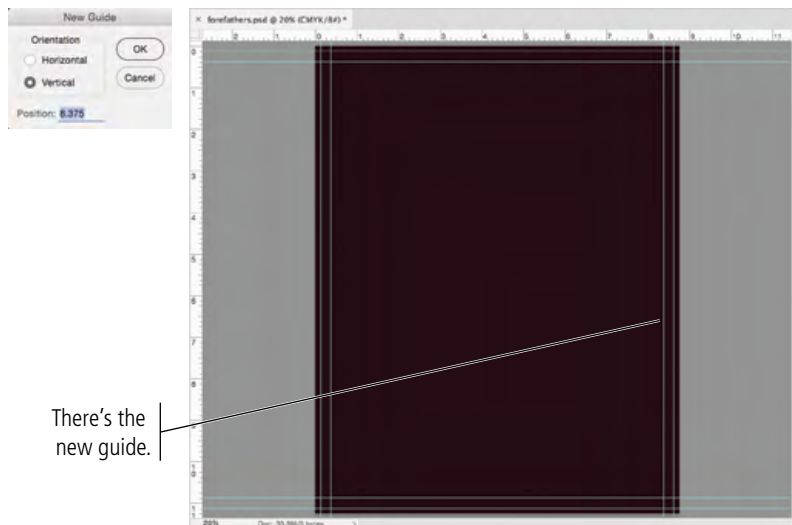
13. **Click the View menu and make sure a checkmark appears to the left of Lock Guides. If no checkmark is there, choose Lock Guides to toggle on that option.**

   After you carefully position specific guides, it's a good idea to lock them so you don't accidentally move or delete them later. If you need to move a guide at any point, simply choose View>Lock Guides to toggle off the option temporarily.

   The outside guides mark the trim edge.

   The inside guides mark the live area.

   The option should be checked.

14. **Save the file and continue to the next stage of the project.**

   Because you have already saved this working file with a new name, you can simply choose File>Save, or press Command/Control-S to save without opening a dialog box. If you want to change the file name, you can always choose File>Save As.

Stage 2 **Compositing Images and Artwork**

Many of the projects you complete in Photoshop involve compositing two or more images into the same file. Technically speaking, **compositing** is the process of combining any two or more objects (images, text, illustrations, etc.) into an overall design. Image compositing might be as simple as placing two images into different areas of a background file, and then adding blurred edges; or it could be as complex as placing a person into a group photo, carefully clipping out the individual's background, and adjusting the shadows to match the lighting in the group.

The movie ad you're building in this project requires compositing three individual images — one that has been scanned and two digital photographs. You'll also incorporate title treatment and logo files that were created in Adobe Illustrator by other members of your creative team. The various elements that make up the ad are fairly representative of the type of work you can (and probably will) create in Photoshop as your career progresses.

COPY AND PASTE LAYERS

Compositing multiple images in Photoshop is a fairly simple process — or at least, it starts out that way. But there are a number of technical and aesthetic issues you must resolve whenever you combine multiple images into a single design.

In this and the next several exercises, you will use several methods to composite multiple images into a single Photoshop file. In the next stage of the project, you will learn various techniques for combining the different pieces into a unified design.

1. **With `forefathers.psd` open, choose File>Open.**

2. **Navigate to your WIP>Liberty folder. Select `bottle.jpg`, `parchment.tif`, and `quill.jpg`, then click Open.**

   Remember, you can press Command/Control to select multiple non-consecutive files in the Open dialog box. If you press Shift, you select multiple consecutive files.
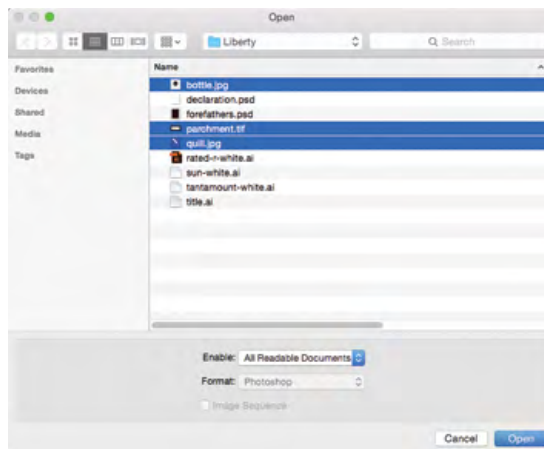
   You should now have four images open in Photoshop — the background file you created earlier, the parchment scan, and the bottle and quill photographs. The document tabs show the color model of each file.

The tabs show all four open documents.

3. **Choose Window>Arrange>4-Up to show all four images in the document window at one time.**

   As you saw in the Interface chapter, these options are useful for arranging and viewing multiple open files within your workspace.

Note:

Digital photographs and scans are pixel-based, which is why you use Photoshop to edit and manipulate those types of files.
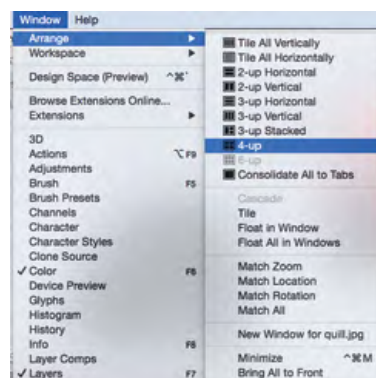
4. **Click the parchment window to activate that file.**

   Like the file you created, this file has only one layer — Background. Every scan and digital photograph has this characteristic.
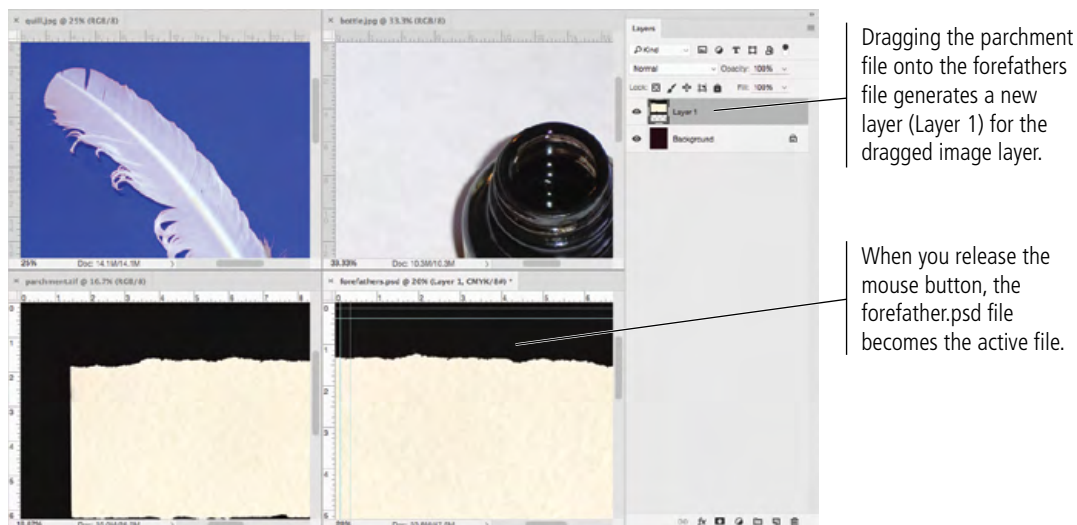
5. **With nothing selected, choose the Move tool at the top of the Tools panel.**

6. **Click in the parchment file window and drag to the forefathers.psd file window.**

   Since you didn't select anything specific in the parchment file, you can drag the entire active layer into another file.

Move tool

The Background layer in the parchment.tif file is automatically selected.

Click and drag from the parchment.tif window to the forefathers.psd window.
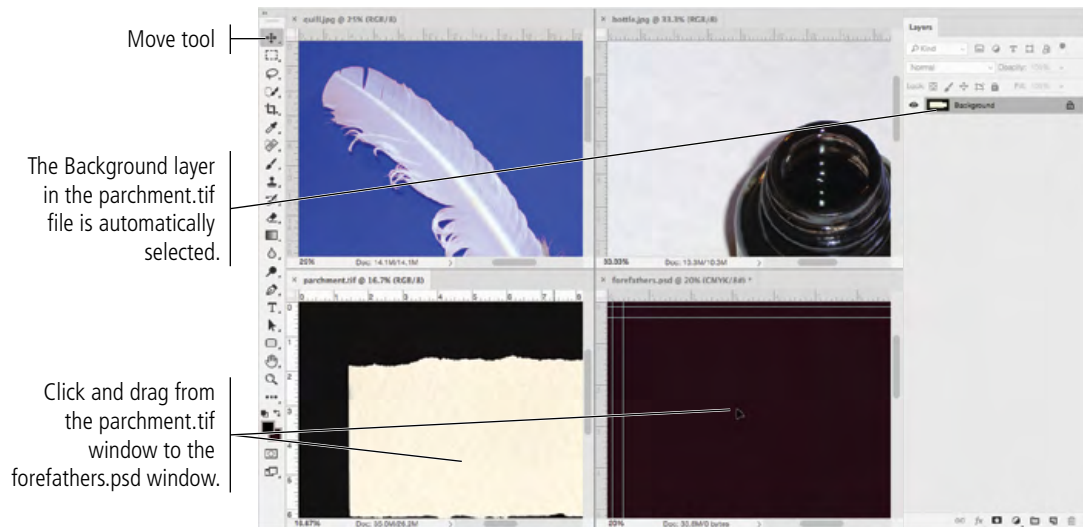
When you release the mouse button, the forefathers.psd file — where you dragged to — is active and it now has two layers: Background (the one you created) and Layer 1 (the parchment image you just copied). When you copy or drag a layer from one file into another, it is automatically placed on a new layer with the default name "Layer *n*", where "n" is a sequential number.

Dragging the parchment file onto the forefathers file generates a new layer (Layer 1) for the dragged image layer.

When you release the mouse button, the forefather.psd file becomes the active file.

The parchment image was scanned in RGB color mode, as you can see in the document's tab. Photoshop cannot maintain multiple color modes in a single file. The RGB parchment image layer is automatically converted to the CMYK color mode you're using in the background file.

7. **Close the parchment.tif file.**

8. **Click the bottle.jpg window to activate that file. If you can't see the entire bottle, zoom out until you can.**

9. **Choose the Rectangular Marquee tool in the Tools panel.**

   In addition to dragging entire layers into other files, you can also select specific areas of a file to copy using one of the selection tools.
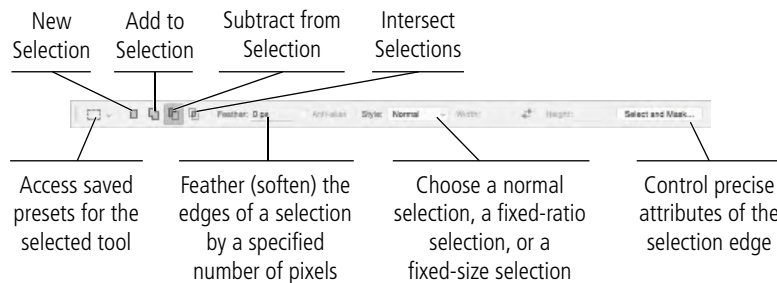
10. **Using the Rectangular Marquee tool, click in the bottle.jpg window and drag around the entire shape of the bottle.**

    By default, dragging with the selection tool creates a new selection. You can use the buttons on the left end of the Options bar to add to the current selection, subtract from the current selection, or intersect with the current selection.

Rectangular Marquee tool

"Marching ants" indicate the selected area.
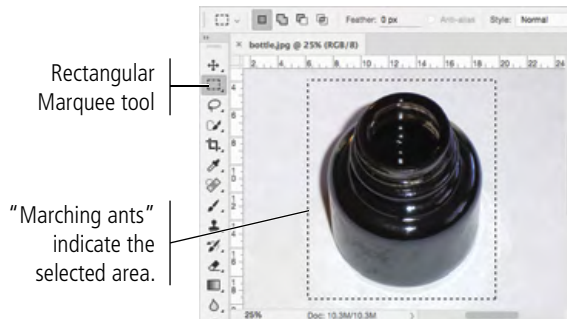
11. **Click the Subtract From Selection button on the Options bar.**

    When one of the marquee tools is selected, the Options bar gives you better control over what you are selecting.

New Selection   Add to Selection   Subtract from Selection   Intersect Selections

Access saved presets for the selected tool

Feather (soften) the edges of a selection by a specified number of pixels

Choose a normal selection, a fixed-ratio selection, or a fixed-size selection

Control precise attributes of the selection edge

12. **Drag a new marquee that overlaps the upper corner of the first selection but doesn't include any part of the bottle.**

    When you release the mouse button, the selection is the area of the first marquee, minus the area of the second marquee. (This isn't particularly necessary in this case, but you should know how to add to and subtract from selections.)

New selection

Subtract from Selection cursor

Existing selection from Step 10

13. **Choose Edit>Copy.**

14. **Click the forefathers.psd file window to activate that file, then choose Edit>Paste.**

   The standard Cut and Paste options are available in Photoshop, just as they are in most applications. Whatever you have selected will be copied to the Clipboard, and whatever is in the Clipboard will be pasted.


As with the dragged parchment, the pasted image is on its own new layer.
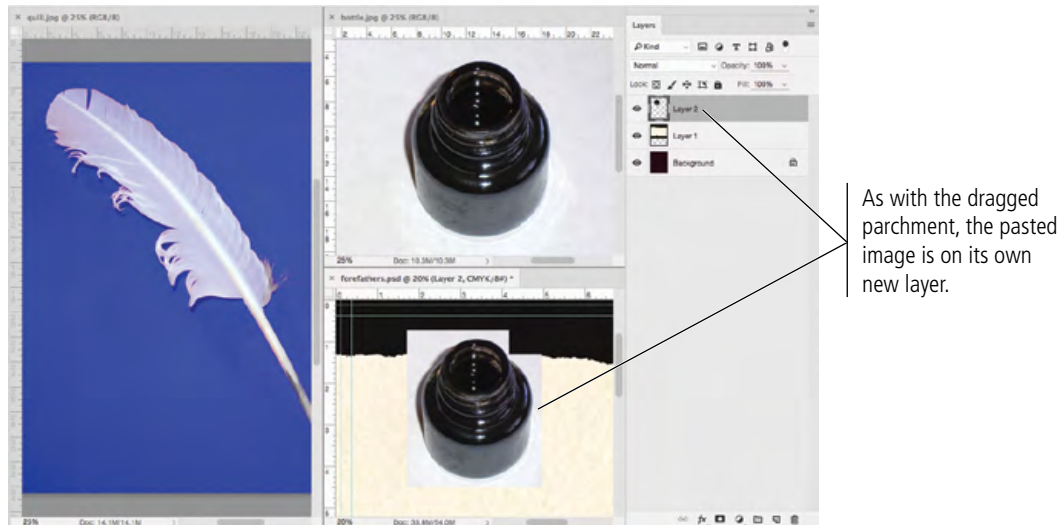
15. **Close the bottle.jpg file.**

16. **Click the quill.jpg window to activate that file, and zoom out so you can see the entire image.**

17. **Select the Lasso tool in the Tools panel.**

   The lasso tools allow you to make irregular selections — in other words, selections that aren't just rectangular or elliptical.

18. **Drag a shape around the entire quill.**

   When you release the mouse button, the end point automatically connects to the beginning point of the selection.

Lasso tool
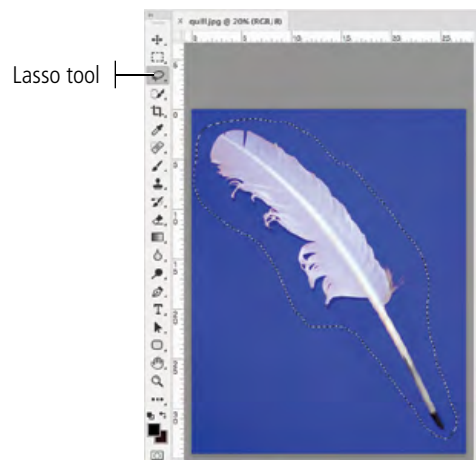
19. **Copy the selection and paste it into the forefathers.psd file window, just as you did for the bottle selection.**

20. **Close the quill.jpg file.**

21. **Choose View>Fit On Screen to fit the image into the document window.**

You now have a file with four layers, but the composited images are simply stacked one on top of another. You'll fix this problem as you complete the rest of the project.
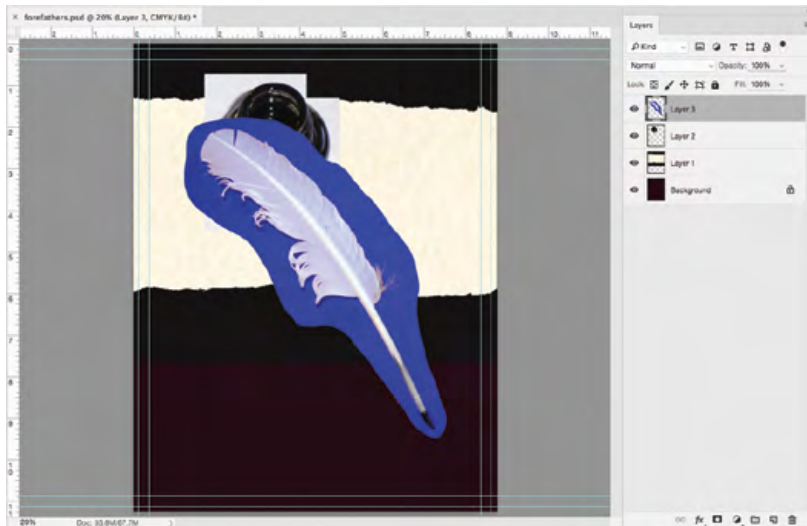
22. **Choose File>Save.**

Because this is the first time you've saved the file after adding new layers, you should see the Photoshop Format Options dialog box, with the Maximize Compatibility check box already activated. It's a good idea to leave this check box selected so your files will be compatible with other CC applications and other versions of Photoshop.
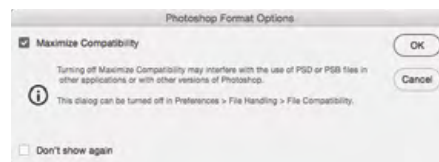
23. **Make sure the Maximize Compatibility check box is selected and click OK. Continue to the next exercise.**

Understanding Effective Resolution

PHOTOSHOP FOUNDATIONS

You might have noticed that the bottle and quill images were physically very large — both over 26 inches wide — but they are only 72 dpi. When you copied these images into the forefathers.psd file, however, they were nowhere near 26 inches wide. This is because copied images adopt the resolution of the file you paste them into. On the surface this seems simple; but you should understand what is actually happening behind the scenes, so you don't accidentally lose image quality.

