Project 2 student guides

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Design principles

Name: _____ Date: _____

Emphasis/contrast

_____

_____

_____

_____

Proximity/groupings

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_____

_____

_____

Balance

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Alignment

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Harmony/proportion

White space

Repetition

Color

Other design principles

How to understand color management

In working with images, you'll likely move color images from device to device. For example, you might scan an image, view the image on your monitor at home, print the image on an inkjet printer to preview it, and then have it printed professionally by a print vendor.

At each stage in this process, you can end up with color variations. The reason is this: These devices all have a limited color gamut. *Color gamut* refers to the range of colors a device displays. After all, no device can reproduce the full range of colors the human eye can see.

For example, monitors use RGB color. This color is created through a mix of red, green, and blue light. Because it depends on light, RGB tends to be better at bright colors—like those in a neon sign—and less adept with dull colors—blacks and some pastels. CMYK, in contrast, is used by four-color printers, and is a mix of cyan, magenta, yellow, and black. Because it depends on light being reflected off a page, CMYK tends to be better at pastels and pure black.

Colors might vary for one of the following reasons:

- Differences in image sources—whether the image is from a camera or scanned in.
- The way software applications define color.
- Your choice of print media. For example, newsprint paper reproduces a smaller gamut than magazine-quality paper.
- Natural variations between devices—monitors differ based on manufacturer and monitor age.

Each device operates within a specific color space that can produce a certain range, or gamut, of colors. Because of these varying color spaces, colors can shift in appearance as you transfer documents between different devices. For example, a shade of blue with the values R 25, G 200, B 225 might appear slightly different when you scan an image with this color than when you view it on a monitor or print it.

Monitor profiles describe how the monitor is currently reproducing color. You should create this profile first, because you need to view colors accurately on your monitor to make design decisions. If what you see on your monitor does not represent the actual colors in your document, you will not be able to maintain color consistency. For more information on creating monitor profiles, see Monitor Profiles in Photoshop Help.

Input device profiles describe what colors an input device is capable of capturing or scanning. If your digital camera offers a choice of profiles, Adobe recommends selecting Adobe RGB. Otherwise, use sRGB (this is the default for most cameras).

Output device profiles describe the color space of output devices such as a desktop printer or a printing press. If you're printing to your desktop printer, you can set this through the Print dialog box. When you print, the color management system uses output device profiles to properly map the colors in a document to the colors within the gamut of an output device's color space. Ideally, the output profile should also consider specific printing conditions, such as the type of paper and ink. For example, glossy paper can display a different range of colors than matte paper. Most newer inkjet printers include profiles to handle a range of such conditions, and you can often use these profiles to best effect.

Managing color when you open files

You can solve the problem of working with different color spaces by using a color management system, such as the one included with Adobe Photoshop CS3 Extended. This color management system handles a lot of these choices automatically, but it's useful to understand color management so you can address problems as they crop up. Photoshop provides options for you to manage the way color profiles are interpreted when you open files. You set these options through the Color Settings dialog box, available through the Edit menu.

The settings you choose in the Color Settings dialog box determine the way colors are applied for both RGB and CMYK. When you choose RGB or CMYK in the Images > Mode menu, the colors displayed in these modes are determined by the Color Settings dialog box.

Pretested sets of options in the Color Settings dialog box

Although you can customize the options in the Color Settings dialog box, Adobe provides pretested sets of options you can use. These are available in the Settings menu at the top of the Color Settings dialog box.

These settings have been tested by Adobe to work with most monitors (for screen output) and printers (for print output) in North America.

Here are three sets of settings you will find useful:

- **North America General Purpose 2** works well if you are exporting to both web and print formats. For example, this setting group uses the sRGB IEC61966-2 setting for the RGB working space. This working space reflects the settings on most computer monitors, low-end printers, and scanners.
- **North America Prepress 2** works well if you are exporting to a printing press. For example, this setting group uses the Adobe RGB (1998) setting for the RGB working space. This working space reflects an RGB range that corresponds more closely to CMYK (which is what printing presses use).
- **North America Web/Internet** works well if you are exporting to the Internet only. All images are converted to the sRGB IEC61966-2 working space.