If you open the Image Size dialog box (Image>Image Size) for the bottle.jpg file, you can see that the file's physical dimensions, in pixels, are 1887 × 1917 at 72 dpi. In other words, the bottle image has 1887 pixels in a horizontal row. If you divide 1887 pixels by 72 pixels/inch, you end up with the size in inches: the image is approximately 26.21 inches wide.
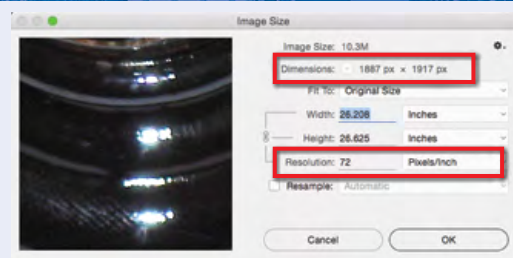

When the image is copied into a 300 dpi file, the bottle has the same 1887 pixels across. But when those 1887 pixels are divided by 300 dpi, the pasted image is about 6.3 inches wide. This is why the bottle you pasted into the forefathers. psd file was so much smaller than it appeared in its own file window — the same number of pixels takes up a much smaller space when more pixels fit into an inch. This is the principle of **effective resolution**.

Working with CC Libraries

If you have an individual-user subscription to the Adobe Creative Cloud, you have access to CC Library functionality, which allows you to easily share assets across various Adobe CC applications. This technology makes it very easy to maintain consistency across a design campaign — for example, using the same color swatches for all pieces, whether created in Illustrator, InDesign, or Photoshop.

In Photoshop, you can create new libraries from scratch (using the menu at the top of the Libraries panel), or use the "Auto-Vacuum" feature to create a library based on an existing file's contents.
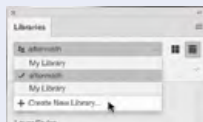
Once you create a library, it is stored in your Creative Cloud account so you can access the same assets in other Adobe applications. You can add new assets to the active library using the buttons at the bottom of the Libraries panel.

A   Library list
B   Show Items as Icons
C   Show Items in a List
D   Add Content menu
E   Library from Document
F   Libraries Sync Status
G   Delete
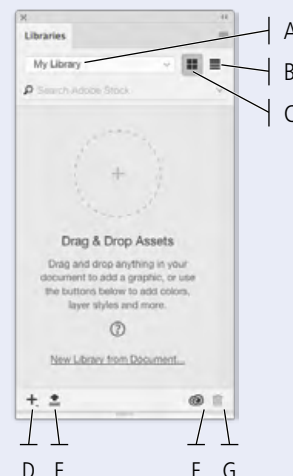
Creating Library Items

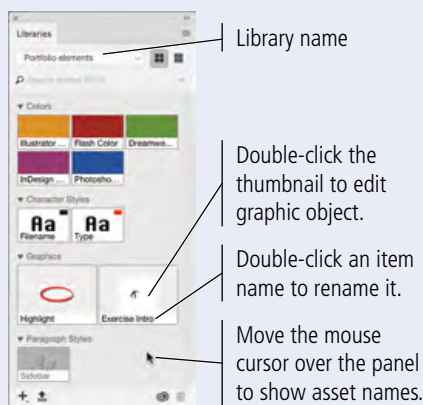You can add new items to a library using the Add Content menu at the bottom of the Libraries panel.

Add Graphic adds the content on the active layer as an object ("graphic") in the library.

- If you add a Smart Object layer, the layer becomes linked to the new library item instead of to the original file that created the Smart Object layer.
- If you add a regular layer, it is not dynamically linked to the new library item.

Add Character Style creates a type style in the library based on the active type layer. If more than one set of character formatting options is applied within the type layer, only the formatting options in the first character of the layer are stored in the library item.

Add Layer Style creates an item in the library that includes all layer styles applied to the active layer when you click.

Add Foreground Color stores the active foreground color as a color swatch in the library.

Library name

Double-click the thumbnail to edit graphic object.

Double-click an item name to rename it.

Move the mouse cursor over the panel to show asset names.

Understanding Auto-Vacuum

When you open a file with more than a flat background layer, you will see a dialog box asking if you want to create a new library from the document you are opening. If you click Cancel, no library is created. However, you can always initiate the Auto-Vacuum function using the Library from Document button at the bottom of the Libraries panel, or the Create New Library from Document item in the panel's Options menu.
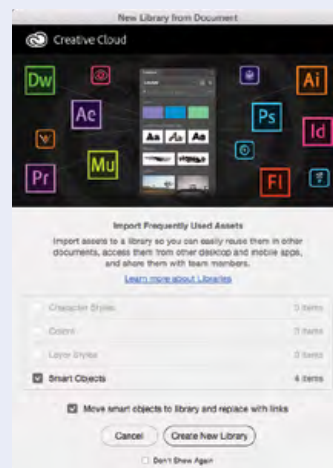
If you use the Auto-Vacuum feature, the new library automatically adopts the name of the file from which the library is created. Any character styles, defined color swatches, applied layer styles, and smart object layers are added to the new library by default.

Working with Library Items

Clicking a color swatch in the library changes the active foreground color in Photoshop.

Clicking a layer style in the library applies the stored layer styles to the active layer (in the Layers panel).

Clicking a character style applies the defined formatting options to all text on the active type layer. (You cannot apply a library character style to only certain characters on a type layer.)

To place a graphic from a library, simply drag it from the Libraries panel onto the Photoshop canvas. This creates a linked Smart Object layer, in this case linked to the Library item instead of to an external file on your desktop.

Linked Smart Object layers in Photoshop are identified by a special icon in the Layers panel.
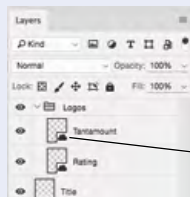
This icon identifies a Smart Object layer that is linked to a library item.

By default, objects placed from a library are linked to the library file. Any changes you make to the library item will reflect in all placed instances.

Say you change the color of text in a logo. Any instance of that logo that has been placed from the library — in any Adobe CC application — will automatically reflect the new type color as long as the library link is active.

If you press Option/Alt when you drag an object from the panel, you create a non-linked regular layer with the content from the object you dragged onto the canvas. In this case, there is no dynamic link to the library.

Sharing and Collaboration

Libraries also offer a powerful opportunity to communicate assets with other users.
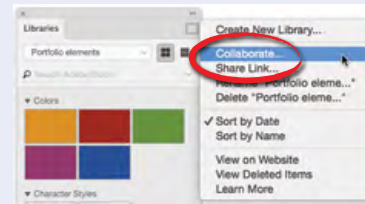
- If you invite others to collaborate, authorized users can edit assets in the library.
- If you share a link to a library, invited users can view a library's contents but not edit those assets.

The options in the Libraries panel submenu navigate to your online Adobe CC account page, and automatically ask you to invite specific users (for collaborating) or create a public link (for sharing).
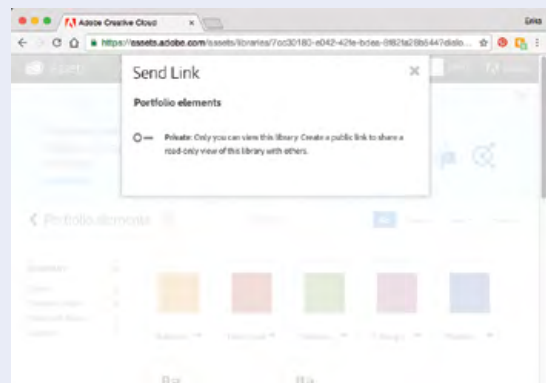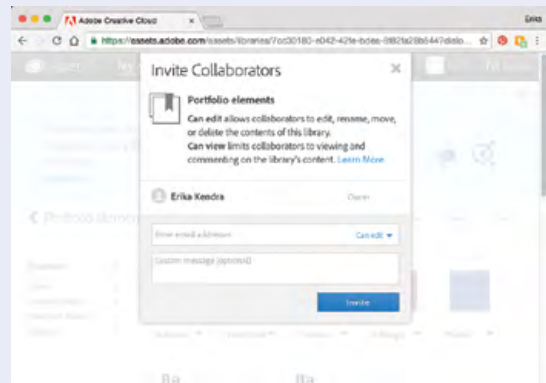
✍ RASTERIZE A VECTOR FILE

As you already know, vector graphics are based on a series of mathematical descriptions that tell the computer processor where to draw lines. Logos and title treatments — such as the ones you use in this project — are commonly created as vector graphics. Although Photoshop is typically a "paint" (pixel-based) application, you can also open and work with vector graphics created in illustration programs like Adobe Illustrator.

1. **With `forefathers.psd` open, choose File>Open and navigate to the `WIP>Liberty` folder.**

2. **Select `title.ai` in the list of files, then click Open.**

   This is an Adobe Illustrator file of the movie title text treatment. The Format menu defaults to Photoshop PDF because Illustrator uses PDF as its underlying file structure.

   When you open a vector file (Illustrator, EPS, or PDF) in Photoshop, it is rasterized (converted to a raster graphic). The Import PDF dialog box allows you to determine exactly what and how to rasterize the file. The default values in this box are defined by the contents of the file you're opening.

This window shows thumbnail previews of each artboard or page in the Illustrator file.
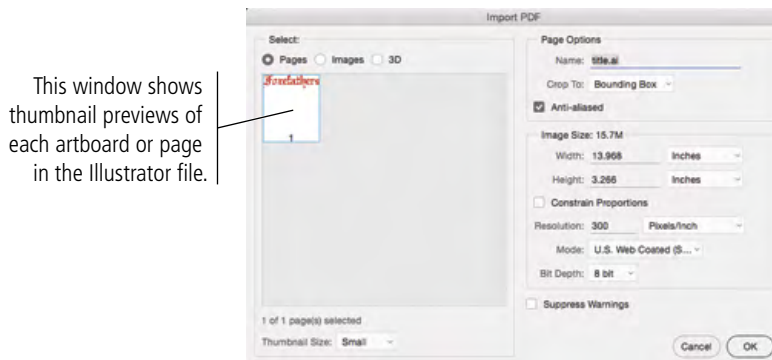
   The Crop To options determine the size of the file you import. Depending on the type of file you're importing and how it was created, some of these values might be the same as others:

   • **Bounding Box** is the outermost edges of the artwork in the file.
   • **Media Box** is the size of the paper as defined in the file.
   • **Crop Box** is the size of the page including printer's marks.
   • **Bleed Box** is the trim size plus any defined bleed allowance.
   • **Trim Box** is the trim size as defined in the file.
   • **Art Box** is the area of the page as defined in the file.

   The Image Size fields default to the settings of the bounding box you select. You can change the size, resolution, color mode, and bit depth by entering new values.

3. **Choose Inches in the Width menu, make sure the Constrain Proportions option is checked, and then change the Width field value to 8.**

   You know the page size of the smaller ad you're building is 8″ wide, so you can import this file at a size small enough to fit into that space.

   Because the Constrain Proportions option is checked, the height changes proportionally to match the new width.

4. **Make sure the Resolution field is set to 300 pixels/inch, and then choose CMYK Color from the Mode menu.**

Make sure this option is checked.
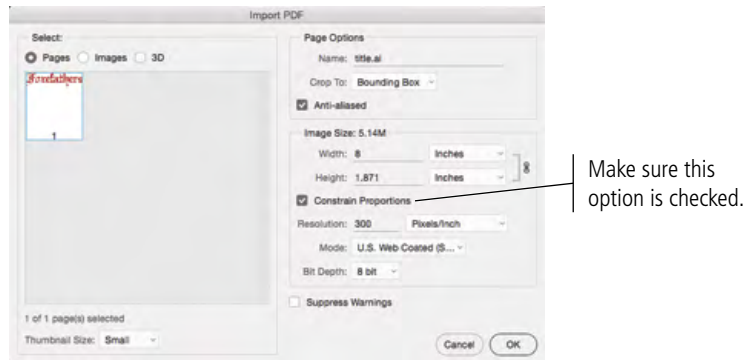
5. **Click OK.**

The title treatment file opens in Photoshop. The checked area behind the text indicates that the background is transparent. If you look at the Layers panel, you'll see that Layer 1 isn't locked; because it's transparent, it is not considered a background layer.

6. **Choose the Move tool in the Tools panel, then choose Select>All.**

This command creates a selection marquee around the entire canvas in the active file.

7. **Choose Edit>Copy to copy the selected area.**

8. **Close the title file. If asked, don't save it.**

9. **With the forefathers.psd file active, choose Edit>Paste.**

Again, the pasted contents are added on a new layer. (If you still have the entire canvas visible in the document window, you might also notice that the pasted content is placed in the center of the document window.)

Because the title artwork has a transparent background, the other layers are visible behind the text in the composite file.
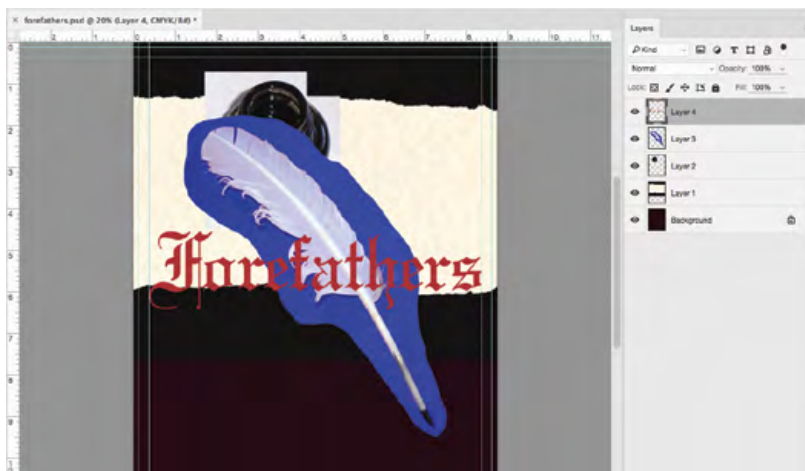
10. **Save forefathers.psd, then continue to the next exercise.**

PLACE VECTOR GRAPHICS AS SMART OBJECT LAYERS

As you have seen in the last few exercises, copying layer content from one file to another results in new regular layers for the pasted content. Photoshop also supports Smart Object layers, in which you place one file into another instead of pasting layer content. Smart Objects provide a number of advantages over regular layers, which you will explore later in this project. In this exercise, you will create the Smart Object layers for the remaining image elements.

Vector graphics offer several advantages over raster images, including sharper edges and free scaling without deteriorating image quality. To take advantage of these benefits, you might want to maintain vector files as vector objects instead of rasterizing them. Photoshop gives you the option to do exactly that — maintaining vector information and raster information in the same file.

1. **With forefathers.psd open, choose File>Place Embedded.**

    Two options in the File menu — Place Embedded and Place Linked — give you the option to embed the placed file data into active file, or to place smart objects as links to the original placed file. (See Page 46 for more about placing linked files.)

    The Place Embedded dialog box is virtually the same as the Open dialog box. You can use this function any time you want to place one entire file directly into another without dragging or copying and pasting (as you did in the previous exercises).
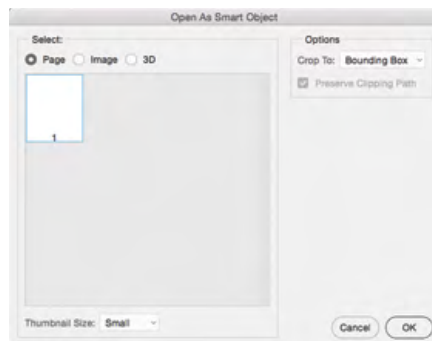
2. **Navigate to and select rated-r-white.ai and click Place.**

3. **In the resulting Place PDF dialog box, choose Art Box in the Crop To menu and then click OK.**

    The Crop To options in this dialog box are the same as those that are available when you rasterize a native Illustrator file.

    When the Place PDF dialog box disappears, the placed file appears centered in the document window. Crossed diagonal lines indicate that the placement has not yet been finalized. (You can press the ESC key to cancel the placement.)

Crossed diagonal lines indicate that the placement is not yet final.

Note:

You can place either raster or vector files as Smart Objects. If you place a raster file as a Smart Object, double-clicking the thumbnail opens the placed raster file in another Photoshop window.

4. **Press Return/Enter to commit (finalize) the placement.**

After you finalize the placement, the bounding box handles and crossed diagonal lines disappear. In the Layers panel, the placed file has its own layer (just as the copied layers do). This layer, however, is automatically named, based on the name of the placed file.

The layer's thumbnail indicates that this layer is a **Smart Object** — it is linked to the file that you placed. Because you are essentially placing a link to the vector file, it isn't rasterized into the Photoshop file; the vector information is maintained.

Smart Object thumbnail

When you place a file into a Photoshop file, the placed file name is used as the layer name.

5. **Repeat Steps 1–4 to place the two remaining logo files (sun-white.ai and tantamount-white.ai) as Smart Objects into the composite file.**

When you place Smart Objects, they are automatically placed into the center of the document window. So right now, you have a fairly incomprehensible mess of four raster images and three vector objects all piled on top of one another. You'll start to make sense of these files in the next stage.
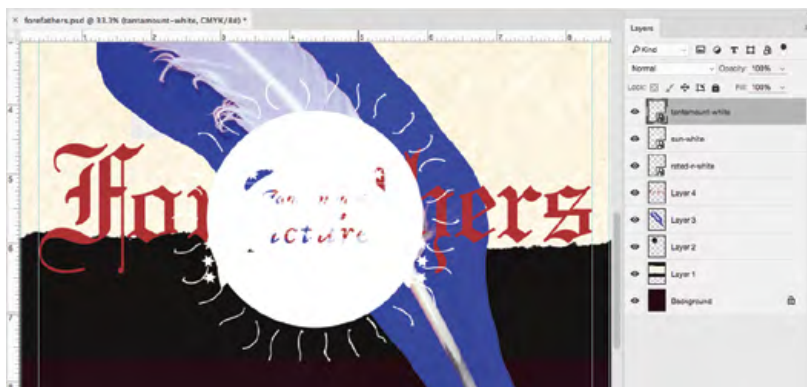
6. **Save the file and continue to the next stage of the project.**

In the previous exercise you used the Place Embedded option to create Smart Object layers that contain the placed file data. Using that method the embedded file data becomes a part of the parent file.

If you double-click the thumbnail icon of an embedded Smart Object, the embedded file opens in an application that can edit the stored data — AI files open in Illustrator; PSD, TIFF, and JPEG files open in Photoshop.

When you first open a Smart Object file, the application provides advice for working with Smart Objects:

After you make necessary changes, you can save the file and close it, then return to Photoshop (if necessary). Your changes in the Smart Object file will automatically reflect in the parent file where the Smart Object layer is placed.

Important note: Do not use the Save As option when editing Smart Object layers. The changes will not reflect in the parent file if you save changes with a different file name.

If you choose the Place Linked option in the File menu, Smart Object layer stores a link to the original file data rather than embedding that data inside the parent file.
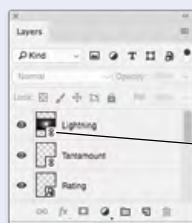
This icon identifies a linked Smart Object layer.

This provides an opportunity for maintaining consistency because you only need to change one instance of a file to reflect those changes anywhere the file is placed.

Say you place a logo created in Illustrator into a Photoshop file. The same logo is also placed as a link in a number of InDesign documents. If you open the logo in Illustrator and change the main color (for example), then save the changes in the original logo file, the new color automatically reflects in any file — whether InDesign or Photoshop — that is linked to the edited logo.

If you use the Place Embedded option in Photoshop, the Smart Object layer is not linked to the original, edited logo file; you would have to open the embedded Smart Object and make the same color change a second time.

Linked files also have potential disadvantages. As we mentioned previously, double-clicking a Smart Object layer thumbnail opens the linked or embedded file in an application that can edit the relevant data. If you are working with *linked* Smart Object layers, any changes you make affect the original file data. This means your changes appear not only in the parent Photoshop file where it is linked, but also any other file that links to the same data.

For a file to output properly, linked Smart Object layers must be present and up to date at the time of output.

If the linked file has been modified while the parent file is open, the changes automatically reflect in the parent file when you return to that document. If the parent file is not open in Photoshop when the linked file is edited, you will see a Modified icon for the linked Smart Object layer.

If the linked file is deleted or moved to another location after it has been placed, the parent file will show a Missing icon for the linked Smart Object layer.

If a linked Smart Object has been moved while the parent file is not open, you will see a warning dialog box when you open the parent Photoshop file. You can use that dialog box to locate the missing link, or close it and use the options in the Layers panel to correct the problem.

Control/right-clicking a linked Smart Object layer name opens a contextual menu with options to update modified content and resolve broken links.

This icon identifies a linked, modified Smart Object layer.

This icon identifies a linked, missing Smart Object layer.
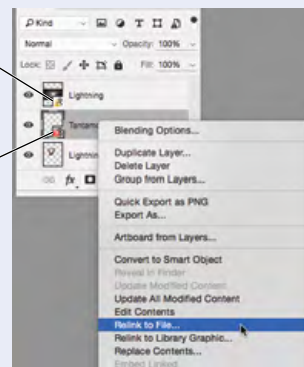
To avoid potential problems with missing linked files, you can use the File>Package command to create a job folder. The parent file is copied to a new folder, along with a Links subfolder containing any files that are placed as linked Smart Object layers.
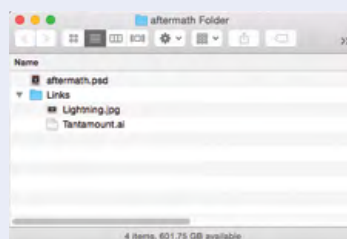
Stage 3 **Creating Silhouettes**

At this stage of the project, you have a single file that contains all of the necessary graphic elements, but you still have a few issues to resolve: the images are stacked on top of one another, some images don't fit into the page area, and some images have border edges that don't fit into the overall design (the blue background around the quill, for example). In this stage, you start fixing these problems.

Virtually any Photoshop project involves making some kind of selection. Making selections is so important, in fact, that there are no fewer than nine tools dedicated specifically to making selections, as well as a whole Select menu and a few other options for making and refining selections.

In an earlier lesson you learned how to use the marquee and lasso tools to draw selections. In the next series of exercises, you use several other selection methods to isolate the graphics from their backgrounds (called **silhouetting**).
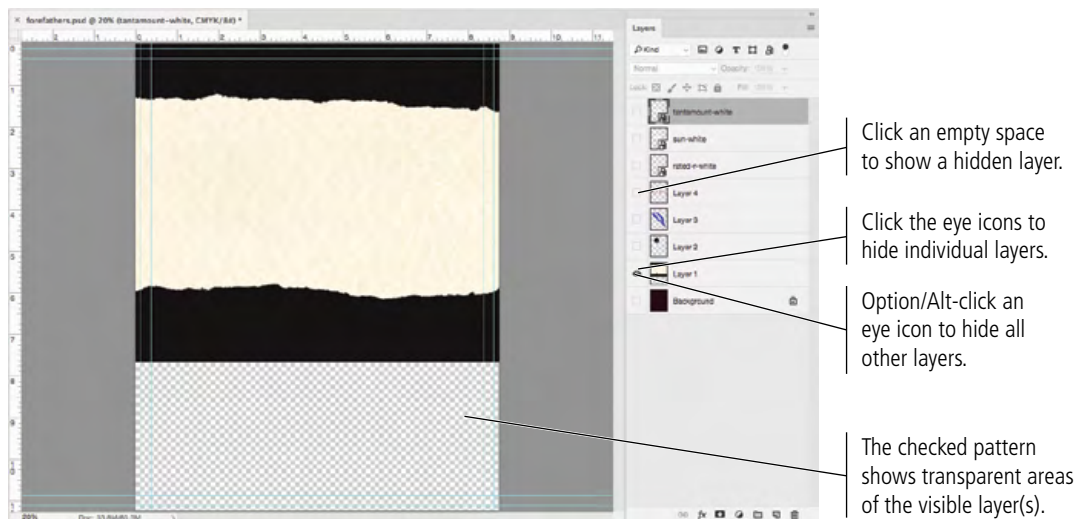
TRANSFORM A LAYER

Before you start silhouetting the different elements of the ad, it's a good idea to make them fit into the page area. Photoshop makes scaling, rotating, and other transformations fairly easy to implement.

1. **With forefathers.psd open, choose View>Fit on Screen.**

2. **Option/Alt-click the eye icon for Layer 1 to hide all other layers.**

   Toggling layer visibility is an easy way to see only what you want to see at any given stage in a project.

   Clicking the eye icon for a specific layer hides that layer; clicking the empty space where the eye icon should be shows the hidden layer. To show or hide a series of consecutive layers, click the visibility icon (or empty space) for the first layer you want to affect, hold down the mouse button, and drag down to the last layer you want to show or hide.


Click an empty space to show a hidden layer.

Click the eye icons to hide individual layers.

Option/Alt-click an eye icon to hide all other layers.

The checked pattern shows transparent areas of the visible layer(s).

3. **Double-click the Layer 1 layer name and type `Parchment`. Press Return/ Enter to finalize the new layer name.**

You can rename any layer by simply double-clicking the name and typing. It's always a good idea to name your layers because it makes managing the file much easier — especially when you work with files that include dozens of layers. Even with only four unnamed layers in this file, it would be tedious to have to toggle each layer on to find the one you want.
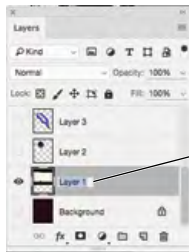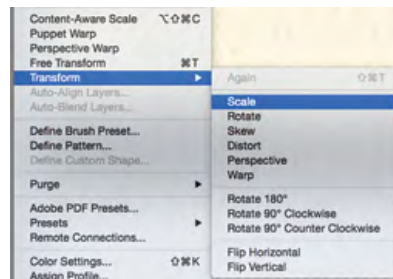

Double-click to highlight the existing layer name.
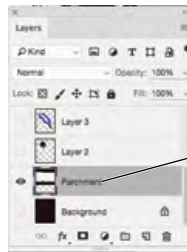
Press Return/Enter to finalize the new layer name.

4. **With the parchment layer selected, choose Edit>Transform>Scale.**

You can use this menu to apply any specific transformation to a layer or selection.

When you use the transform options, bounding box handles surround the selection; although the parchment doesn't fit inside the area of your file, you can still see the edges outside the page area. Since the parchment file is so much wider than the background file you created, some of the handles might not be visible.
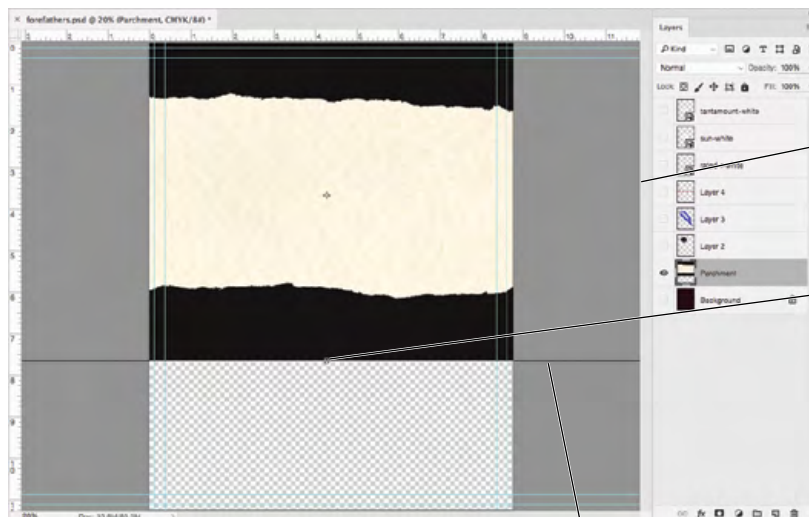

Some handles might not be visible within the boundaries of the document window.

Bounding box handles control the transformation.

The edge of the bounding box shows that some parts of the layer do not fit within the current file dimensions.

5. **Choose View>Zoom Out until you can see all eight bounding box handles.**

Zooming out allows you to access all the bounding box handles.
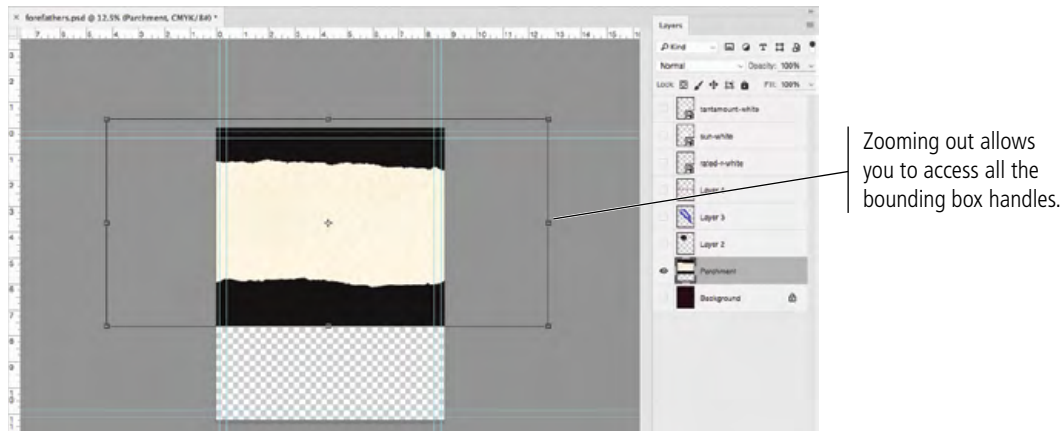
6. **Place the cursor within the bounding box. Drag until the left edge of the bounding box snaps to the left edge of the image.**

Click inside the Transform bounding box and drag to move the selection.
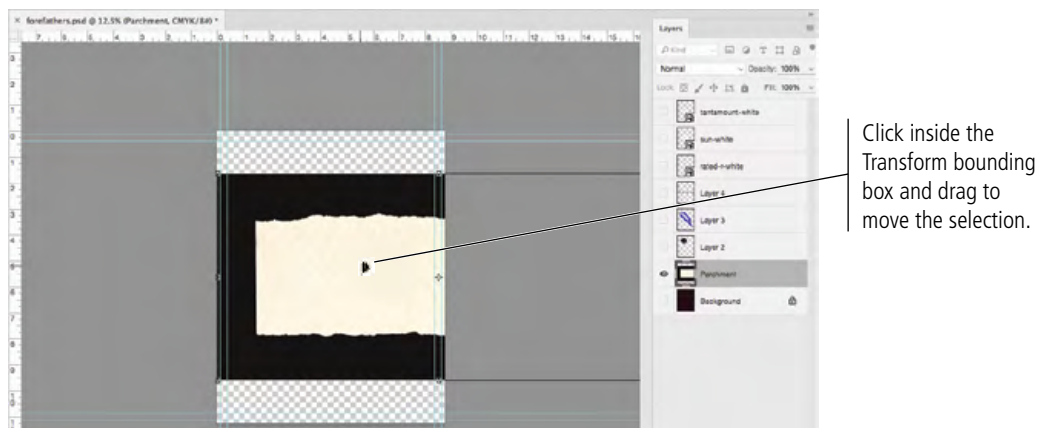
7. **If necessary, zoom out again (or adjust your user interface) until you can see all eight bounding box handles.**

8. **Press Shift, click the bottom-right bounding box handle, and then drag up and left until the right edge of the bounding box is just past the right edge of the canvas.**

The image dynamically changes as you scale the layer. Pressing Shift while you drag a handle constrains the image proportions as you resize it. When you release the mouse button, the handles remain in place until you finalize ("commit") the transformation.

Press Shift, then click and drag a corner handle to scale the selection proportionally.
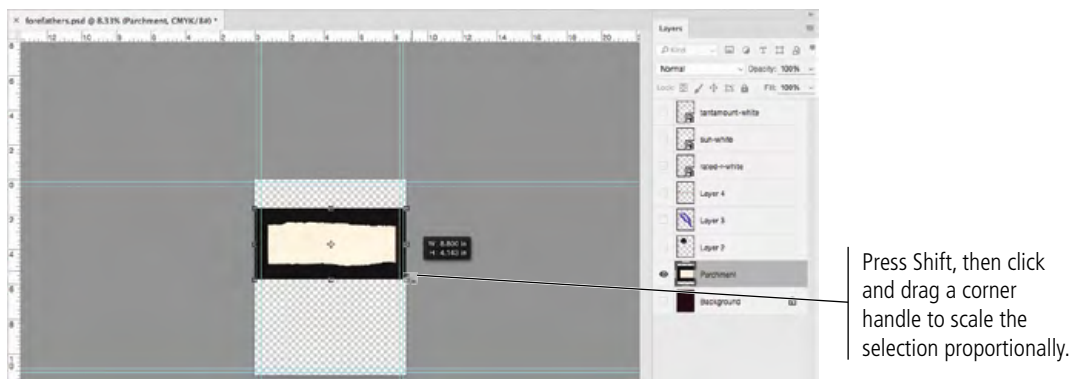
9. **Look at the Options bar.**

When you use the transform options, bounding box handles surround the selection in the document window. The Options bar gives you a number of options for controlling the transformations numerically:
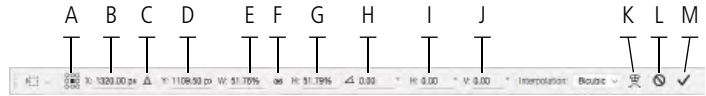
A. **Reference Point Location.** This point determines the point around which transformations are made. It always defaults to the center point.

B. **Set Horizontal Position of Reference Point.** This is the X position of the reference point for the content being transformed. If the center reference point is selected, for example, this is the X position of the center point of the content.

C. **Use Relative Positioning for Reference Point.** If this option is active, the Set Horizontal Position and Set Vertical Position fields default to 0; changing these values moves the reference point by the value you type. For example, typing "–25" in the Set Horizontal Position field moves the active content 25 pixels to the left.

D. **Set Vertical Position of Reference Point.** This is the Y position of the reference point for the content being transformed.

E. **Set Horizontal Scale.** Use this field to change the horizontal scale percentage of the transformed content.

F. **Maintain Aspect Ratio.** When active, the horizontal scale and vertical scale fields are locked to have the same value.

G. **Set Vertical Scale.** Use this field to change the vertical scale percentage of the transformed content.

H. **Rotate.** Use this field to rotate the transformed content by a specific angle.

I. **Set Horizontal Skew.** This field is used to transform an object so that it appears to lean to the left or right.

J. **Set Vertical Skew.** This field is used to transform an object so that it appears to lean to the up or down.

K. **Switch Between Free Transform and Warp Modes.** If available, click this button to apply a built-in warp to the active selection.

L. **Cancel Transform.** Click this button (or press the Esc key) to exit Free Transform mode without applying any transformation.

M. **Commit Transform.** Click this button (or press Return/Enter) to finalize the transformation that you applied while in Free Transform mode.

Note:

*The Options bar includes a "hidden" feature called the **scrubby slider**. If you place your cursor over a field name, it turns into a pointing hand with left- and right-facing arrows. While you see this cursor, you can drag across the Options bar to increase (drag right) or decrease (drag left) the value in the selected field.*

10. **In the Options bar, type 51 in Width field and then click the Maintain Aspect Ratio button.**

Type in these fields to define a specific transformation.

Click this icon to constrain the height and width.
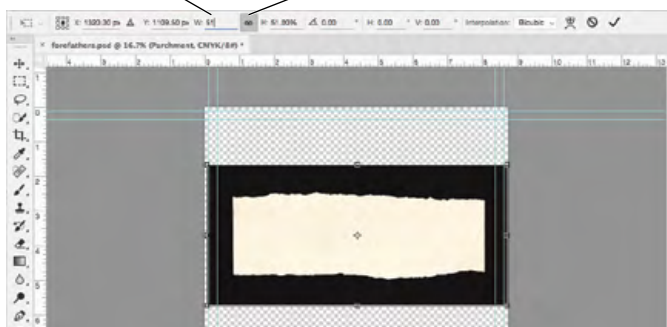
11. **Click the Commit Transform button on the Options bar or press Return/ Enter to apply the transformation.**

12. **Choose Edit>Transform>Scale again and look at the Options bar.**

Once you commit the transformation, it is final. Looking at the Options bar now, you can see that it shows the layer at 100% instead of the 51% from Step 10.

After committing the original transformation, the new size becomes the layer content's actual size.
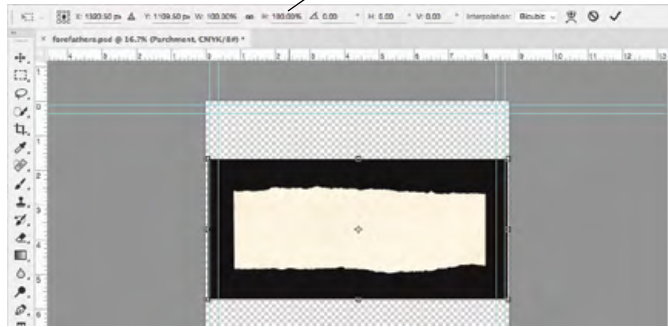
13. **Click the Cancel button in the Options bar or press the ESC key.**

14. **Choose the Move tool, then click and drag the selected layer until the pink guides show the selection is centered on the canvas.**

While the Move tool is active, pressing the Arrow keys nudges the selected layer by a few pixels at a time. This method is useful for slight movements.

The pink lines that appear as you drag are smart guides, which help you to reposition objects (including selection marquees) relative to other objects or to the canvas.
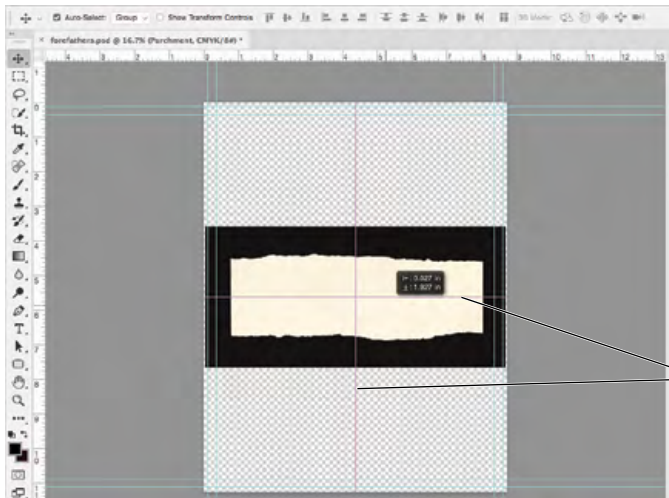
Pink smart guides identify when the selection aligns the edges or center of other objects, or to the canvas.

15. **Save the file and continue to the next exercise.**

PHOTOSHOP FOUNDATIONS

As you dragged the selection marquee in the previous exercise, you might have noticed a series of pink lies appearing in different locations. These lines are a function of Smart Guides, which make it easier to align layer content to other layers or to the overall canvas.
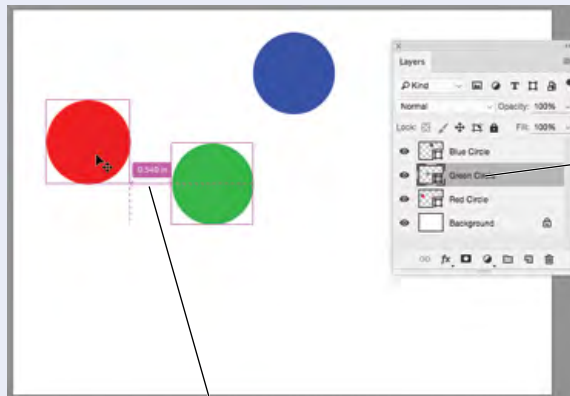
Smart Guides are active by default, but you can toggle them on and off in the View>Show submenu.
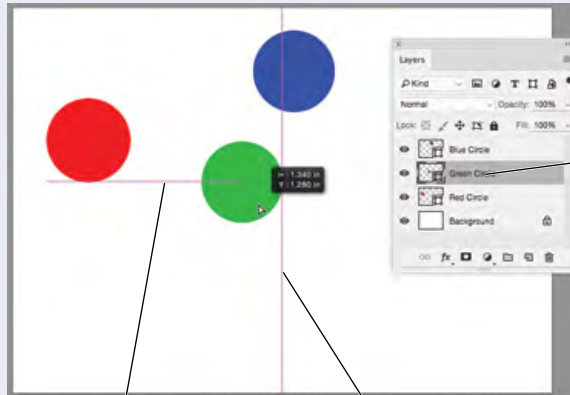
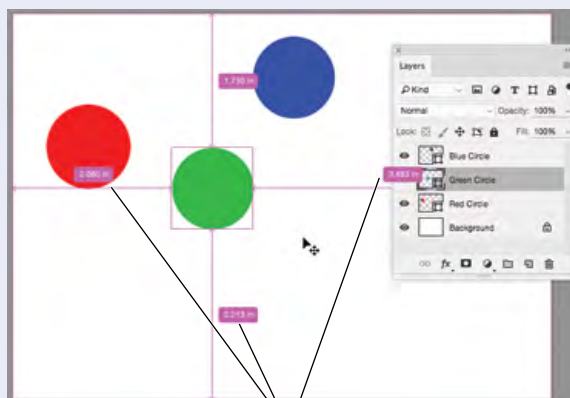We dragged the Green Circle layer with the Move tool.

Smart Guides identify the center and edges of content on other layers.

Smart Guides identify the center and edges of the overall canvas.

The Green Circle layer is selected.

Press Command/Control and hover over an object to find the distance between it and the selected layer.


Press Command/Control and hover over the canvas find the distance between the selected layer content and the canvas edges.

MAKE AND REFINE A QUICK SELECTION

Rather than drawing a selection area, you can make selections based on the color in an image. This technique is especially useful when you want to select large areas of solid color, or in photos with significant contrast between the foreground and background.

1. **With forefathers.psd open, zoom in so you can clearly see the Parchment layer content.**

2. **Choose the Quick Selection tool (nested with the Magic Wand tool) in the Tools panel. In the Options bar, make sure the New Selection option is active.**

   As with the other selection tools, the Quick Selection tool can create a new selection, add to the existing selection, or subtract from the existing selection (using the three buttons on the left side of the Options bar).

Add to Selection   Subtract from Selection

New Selection   Click to open the Brush Picker

Quick Selection tool
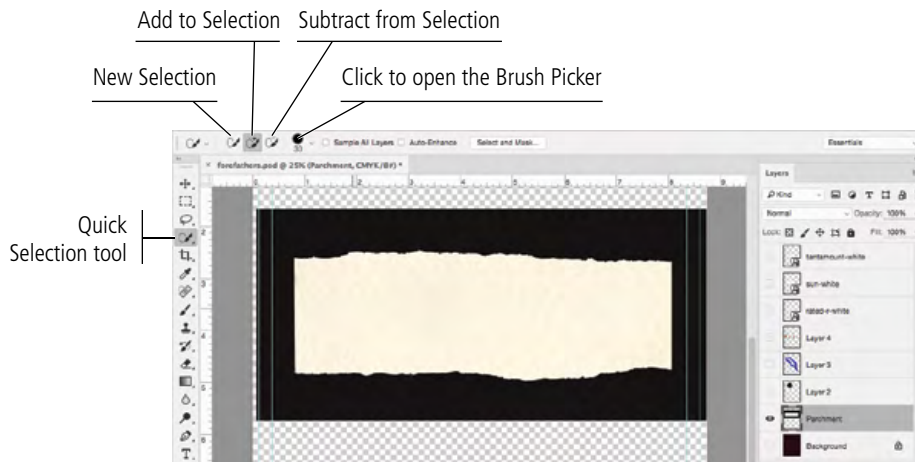
3. **Click at the left edge of the parchment and drag to the right.**

   The Quick Selection tool essentially allows you to "paint" a selection. As you drag, the selection expands and automatically finds the edges in the image. Because the varying shades in the parchment aren't significantly different, the resulting selection should closely — but not exactly — match the parchment edges.
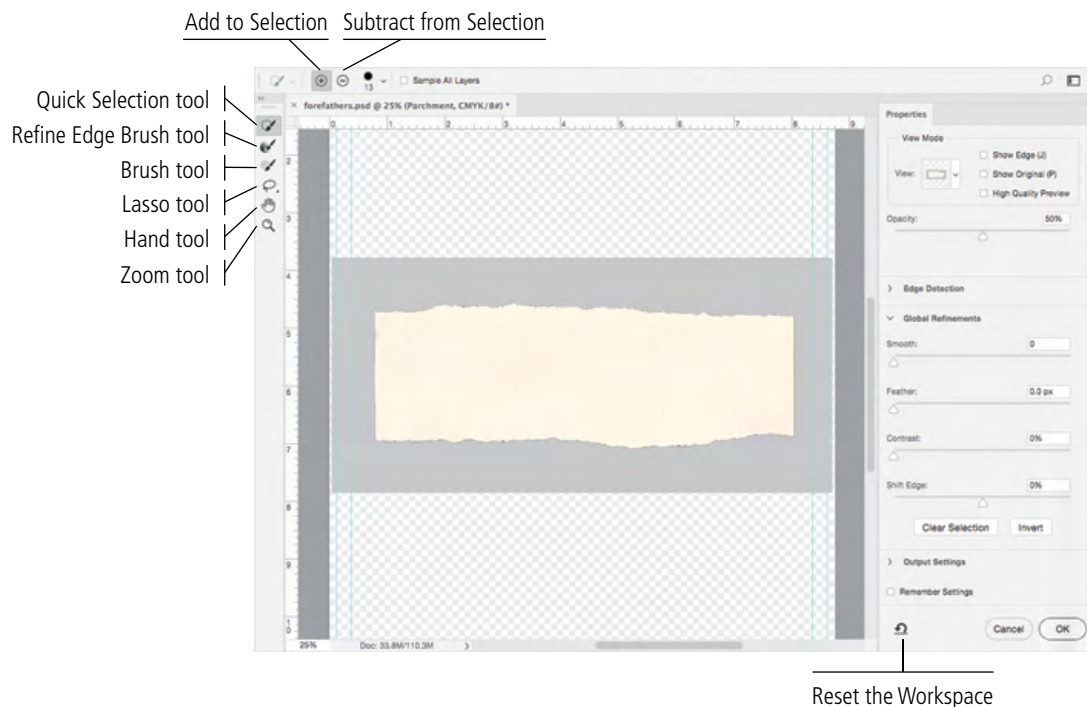

Click and drag across the parchment surface.

Marching ants surround the piece of parchment.
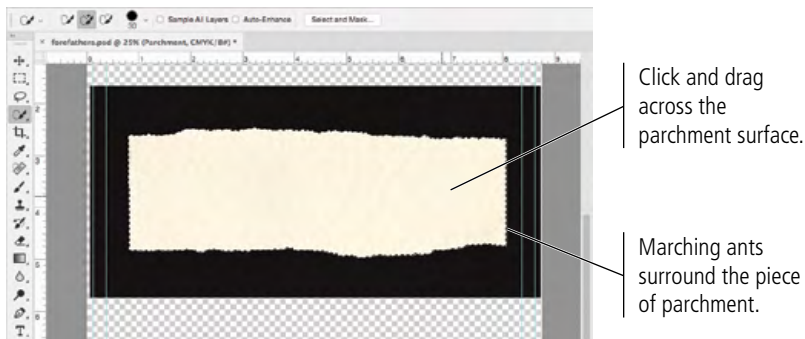
Note:

If you stop dragging and then click in a nearby area, the selection grows to include the new area.

5. **Click the Select and Mask button in the Options bar.**

The Select and Mask workspace is a specialized workspace that contains only the tools you need to refine a complex selection.

Add to Selection   Subtract from Selection

Quick Selection tool
Refine Edge Brush tool
Brush tool
Lasso tool
Hand tool
Zoom tool

Reset the Workspace

6. **In the Properties panel, open the View menu and click the On White option.**

The different types of preview change the way your image appears while you refine the edges within the workspace.

- **Onion Skin**, the default, shows unselected (masked) areas as semi-transparent, based on the value in the Transparency slider. You can make the masked areas more or less transparent by increasing or decreasing (respectively) the Transparency value.

- **Marching Ants** shows the basic standard selection.

- **Overlay** shows the unselected areas with a Quick Mask overlay.

- **On Black** shows the selection in color against a black background.

- **On White** shows the selection in color against a white background.

- **Black & White** shows the selected area in white and the unselected area in black.

- **On Layers** shows only the selected area; unselected areas are hidden so that underlying layers are visible in masked areas in the preview.
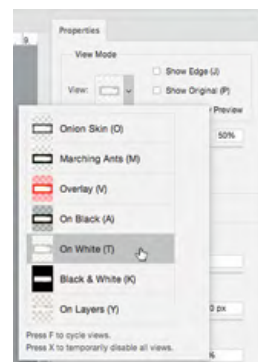
Note:

If the Show Edge option is checked, only the edge of the selection area will be visible in the preview.

7. **Change the Opacity slider to 100%.**

Using the default setting, the masked areas appear at 50% opacity in the Select and Mask workspace. By changing this setting to 100%, masked pixels are entirely hidden by the white area.
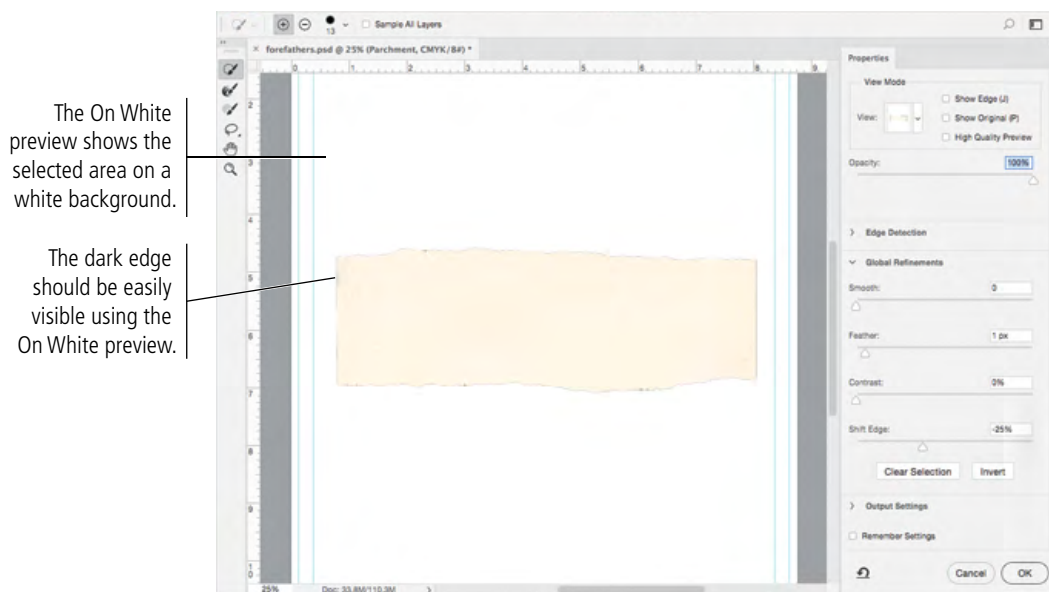
8. **Experiment with the adjustments in the Properties panel until you're satisfied with the selection edge.**

You want to include a small amount of darkness around the edge so that when you invert the selection to remove the hole in the wall, there is no light halo effect left by the selection edge. We used the Shift Edge slider to slightly expand the selection edge.

- **Radius** (accessed by expanding the Edge Detection section) is the number of pixels around the edge that are affected. Higher radius values (up to 250 pixels) improve the edge in areas of fine detail.

- **Smooth** reduces the number of points that make up your selection and, as the name suggests, makes a smoother edge. You can set smoothness from 0 (very detailed selection) to 100 (very smooth selection).

- **Feather** softens the selection edge, resulting in a transition that does not have a hard edge (in other words, blends into the background). You can feather the selection up to 250 pixels.

- **Contrast** is the degree of variation allowed in the selection edge. Higher Contrast values (up to 100%) mean sharper selection edges.

- **Shift Edge** shrinks or grows the selection edge by the defined percentage (from −100% to 100%).

- **Decontaminate Colors** (accessed by expanding the Advanced Output Settings section) can be checked to remove a certain percentage of color from the edge of a selection.

The On White preview shows the selected area on a white background.

The dark edge should be easily visible using the On White preview.

9. **At the bottom of the Properties panel, expand the Output Settings section.**

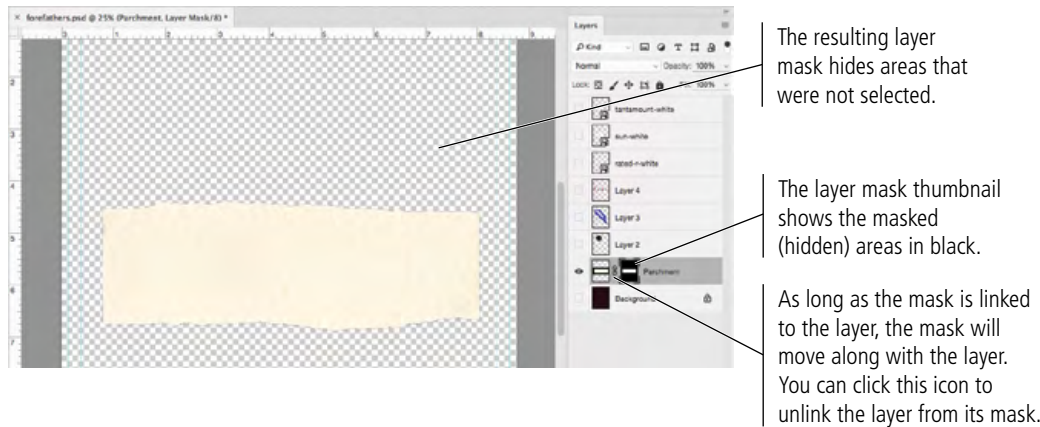10. **Choose the Layer Mask option in the Output To menu.**

This menu can be used to create a new layer or file (with or without a mask) from the selection. You want to mask the existing layer, so you are using the Layer Mask option.

Rather than simply deleting the unwanted background area, another option for isolating an object with a path is to create a **layer mask** that hides the unwanted pixels. Areas outside the mask are hidden but not deleted, so you can later edit the mask to change the visible part of the image.
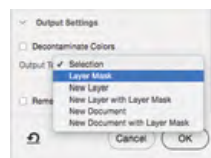
11. **Click OK to accept your refined selection.**

A **layer mask** is a map of areas that will be visible in the masked layer. The mask you just created is a raster-based pixel mask, based on the active selection when you created the mask. This is a non-destructive way to hide certain elements of a layer without permanently deleting pixels; you can edit or disable the layer mask at any time.


The resulting layer mask hides areas that were not selected.

The layer mask thumbnail shows the masked (hidden) areas in black.

As long as the mask is linked to the layer, the mask will move along with the layer. You can click this icon to unlink the layer from its mask.

12. **Click the mask thumbnail in the Layers panel to select only the mask, and then open the Properties panel (Window>Properties).**

Like the Options bar, the Properties panel is contextual. Different options are available in the panel depending on what is selected in the Layers panel. When a layer mask is selected, you can manipulate a variety of properties related to the selected mask.

13. **In the Properties panel, click the Invert button.**

This button reverses the mask, so now only the background pixels are visible.

The layer mask must be selected in the Layers panel.

The Properties panel can be used to edit the selected mask.

Clicking the Invert button reverses the selected layer mask.
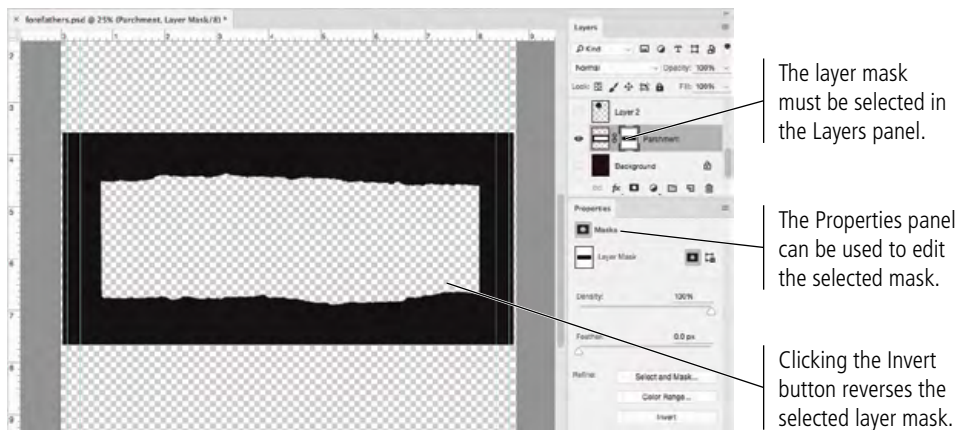
14. **Click the Invert button again to restore the parchment area of the layer.**

Remember, layer masks are non-destructive. You can edit the mask to show or hide different areas of a layer; the actual layer pixels are not affected.

15. **In the Layers panel, Control/right-click the mask thumbnail and choose Disable Layer Mask from the contextual menu.**
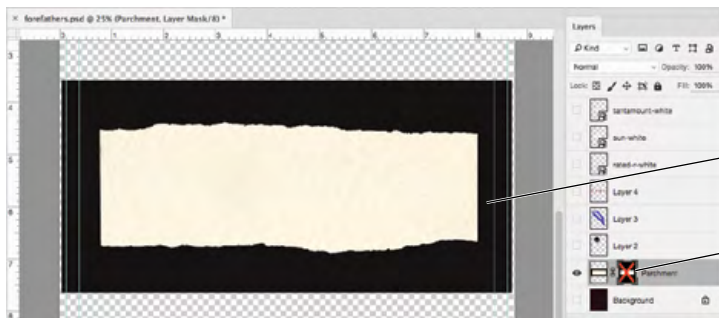

You have to click the mask thumbnail to open the contextual menu for the mask.

When you disable the mask, the background pixels are again visible. Again, this is one of the advantages of using masks — the background pixels are not permanently removed, they are simply hidden.

When the mask is disabled, the masked pixels are visible.

A red X indicates that the mask is disabled.

16. **Control/right-click the mask thumbnail and choose Enable Layer Mask from the contextual menu.**
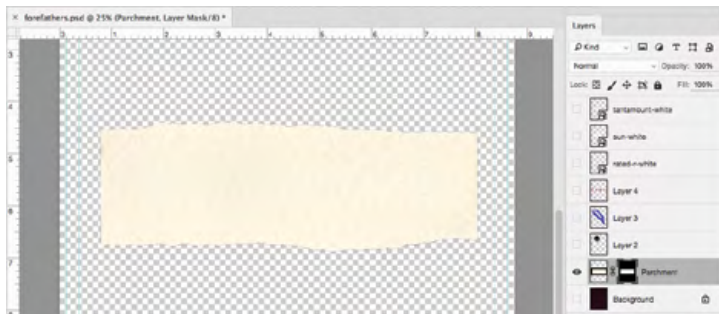
17. **Save the file and continue to the next exercise.**

In some cases, the image content makes it difficult (or at least tedious) to select by color. The bottle image in this ad, for example, has only black colors — the bottle is black, the shadow is a medium black, and the background is a mottled light gray. Selecting by color range will almost certainly result in some of the selection intruding into the bottle shape, and some of the background/shadow area being omitted from the selection. The good news is that Photoshop has other ways for making selections, including several that are specifically designed for selecting areas with hard edges.

Understanding Anchor Points and Handles

PHOTOSHOP FOUNDATIONS

An **anchor point** marks the end of a line **segment**, and the point **handles** determine the shape of that segment. That's the basic definition of a vector, but there is a bit more to it than that. (The Photoshop Help files refer to handles as direction lines, and distinguishes different types of points. Our aim here is to explain the overall concept of vector paths, so we use the generic industry-standard terms. For more information on Adobe's terminology, refer to the Photoshop Help files.)

Each segment in a path has two anchor points, and can have two associated handles.

You can create corner points by simply clicking with the Pen tool instead of clicking and dragging. Corner points do not have their own handles; the connected segments are controlled by the handles of the other associated points.

Handle of other connected point controls the segment shape.

Corner point has no handles.
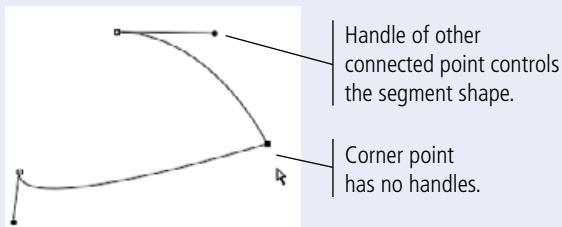
In the following image, we first clicked to create Point A and dragged (without releasing the mouse button) to create Handle A1. We then clicked and dragged to create Point B and Handle B1; Handle B2 was automatically created as a reflection of B1 (Point B is a **symmetrical point**).
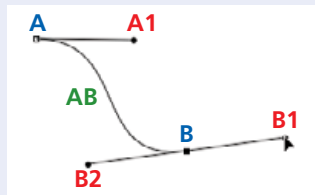

This image shows the result of dragging Handle B1 to the left instead of to the right when we created the initial curve. Notice the difference in the curve here, compared to the curve above. When you drag a handle, the connecting segment arcs away from the direction you drag.
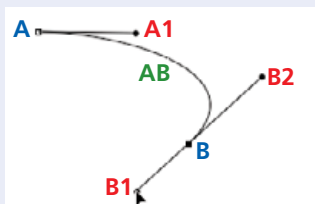
It's important to understand that every line segment is connected to two handles. In this example, Handle A1 and Handle B2 determine the shape of Segment AB. Dragging either handle affects the shape of the connected segment.
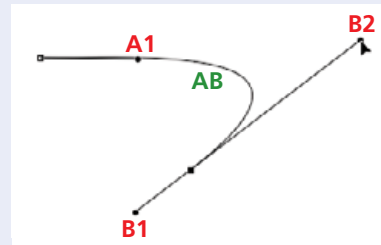
When you use the Pen tool, clicking and dragging a point creates a symmetrical (smooth) point; both handles start out at equal length, directly opposite one another. Changing the angle of one handle of a symmetrical point also changes the opposing handle of that point. In the example here, repositioning Handle B1 also moves Handle B2, which affects the shape of Segment AB. (You can, however, change the length of one handle without affecting the length of the other handle.)
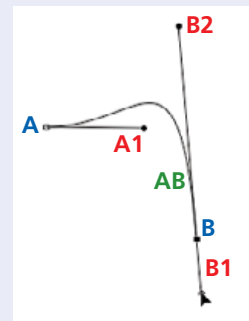
1. **With `forefathers.psd` open, hide the Parchment layer and show Layer 2.**

2. **Choose Select>Deselect to make sure any selection marquees from previous exercises are turned off.**

   Pressing Command/Control-D deselects selections more quickly and easily than choosing Select>Deselect from the Menu bar. You should learn — and use — keyboard shortcuts wherever you can. They result in measurable time savings.

3. **In the Layers panel, double-click the Layer 2 name and rename it Bottle.**

4. **Zoom in so you can more clearly see the bottle edges.**

   When drawing paths, it helps to work with high view percentages so that you can see the edges more clearly. We're using 50% in our screen shots; you should use whatever works best for you. It isn't necessary to keep the entire image in the project window if you're more comfortable working at higher percentages; you can scroll around the project window while you create paths.

5. **Choose the Pen tool in the Tools panel.**

   The Pen tool can be used to create shape layers or paths. Shape layers are vector-based, which means they have mathematically defined edges and can be filled with colors or pixel-based images. Paths are also vector-based, but they do not create their own layers and cannot be directly filled; instead, paths (or clipping paths, to use their full name) are most commonly used to isolate certain portions of an image.

Pen tool

Only the Bottle layer is visible.
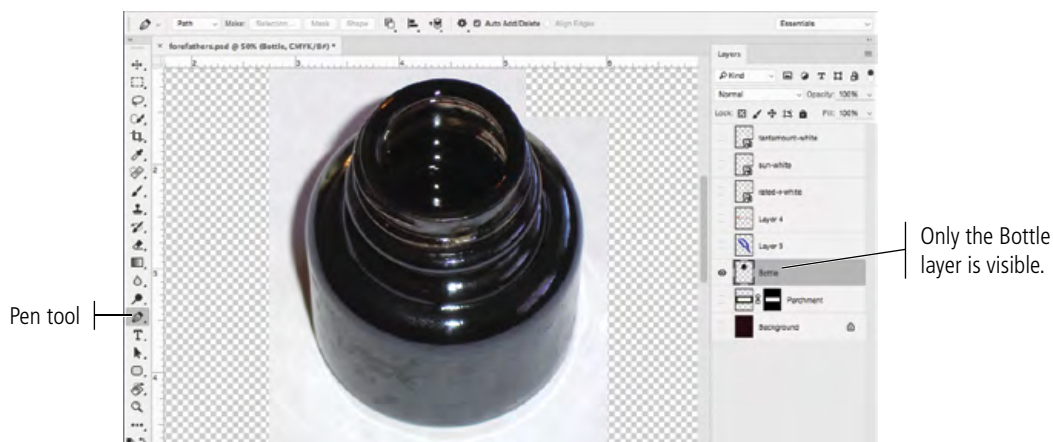
6. **In the Options bar, make sure Path is selected in the left menu.**

   You can use this menu to create a path or a vector shape layer. When you use the Path option, the result will be a vector path that is stored in the Paths panel; nothing is added to the active layer.

   If you choose the Shape option, you can define fill color, stroke weight and color, and a number of other shape attributes in the Options bar. The resulting vector path is stored on a special layer called a shape layer.

7. **Open the Path Operations menu and choose the Combine Shapes option.**

   These options define how a new path will interact with any existing paths.
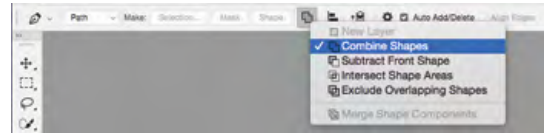
   - **New Layer**, available when Layer is selected in the Tool Mode menu, creates a new shape layer every time you draw a new path.
   - **Combine Shapes** adds new paths to an already selected path or shape layer. Each path's shape is maintained as a separate vector path.
   - **Subtract Front Shape** removes the area of secondary shapes from existing shapes.
   - **Intersect Shape Areas** results in a shape that is only the area where a new shape overlaps an existing shape.
   - **Exclude Overlapping Shapes** is similar to Subtract; overlapping areas are removed from the existing shape, but non-overlapping areas of the new shape are filled with the shape color.
   - The **Merge Shape Components** option, available when a single path contains more than one shape, results in a single (possibly compound) shape. Any overlapping paths are combined into one shape/path.

8. **Click in the image where the bottle opening meets the side of the bottle.**

Click here with the Pen tool to add a single anchor point.

A line connects from the placed point to the tool cursor, previewing the appearance of the connecting segment if you click again.

9. **Move your cursor down and to the right along the curved edge of the bottle. Click to add an anchor point and drag down and to the right before releasing the mouse button.**

   When you click and drag with the Pen tool, you are defining the handles for the anchor point. Without getting too heavily into detailed explanations of geometry, you should simply understand that the anchor points determine the ends of line segments, and the handles determine the curve shape of the segments that are connected to that point.

Click here and hold down the mouse button …

… then drag down and to the right; the curve takes shape as you drag.

10. **Move the cursor down and to the right, then click and drag down to create another anchor point and handles.**

The shape of this line segment is defined by the handles of the two connecting anchor points.

Click here…

…then drag to here.

11. **Move the cursor down and click to add another anchor point. For this point, don't drag a handle.**

When you click without dragging, no handles are created for that point. This creates a corner point.
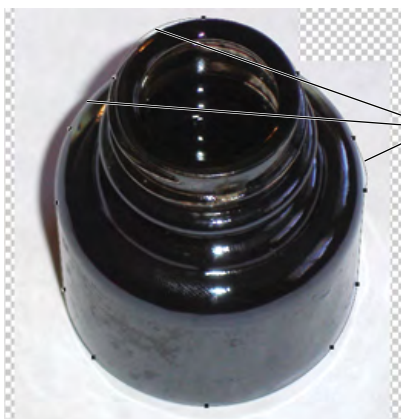
Click here without dragging. The result is a corner point.

Note:

A smooth point allows the path to flow continuously from one segment to another. A corner point creates a sharp angle, allowing you to change directions of the path.

Click a smooth point with the Convert Point tool to change it to a corner point. Click and drag a corner point with the Convert Point tool to change a corner point to a smooth point.

12. **Move down and to the left, and then click and drag to the left to create another smooth anchor point.**

13. **Continue clicking and dragging points until you have outlined the entire bottle. Use a corner point where the left side of the bottle opening meets the left side of the bottle.**

14. **When you reach the first point you created, place your cursor over the point and click to close the path.**

This small hollow circle in the cursor icon indicates that clicking will close the path.

Don't worry if your path isn't perfect. You can edit a path at any point, which you will do next.

Some parts of the path aren't as smooth as they should be.

15. **Save the file and continue to the next exercise.**

✍ EDIT A VECTOR PATH

In most cases, the first path you draw won't be perfect; you'll probably need to edit at least one or two points or segments, move existing points, or even add or delete points before your path exactly matches the shape you're outlining. As you complete this exercise, we show you how to correct the path in our screen shots. You should follow the general directions to correct the path that you drew in the previous exercise.

1. **With `forefathers.psd` open, open the Paths panel.**

   When you use the Pen tool to draw a path, it automatically appears in the Paths panel as the Work Path (in italics).

   The path is selected in the Paths panel.

   The path is visible in the document window.
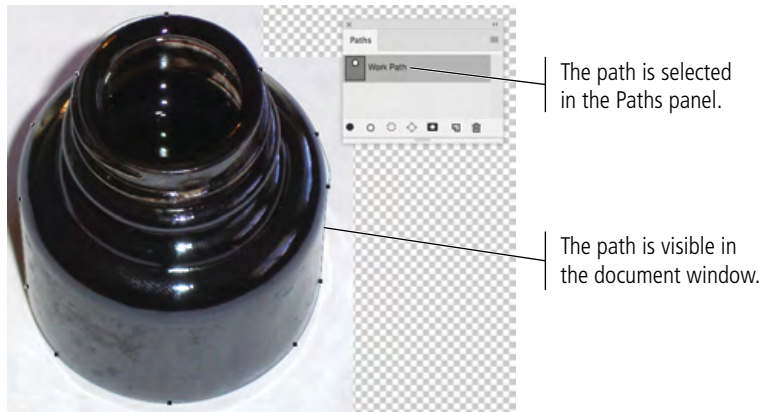
2. **Click the empty area in the Paths panel (below the work path).**

   This effectively "turns off" the path; it is still in the Paths panel, but the points and handles are no longer visible in the file window.
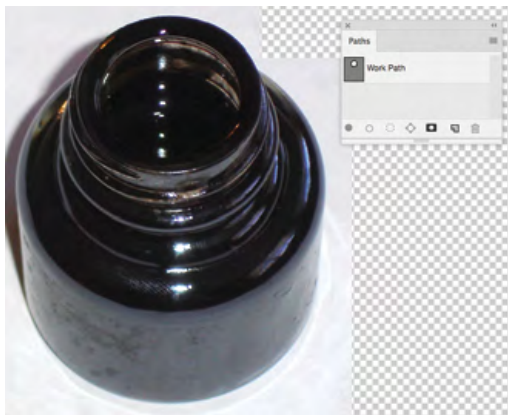
Note:

If you deselect the work path and then draw a new path, your first work path will be lost. You have to manually save the work path if you want to access it again later.

3. **Click Work Path in the Paths panel to show the current work path in the document window.**

4. **Choose the Path Selection tool in the Tools panel and click the path in the document window.**

   The Path Selection tool selects the entire path.

Path Selection tool

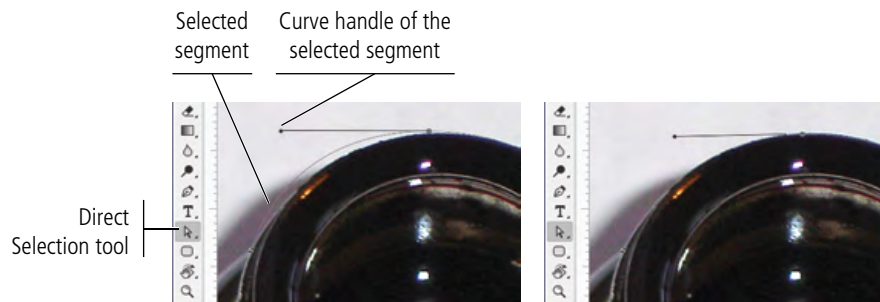When the path is selected with the Path Selection tool, the anchor points are visible.
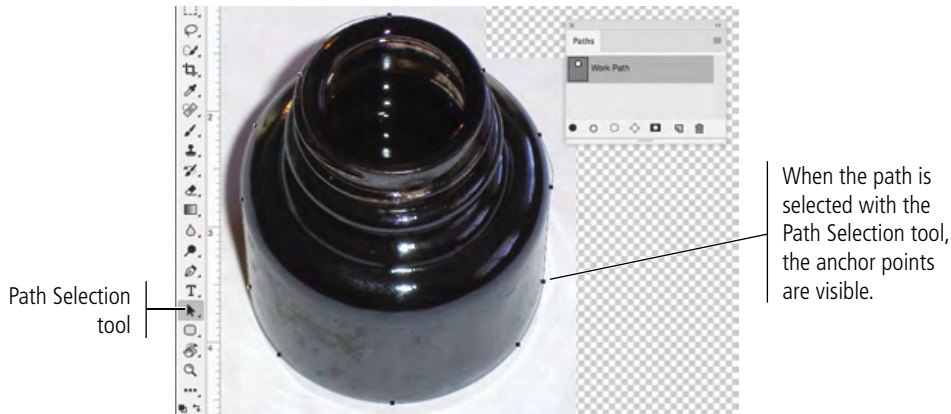
5. **Click away from the path to deselect it, then choose the Direct Selection tool (nested under the Path Selection tool).**

   The Direct Selection tool selects individual points and segments of a path.

6. **Zoom in if necessary, and then click one of the segments of your path that needs to be edited.**

   When you select a segment with the Direct Selection tool, you can see the handles that are associated with that segment.

7. **Drag the handle and/or point to correct the bad segment.**

Selected segment

Curve handle of the selected segment

Direct Selection tool

Note:

If you click a point with the Direct Selection tool, the point appears solid. Unselected points appear hollow.

8. **Continue editing the path until you are satisfied with the result. If you need to add or remove points from the path, use the related tools nested under the Pen tool.**

   This is one place where we can't give you specific instructions because everyone's path will be a bit different. Keep the following points in mind as you refine your shape:

   - Use the Direct Selection tool to select and edit specific segments or points on the path. You can move points to a new position by dragging (or using the Arrow keys), or move their handles to change segment shapes.

   - Use the Add Anchor Point tool to add a point to the path.

   - Use the Delete Anchor Point tool to remove a point from the path.

   - Use the Convert Point tool to change a corner point to a smooth point, and vice versa.

   As you work more with paths, anchor points, and handles, you'll become more comfortable with how changing a handle affects the associated line segments. In this case, the best teacher is practice.

9. **When you're satisfied with your path, open the Paths panel Options menu and choose Save Path.**

   Click here to open the Paths panel Options menu.
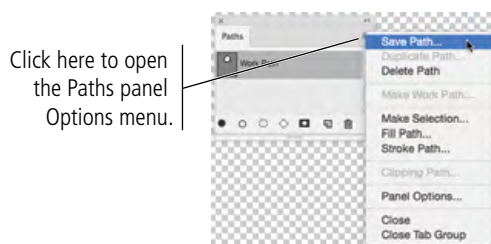
10. **In the Save Path dialog box, name the path Bottle Outline and click OK.**

    Trust us — when you get into very complicated files with multiple paths, you'll thank yourself for using names that indicate the purpose of a layer, path, or other element.

    After you save a path, it stays in the Paths panel; if you draw a new path now, you create a new work path.
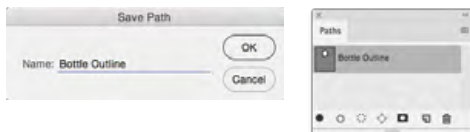
11. **Save the file and continue to the next exercise.**

CREATE A VECTOR MASK

You now have a path that outlines the bottle shape, but the bottle background is still in the image. Since you've already selected the shape (with the path), you can easily remove the background using the path you created in the previous exercises.

One option for completing this task is to make a selection based on the path (choose Make Selection in the Paths panel Options menu) and simply delete the pixels outside the selection. This is a pixel-based option, even though the path is a vector. When you make the selection, it will be a rendered version of the original vector path.

The second option for isolating an object with a path is to create a vector-based mask. This option maintains the vector data as the outside edge of the image; areas of the image outside the vector path are hidden but not deleted, so you can later edit the path to change whatever part of the image is visible if necessary.

1. **With `forefathers.psd` open, make sure the Bottle Outline path is selected in the Paths panel.**

2. **Display the Layers panel and make sure the Bottle layer is selected.**

3. **Choose Layer>Vector Mask>Current Path.**

The layer and the path must both be selected.
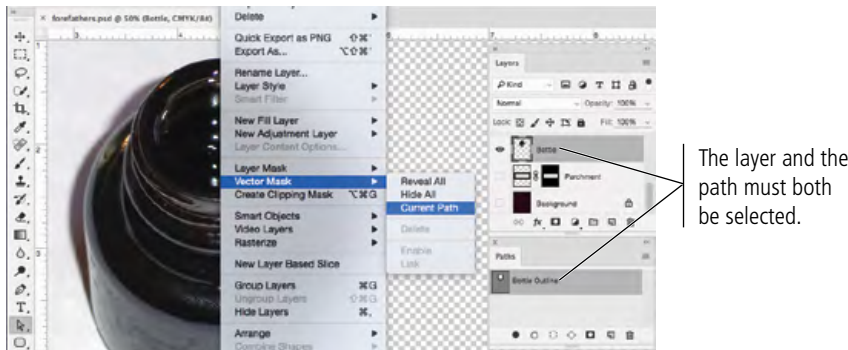
After applying the mask, a second path appears in the Paths panel. The name identifies the path as a specific layer's vector mask (in this case, "Bottle Vector Mask"). The name is in italics because it is temporary; it only appears in the panel when the masked layer is selected in the Layers panel.

There is no link between the original path (Bottle Outline) and the vector-mask path. If you want to edit the vector mask, you have to first select the masked layer and then use the vector-editing tools to edit the layer's vector-mask path.

This thumbnail identifies a vector mask.

When the vector-masked layer is selected in the Layers panel, that layer's vector mask path appears in the Paths panel.
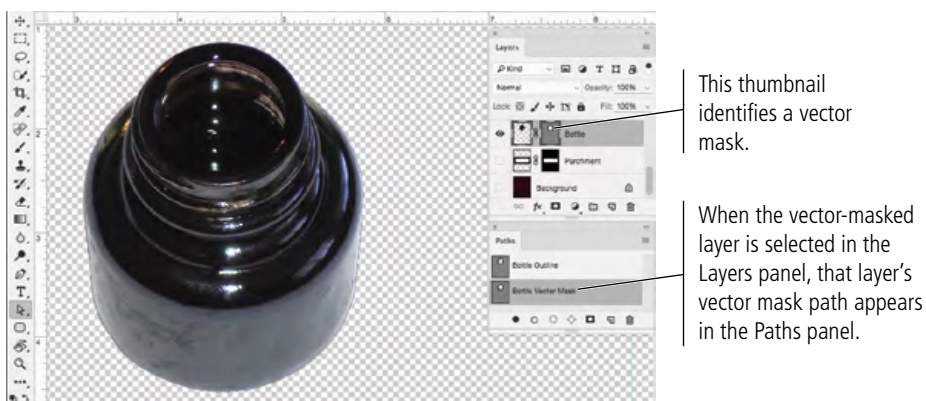
4. **Save the file and continue to the next exercise.**
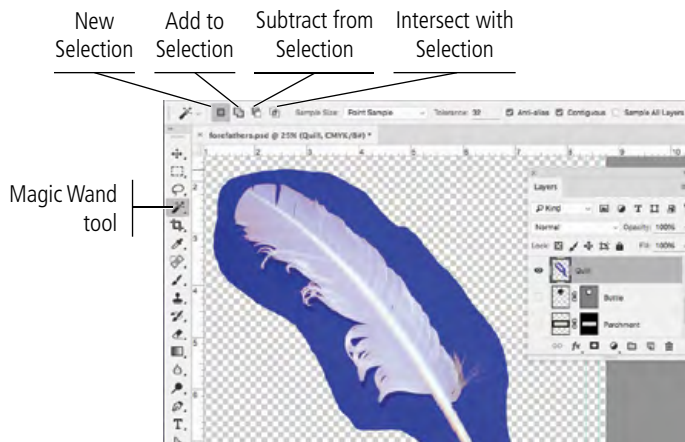
SELECT A COLOR RANGE

As we said earlier, there is a host of selection options in Photoshop, each with its own advantages and disadvantages. You've already used the marquee tools and lasso tools to select general areas of images; you've used the Quick Selection tool to easily select an entire background, and then refined the edges of that selection; and you've used the Pen tool to select an object with a well-defined edge.

Some images aren't quite as clear-cut as the ones you've silhouetted so far. In fact, many images have both hard and soft edges, and/or very fine detail that needs to be isolated from its background (think of a model's blowing hair overlapping the title on the cover of a magazine). In this type of image, other tools can be used to create a very detailed selection based on the color in the image.

1. **With forefathers.psd open, hide the Bottle layer and show Layer 3.**

2. **Rename Layer 3 as Quill and zoom out so you can see the entire feather.**

3. **Choose the Magic Wand tool (under the Quick Selection tool). In the Options bar, make sure the New Selection button is active and set the Tolerance field to 32.**

   The Magic Wand tool is an easy way to select large areas of solid color.

   The first four options in the Options bar are the same as those for the Marquee tools (New Selection, Add to Selection, Subtract from Selection, and Intersect with Selection).

New Selection · Add to Selection · Subtract from Selection · Intersect with Selection

Magic Wand tool

Tolerance is the degree of variation between the color you click and the colors Photoshop will select; higher tolerance values select a larger range based on the color you click. If you're trying to select a very mottled background (for example), you should increase the tolerance; be careful, however, because increasing the tolerance might select too large a range of colors if the parts of the foreground object falls within the tolerance range.

The **Anti-alias** check box, selected by default, allows edges to blend more smoothly into the background, preventing a jagged, stair-stepped appearance.

When **Contiguous** is selected, the Magic Wand tool only selects adjacent areas of the color; unchecking this option allows you to select all pixels within the color tolerance, even if some pixels are non-contiguous (for example, inside the shape of the letter Q).

By default, selections relate to the active layer only. You can check Sample All Layers to make a selection of all layers in the file.

The **Refine Edge** button opens the same dialog box you used when you isolated the parchment image with the Quick Selection tool.

4. **Click anywhere in the blue area of the image.**

Marching ants indicate the selection area.

Fine areas of the feather can't be distinguished by the marching ants, so you don't know if they're selected or not.

Blue areas outside the tool's tolerance are unselected.
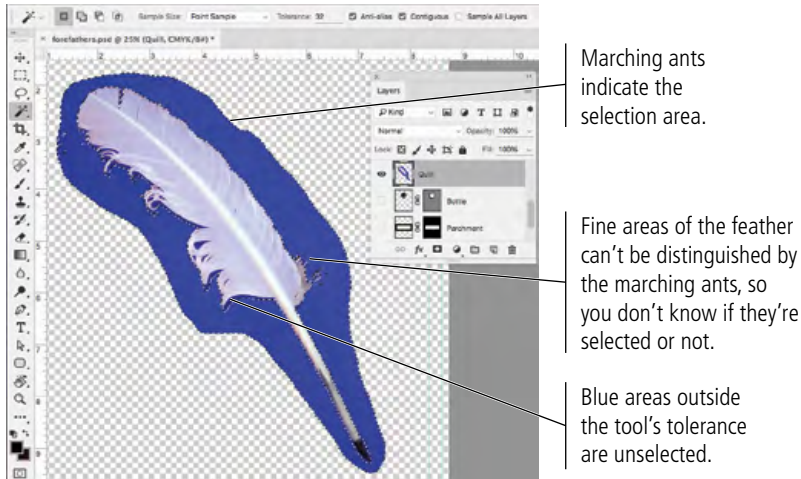
5. **Choose Select>Deselect to turn off the current selection.**

Although you could keep adding to the selection with the Magic Wand tool, the marching ants can't really show the fine detail, and they don't show shades of gray. There's a better way to isolate the feather from its blue background.

6. **Choose Select>Color Range.**

7. **Make sure the Localized Color Clusters option is unchecked.**

This option can be used to select specific areas of a selected color. When this option is checked, the Range slider defines how far away (in physical distance) a color from the point you click can be located and still be included in the selection.

8. **At the bottom of the dialog box, choose None in the Selection Preview menu.**

The options here are the same as those in the Refine Edge dialog box.

9. **Set the Fuzziness value to 24 and click anywhere in the blue area around the feather image (in the document window).**

Fuzziness is similar to the Tolerance setting for the Magic Wand tool. Higher Fuzziness values allow you to select more variation from the color you click.
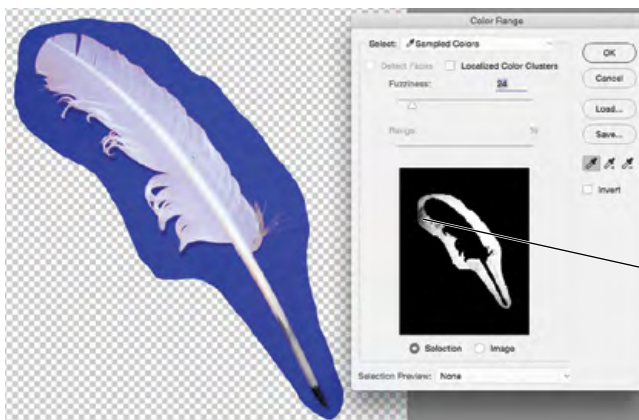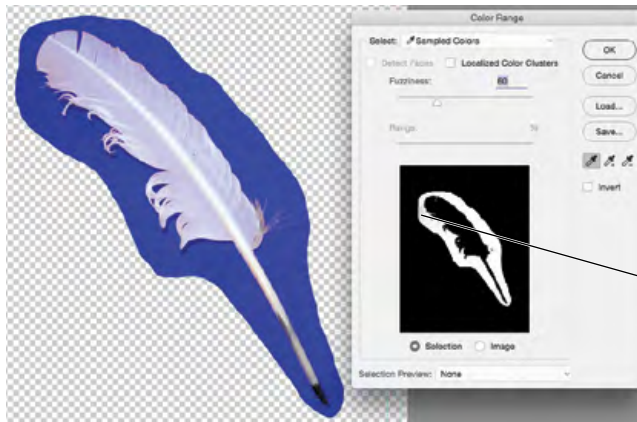

The low Fuzziness value doesn't select a large enough range of blues.

9. **Change the Fuzziness value to 60 and watch the effect on the dialog box preview.**

Changing the Fuzziness value expands (higher numbers) or contracts (lower numbers) your selection. Be careful, however, since higher fuzziness values also eliminate very fine lines and details.


Increasing the Fuzziness value allows you to select areas of greater color variation.

10. **Choose White Matte in the Selection Preview menu.**

By changing the Selection Preview mode, you can more easily determine exactly what is selected. Using the White Matte preview, anything visible is selected.

You can preview color range selections in the image window as grayscale (areas outside the selection are shown in shades of gray), against a black matte (unselected areas are shown in black), against a white matte (unselected areas are shown in white), or using the default Quick Mask settings. If you choose None in the Selection Preview menu, the document window displays the normal image.
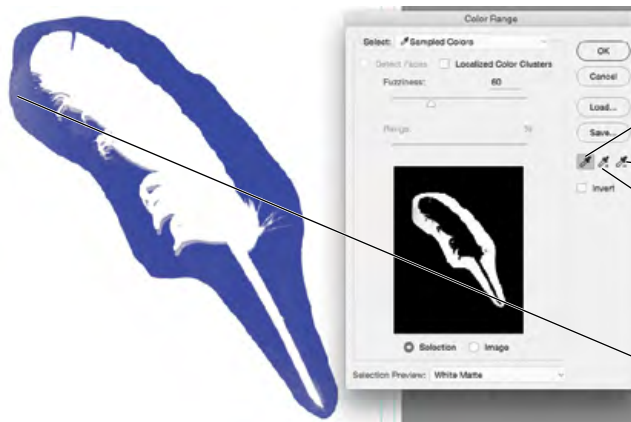
Eyedropper tool (new sample eyedropper)

Subtract from Sample

Add to Sample

Light blue indicates parts of the back-ground that aren't entirely selected.

Note:

Because the dialog box preview is so small, we prefer to rely on the preview in the document window, which is controlled in the Selection Preview menu at the bottom of the dialog box.

Depending on where you clicked, your selection might not exactly match what you see in our screen shot. For now, the important point is to know that the visible areas indicate the current selection.

11. **Click the Add to Sample eyedropper and click in the image where parts of the blue background are not shown in full strength (light blue).**

Add to Sample eyedropper
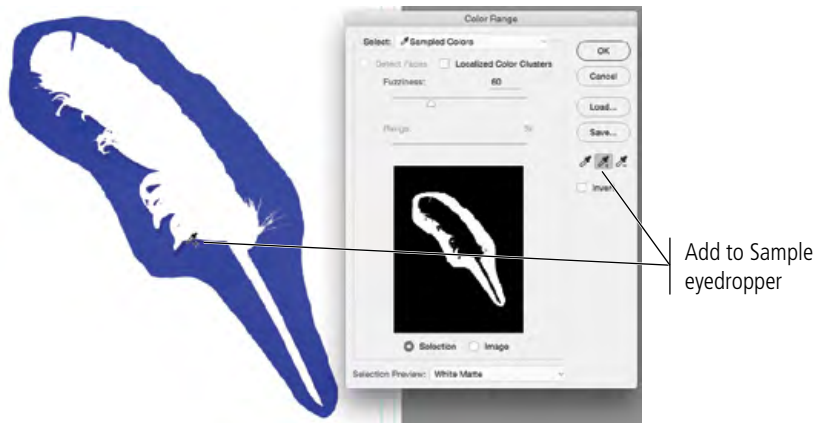
12. **Check the Invert box in the Color Range dialog box.**

Because your goal is to isolate the feather and not the background, it helps to look at what you want to keep instead of what you want to remove.
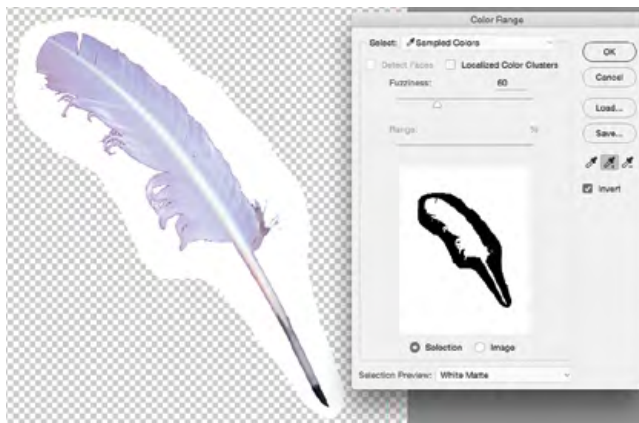
13. **Continue adding to (or subtracting from, if necessary) your selection until you are satisfied that all the blue background is gone.**

14. **Click OK when you're satisfied with your selection.**

When you return to the image window, the marching ants indicate the current selection. In the Color Range dialog box, you selected the blue and inverted the selection — in other words, your selection is everything that isn't blue.

If you zoom out to see the entire file, you'll see the marching ants surround the file as well as the blue background. Since the transparent area is not blue, it is included in the selection.

Marching ants surround the image edge.
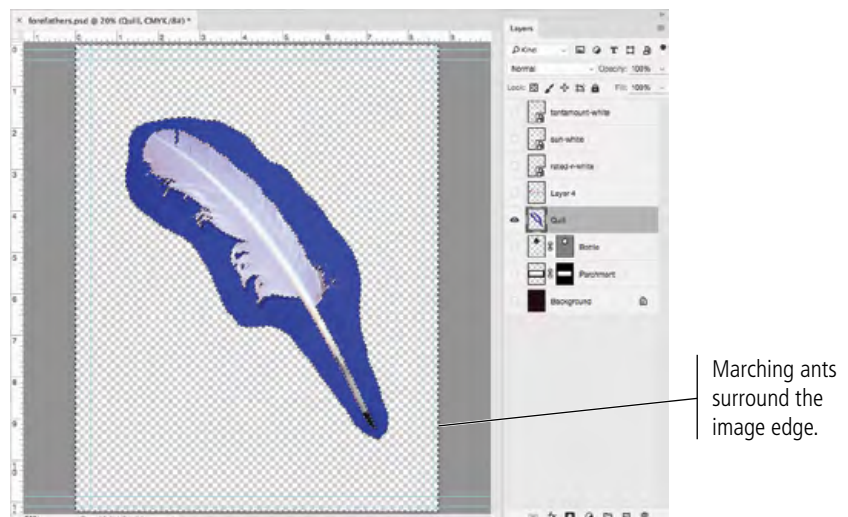
15. **Choose the Magic Wand tool in the Tools panel and choose the Subtract from Selection option on the Options bar.**

16. **Click anywhere in the transparent area (the gray-and-white checkerboard) to remove that area from the selection.**

Magic Wand cursor in Subtract from Selection mode

Marching ants no longer surround the background.
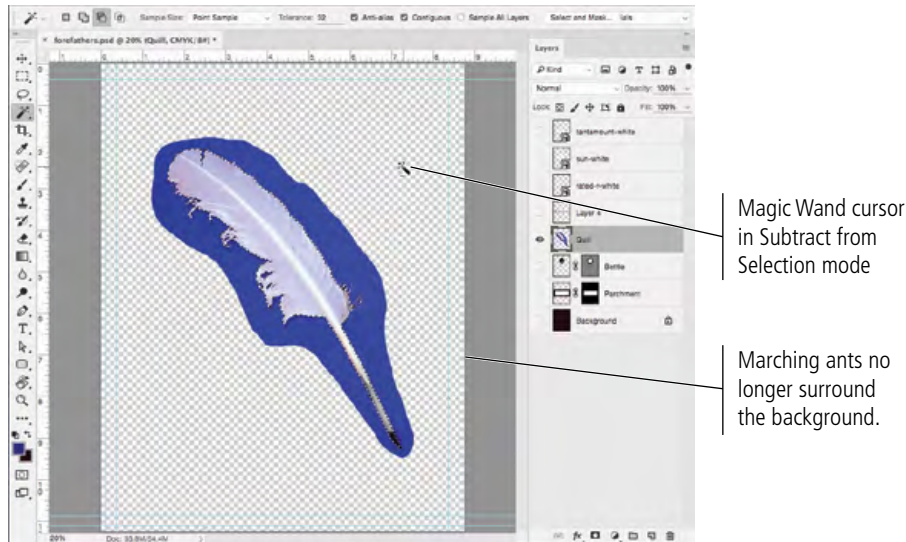
17. **In the Layers panel, click the Add Layer Mask button.**

Similar to the vector mask you created in the previous exercise, this layer mask shows a new icon linked to the layer icon. A layer mask works on the same principle as the vector mask, except that the layer mask is raster-based instead of vector-based. You can disable the layer mask in the same way you disabled the vector mask in the previous exercise.

Layer Mask thumbnail

Add Layer Mask button
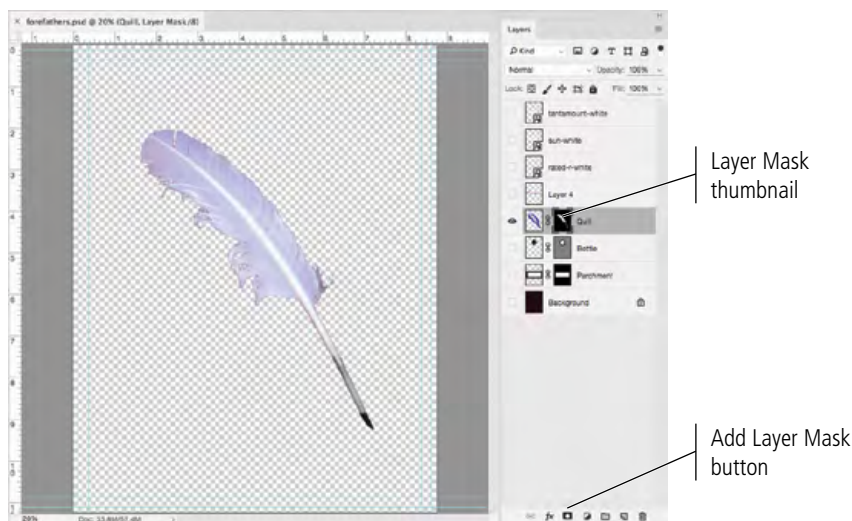
18. **Save the file and continue to the next stage of the project.**

Stage 4 Managing Multiple Layers

Your ad file has most of the necessary pieces. If you show all of the layers, however, you'll still see a bunch of stacked images. It's not yet an actual design, just a pile of images. When you composite images into a cohesive design, you almost certainly need to manipulate and transform some of the layers to make all the pieces work together.

Photoshop includes a number of tools for managing layers, from resizing the layer (as you did for the parchment) to rotating and flipping layers, to aligning different layers to each other, to grouping individual layers so you can work on multiple images at once.

MANIPULATE AND ARRANGE LAYERS

1. **With `forefathers.psd` open, hide the Quill layer and show the Background, Parchment, and Layer 4 layers.**

2. **Rename Layer 4 as Title.**

   Right now the title is too large to fit into the parchment layer, so you need to resize it.

3. **With the Title layer selected in the Layers panel, choose Edit>Transform>Scale.**

4. **Click one of the corner handles, press Shift, and drag until the Options bar shows the layer at approximately 85%.**

   Because you pressed Shift, the layer automatically rescales proportionally.

Keep an eye on the Control panel as you transform (scale) the layer.

Once you've resized the title to fit into the parchment, you need to reposition the title in the center of the parchment. You could do this manually, but Photoshop includes tools that make this task much easier.

5. **Press Return/Enter to commit (finalize) the rescaling.**

6. **Using the Move tool, click and drag the Title layer content until smart guides show it aligned horizontally and vertically to the canvas.**

   Remember, you earlier aligned the Parchment layer content to be centered on the canvas, so this step aligns the Title layer content to the Parchment layer as well as to the canvas.
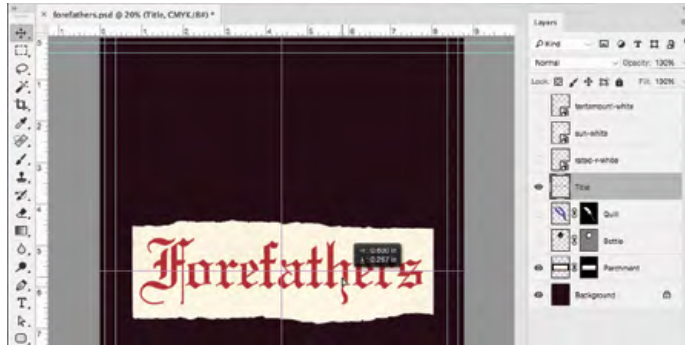
7. **In the Layers panel, press Command/Control and click the Parchment layer name to add that layer to the active selection.**

   Since the Title layer was already selected, the Parchment layer should now be a second selected (highlighted) layer.

   You can select noncontiguous layers by pressing Command/Control. You can select contiguous layers by pressing Shift while you click.

8. **With the two layers selected, click the Create a New Group button at the bottom of the panel.**

   This button creates a group that automatically contains the selected layers. The new group is automatically named "Group N" (N is simply a sequential number); of course, you can rename a layer group just as easily as you can rename a layer.

   Click here to open the panel Options menu.

   Two layers are selected.

   Create a New Group button

   The new group automatically contains the selected layers.
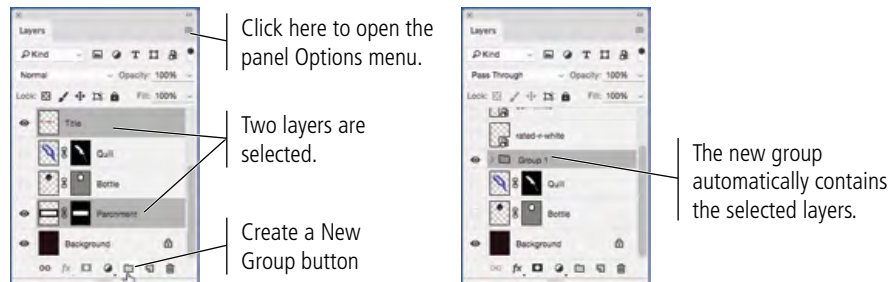
   To create a new empty layer group, make sure nothing is selected in the Layers panel before clicking the Create a New Group button. Alternatively, choose New Group in the panel Options menu; this option results in an empty layer group even if layers are currently selected.

9. **Double-click the Group 1 name in the Layers panel to highlight it, then type Parchment Title. Press Return/Enter to finalize the new layer group name.**

   As with any other layer, you should name groups based on what they contain so you can easily identify them later.

10. **Click the arrow to the left of the Parchment Title group name to expand the layer group.**

You have to expand the layer group to be able to access and edit individual layers in the group. If you select the entire layer group, you can move all layers within the group at the same time. Layers in the group maintain their position relative to one another.
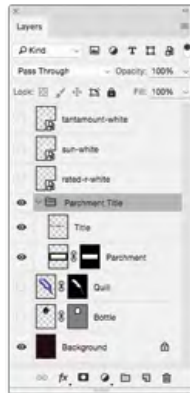
11. **Collapse the group by clicking the arrow left of the group name.**

12. **With the Parchment Title group selected in the Layers panel, use the Move tool to position the Parchment Title group in the bottom third of the document window.**

Because the current selection is the layer group, both layers contained within that group are moved in the document window.


13. **Save the file and continue to the next exercise.**

1. **With `forefathers.psd` open, show and select the Bottle layer.**

2. **In the Layers panel, click the Bottle layer and drag up until a heavy bar appears above the Parchment Title layer group.**

   You can move a layer to any position in the **stacking order** (the top-to-bottom position of a layer) by simply dragging it to a new position in the Layers panel.

   The heavy line indicates where the layer will exist if you release the mouse button.
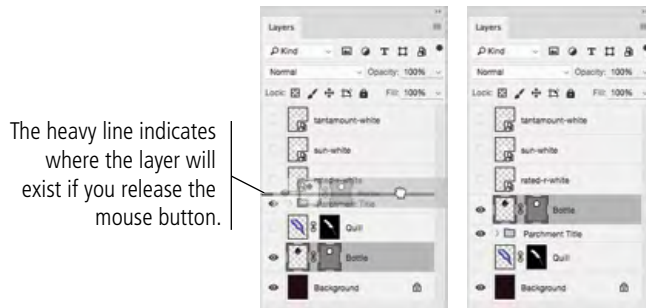
3. **With the Bottle layer selected, press Command/Control-T to enter into Free Transform mode. Use the Options bar to scale the layer to 40% proportionally.**
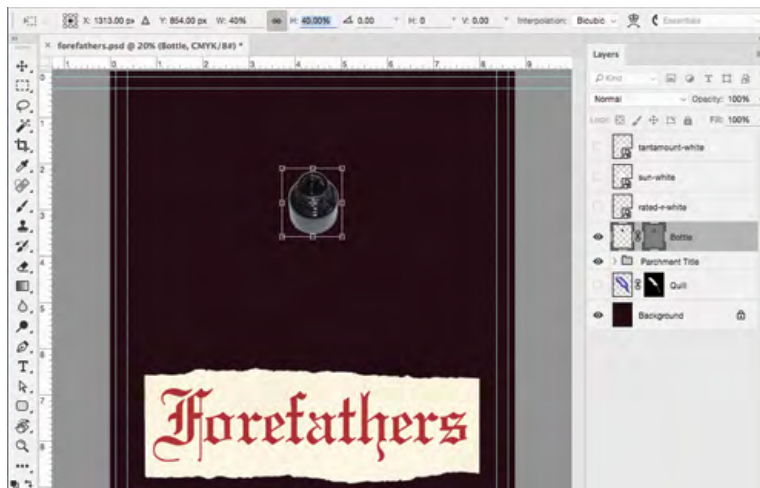
4. **Press Return/Enter to finalize the scaling.**

5. **Using the Move tool, drag the bottle until it is directly above the "he" in the title.**

6. **Show and select the Quill layer. In the Layers panel, move it above the Bottle layer.**

7. **With the Quill layer selected, enter into Free Transform mode and resize it to 65% proportionally.**

8. **Press Return/Enter to finalize the scaling.**

9. **With the quill layer still selected, choose Edit>Transform>Flip Horizontal.**

10. **Using the Move tool, drag the selected layer so that the quill image overlaps the "er" in the title, and the tip is within the edges of the parchment. (Use the following image as a placement guide.)**

11. **In the Layers panel, select the Bottle and Quill layers and group them together in a group named Bottle and Quill.**

12. **Click the new layer group and drag down. When a heavy border appears around the Parchment Title group, release the mouse button.**

    This places the Bottle and Quill group inside the Parchment Title group (called nesting).
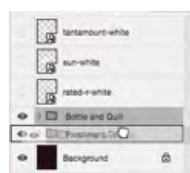
12. **Expand the Parchment Title layer group.**
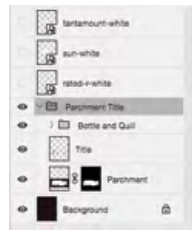
    The nested group is automatically placed at the bottom of the group's stacking order, so the bottle and quill are behind the parchment.

13. **Collapse the Parchment Title layer group.**

14. **Save the file, then continue to the next exercise.**

FINISH THE AD

1. **With `forefathers.psd` open, show the three remaining layers (the logo Smart Object layers).**

2. **Resize the Sun logo to 13% and drag it to the bottom-right corner (inside the live area guides of the smaller ad).**

3. **Resize the Tantamount logo to 20% and drag it to the bottom live area guide, about 1/4″ to the left of the Sun logo.**

4. **Resize the rating logo to 45%. Drag it to the bottom-left corner of the live area.**

5. **Using smart guides, align the vertical centers of all three logo layers.**

6. **Combine the three logo layers in a layer group named `Logos`.**

7. **Choose File>Place Embedded to place the file `declaration.psd` (from the `WIP>Liberty` folder) as a Smart Object.**

8. **Make sure the placed file is scaled at 100% and reaches all edges of the image.**

    Placed files are sometimes automatically scaled below 100% when you place them. To check, choose Edit>Transform>Scale and look at the W or H field in the Options bar.

9. **In the Layers panel, drag the declaration layer below the Parchment Title layer group.**

    Be careful that you don't drop the declaration layer onto the Parchment Title group folder, which would place it inside that group instead of behind it.

10. **Save the file and continue to the final stage of the project.**

Stage 5 Saving Files for Multiple Media

At the beginning of the project, you saved this file in Photoshop's native format (PSD). However, many Photoshop projects require saving the completed file in at least one other format. Many artists prefer to leave all files in the PSD format since there is only one file to track. Others prefer to send only flattened TIFF files of their artwork because the individual elements can't be changed.

Ultimately, the format (or formats, if the file is being used in multiple places) you use will depend on where and how the file is being placed. For this project, you have been asked to create a flattened, high-resolution, CMYK TIFF file and a low-resolution JPEG file for use on a Web site.

SAVE A FLAT TIFF FILE

The printed magazine suggests that ads created in Photoshop be submitted as flat TIFF files. Since you designed the ad to incorporate bleeds for pages up to 8.5 × 11″, all you have to do for this version is save the file in the appropriate format.

1. **With forefathers.psd open, choose File>Save As.**

2. **If necessary, navigate to your WIP>Liberty folder as the target location for saving the final files.**

   The Save As dialog box defaults to the last-used location. If you continued the entire way through this project without stopping, you won't have to navigate.

3. **Open the Format/Save as Type menu and choose TIFF.**
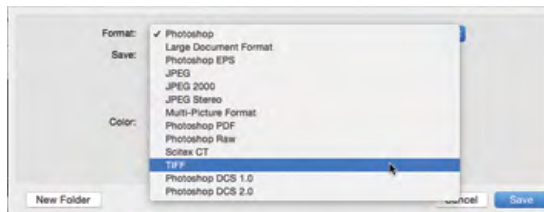
4. **In the lower half of the dialog box, uncheck the Layers option.**

   Because this file contains layers, this option is probably checked by default. If your file contained alpha channels, annotations, or spot colors, those check boxes would also be available. When you uncheck the Layers option, the As a Copy check box is automatically activated.
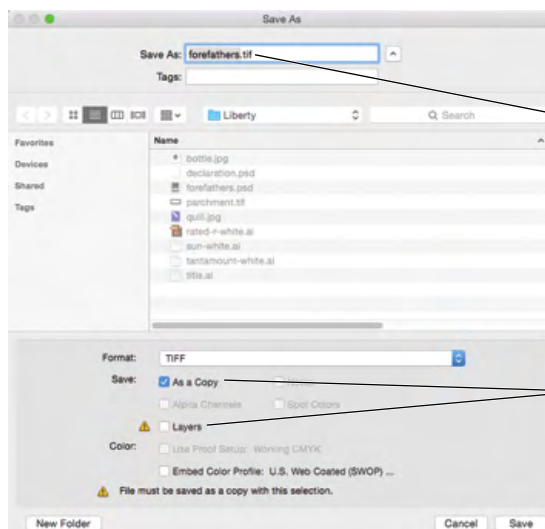
   Choosing a different format automatically changes the file's extension.

   Turning off the Layers option automatically activates the As a Copy option.

   Note:

   *You can manually flatten a file by choosing Layer>Flatten Image.*

5. **Click Save.**

Most file formats include additional options, which you should understand before you simply click OK.

6. **In the TIFF Options dialog box, make sure the (Image Compression) None radio button is selected.**

TIFF files can be compressed (made smaller) using one of three schemes:

- **None** (as the name implies) applies no compression to the file. This option is safe if file size is not an issue, but digital file transmission often requires files to be smaller than a full-page, multi-layered Photoshop file.
- **LZW** (Lempel-Ziv-Welch) compression is lossless, which means all file data is maintained in the compressed file.
- **ZIP** compression is also lossless, but is not supported by all desktop publishing software (especially older versions).
- **JPEG** is a **lossy** compression scheme, which means some data will be thrown away to reduce the file size. If you choose JPEG compression, the Quality options determine how much data can be discarded. Maximum quality means less data is thrown out and the file is larger. Minimum quality discards the most data and results in the smaller file size.
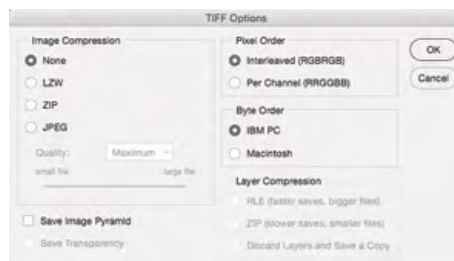
7. **Leave the Pixel Order and Byte Order options at their default values.**

Pixel Order determines how channel data is encoded. The Interleaved (RGBRGB) option is the default; Per Channel (RRGGBB) is called "planar" order.

Byte Order determines which platform can use the file, although this is somewhat deceptive. Even in older versions of most desktop publishing software, Macintosh systems can read the PC byte order but Windows couldn't read the Macintosh byte order. If you don't know which platform will ultimately be used, choose IBM PC.

Save Image Pyramid creates a tiered file with multiple resolution versions; this isn't widely used or supported by other applications, so you can typically leave it unchecked.

If your file contains transparency, the Save Transparency check box will be available. If you don't choose this option, transparent areas will be white in the saved file.

8. **Click OK to save the file.**

When you return to the document, the original native Photoshop file is still active. The TIFF file that you just created is saved in the target location, but it is not the active file because the As a Copy option was checked in the Save As dialog box. If you had included layers and not intentionally check the As a Copy option, the active file would be the TIFF file that you saved instead of the original native Photoshop file.
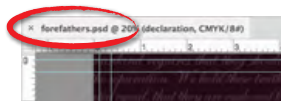
9. **Continue to the next exercise.**

Your client has also requested a low-resolution JPEG file using the RGB color model. Several extra steps are required to create this file with the required settings.

1. **With forefathers.psd open in Photoshop, choose File>Save As.**

   To protect your work, you are saving this file with a different file name *before* making significant destructive changes.

2. **Choose JPEG in the Format/Save as Type menu. Change the file name to forefathers-web.jpg, then click Save.**

   JPEG files do not support multiple layers; when you choose the JPEG format, the Layers option is automatically unchecked and the As a Copy option is automatically activated.
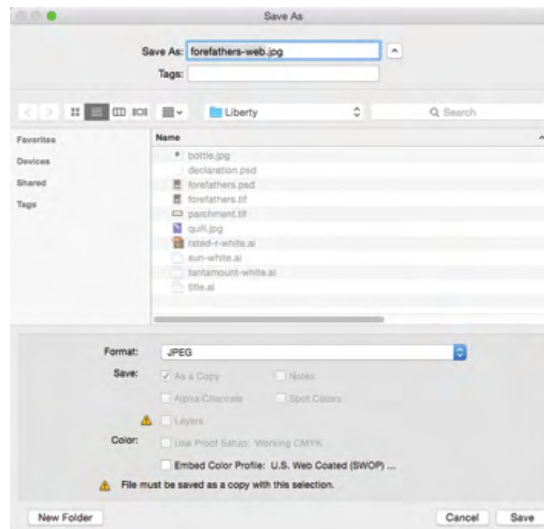
3. **In the JPEG Options dialog box, choose High in the Quality menu and then click OK.**

   You can use these options to reduce the weight of the resulting JPEG file. Keep in mind that JPEG is a lossy compression scheme; the application throws away what it perceives as redundant data to reduce the file weight. Lower quality settings mean more compression and smaller file weight (and thus, shorter download time), but you might notice significant deterioration in image quality.
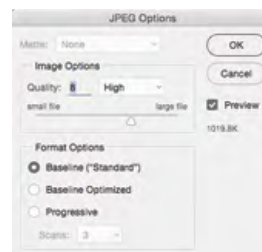
   The right side of the dialog box shows the estimated file size — in this case, just over 1 megabyte.

4. **Close the forefathers.psd file.**

   Remember, when the As a Copy option is checked, the file you had open before the save remains active in the document window. You need to manually open the JPEG file so you can make the necessary changes for Web distribution.

5. **Open forefathers-web.jpg from your WIP>Liberty folder.**

   Make sure forefathers-web.jpg is the open file.

6. **With `forefathers-web.jpg` open, choose Image>Mode>RGB Color.**

Remember, you created this file using the CMYK color model, which requires four color channels — one for each primary color (cyan, magenta, yellow, and black). Converting the image from CMYK to RGB means the file now requires only three channels (red, green, and blue). This significantly reduces the file weight, which will help to reduce the download time.
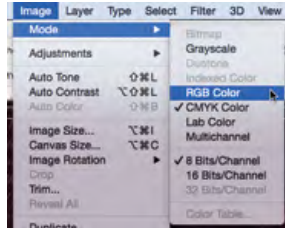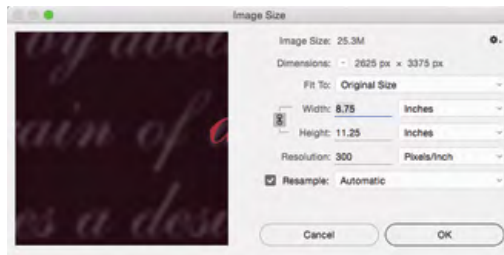
7. **Choose Image>Image Size.**

You created this file at 300 pixels per inch, which is appropriate for commercial print requirements. For Web distribution, however, 300 ppi is far more than you need. To further reduce the file weight and resulting download time, you should downsample the file to 72 ppi — an appropriate resolution for most Web display requirements.

8. **With the Resample option checked in the Image Size dialog box, change the Resolution field to 72.**

When the Resample option is checked, changing the resolution does not affect the file's physical size; the actual number of pixels is reduced. In this case, at 72 ppi, only 630 × 810 pixels are required for a file that is 8.75 × 11.25″.

9. **Click OK to finalize the change.**

10. **Choose File>Save As. Leave the options at their default values and click Save.**

    You are using the Save As process so that you can review the compression settings that will be applied in the resulting JPEG file.
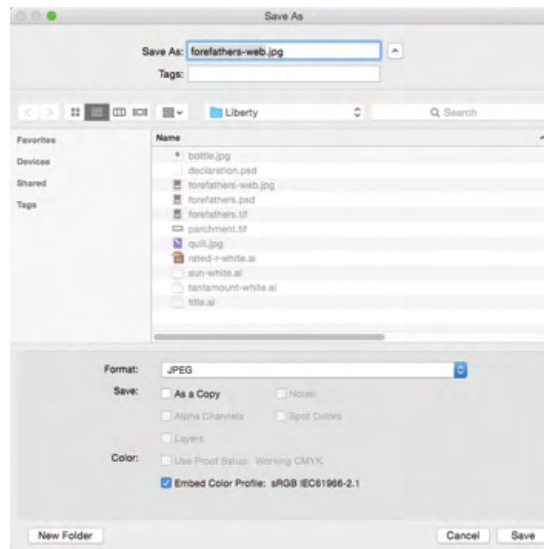
11. **In the resulting warning message, click Replace/Yes.**

    Because you did not change the file name, you are asked to confirm whether you want to overwrite the existing JPEG file.

12. **In the JPEG Options dialog box, make sure High is selected in the Quality menu and click OK.**

    When you first saved the file at the beginning of this exercise, the resulting JPEG file was just over 1 megabyte. By converting the color mode and reducing the resolution, the file is now approximately 152 kilobytes.

13. **Close the active file.**

1. The _____ is the range of visible and available color in a particular color model.

2. Commercial print applications typically require _____ pixels per inch.

3. A _____ is a linked file that you placed into a Photoshop document.

4. The _____ is context sensitive, providing access to different functions depending on what tool is active.

5. The _____ is the final size of a printed page.

6. The _____ tool is used to draw irregular-shaped selection marquees.

7. The _____ tool is used to create precise shapes based on anchor points and connecting line segments.

8. The _____ tool can be used to drag layer contents to another position within the image, or into another open document.

9. When selecting color ranges, the _____ value determines how much of the current color range falls into the selection.

10. _____ is a lossy compression method that is best used when large file size might be a problem.

1. Briefly describe the difference between raster images and vector graphics.

2. Briefly explain three separate methods for isolating an image from its background.

3. Briefly describe the relationship between anchor points and handles (direction lines) on a vector path.

Portfolio Builder Project

Use what you learned in this project to complete the following freeform exercise.
Carefully read the art director and client comments, then create your design to meet the needs of the project.
Use the space below to sketch ideas; when finished, write a brief explanation of the reasoning behind your design.

art director comments

Tantamount Studios is pleased with your work on the Forefathers ad, and they would like to hire you again to create the ad concept and final files for another movie that they're releasing early next year.

To complete this project, you should:

❏ Find appropriate background and foreground images for the movie theme (see the client's comments at right).

❏ Incorporate the title artwork, logos, and rating placeholder that the client provided. (These files are included in the **Airborne_Web17_PB.zip** archive on the Student Files Web page.)

❏ Composite the different elements into a single completed file; save both a layered version and a flattened version.

client comments

The movie is titled *Above and Beyond*. Although the story is fictionalized, it will focus on the men who led the first U.S. Airborne unit (the 501st), which suffered more than 2,000 casualties in the European theater of World War II.

We already have the title artwork, which we sent to your art director.

We don't have any other images in mind, but the final ad should reflect the time period (the 1940s) of the movie. The 501st Airborne was trained to parachute into battle, so you should probably incorporate some kind of parachute image.

This movie is another joint venture between Sun and Tantamount, so both logos need to be included in the new ad. It isn't rated yet, so please use the "This Movie Is Not Yet Rated" artwork as a placeholder.

Create this ad big enough to fit on an 8.5 × 11″ page, but keep the live area an inch inside the trim, so the ad can be used in different sized magazines.

project justification

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Making selections is arguably the most important skill you will learn to do in Photoshop. Selections are so important that Photoshop dedicates an entire menu to the process.

As you created the ad in this project, you used a number of skills and techniques that you will apply in many (if not all) projects you build in Photoshop. You learned a number of ways to make both simple and complex selections — and you'll learn additional methods in later projects. You also learned that after you make a selection, you can create composite images, move pixels to silhouette an object against its background, and much more.

Finally, you learned how to save files for Web distribution by changing color mode and reducing file resolution.

Define a custom background color

Incorporate scans and digital photographs

Incorporate a Photoshop file as a Smart Object

Scale, position, and manage multiple layers

Incorporate vector graphics as raster elements

Incorporate vector graphics as Smart Objects

Create a high-resolution file for commercial print

Resample the file and change color model for Web distribution

Create a silhouette using the Select Color Range utility

Create a silhouette using the Quick Selection tool

Refine a selection using the Refine Edges utility

Create a silhouette using a vector path

Forefathers