How Photoshop handles color spaces in opened files

When you open a file, Photoshop compares the colors in the file's color space with the colors defined in the Color Settings dialog box. By selecting the Ask When Opening option, you can have Photoshop ask you how to proceed when it encounters a different color space. If this option is not selected, Photoshop automatically converts these colors to the working space settings in the Color Settings dialog box. For example, if the image you're opening has been created by using an sRGB IEC61966-2 B color space, and the Color Settings dialog box has Adobe RGB (1998) working space for RGB, Photoshop converts the sRGB colors to Adobe RGB.

To use the Color Settings dialog box:

1. Start Photoshop.
2. Choose Edit > Color Settings.

   The Color Settings dialog box appears (**Figure 1**).

   In the Settings menu, you can choose from a series of preset settings. For most print purposes, you can choose North America General Purpose 2.

   These settings have been tested by Adobe to work with most monitors (for screen output) and printers (for print output) in North America.
3. Move the pointer over the menus in the Color Settings dialog box to view more information on these options. Information appears in the Description box at the bottom of the dialog box.
4. Change the Settings to North America Prepress 2 and observe the results. Remember, North American Prepress 2 is best for exporting to a printing press, so Photoshop changes RGB to Adobe RGB (1998). With North American Prepress 2, Ask When Opening is selected to preserve the integrity of colors as you import them.

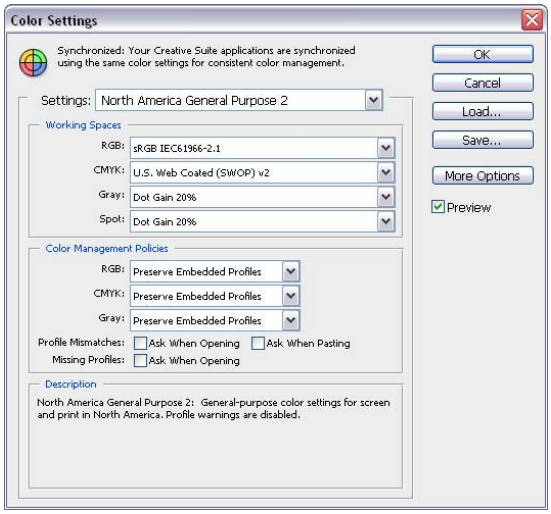

Figure 1 Color Settings dialog box

Using soft proofing

You can use soft proofing to proof on-screen. *Soft proofing* refers to changing on-screen colors to mimic the colors at actual printing.

To use soft proofing:

1. Start Photoshop and open an image. If possible, open an image with a wide color range, so as to best observe the effects of soft proofing.

   First, you're going to soft proof the image as it would appear with CMYK printing.

2. Choose View > Proof Setup> Working CMYK.

   As you do, look carefully at the image's colors. You should notice a slight shift.

   Note: The amount of color shift depends on the current settings in the Color Settings dialog box, the image's colors, and other factors.

   Now you're going to soft proof an inkjet printer.

3. Choose View > Proof > Custom.

   The Custom Proof Condition dialog box appears (**Figure 2**).

4. Select the Preview option. This lets you view changes on-screen as you make them.

5. Select Kodak 5205/7205 Printing Density from the Device To Simulate menu.

   Photoshop soft proofs the image as it would appear when printed with Kodak 5205/7205 film.

   Observe the results in the image.

6. Click Cancel to close the Customize Proof Condition dialog box without keeping changes.

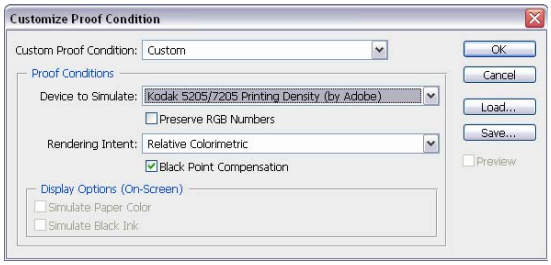

Figure 2 Custom Proof Condition dialog box

Managing colors when printing

You can also set options for color management when you print to your printer. In the Color Management area of the Print dialog box, you can configure whether colors are managed by Photoshop or your printer and specify preferences for how colors are handled.

Most new inkjet photo printers come with fairly accurate profiles built into the driver. You may end up with the best results—and save time—by letting the printer select the profile.

To view the Color Management area of the Print dialog box:

1. Open an image in Photoshop.
2. Choose File > Print. (You do not need to have a printer currently connected to your printer for this exercise.)

   The Print dialog box appears (**Figure 3**).

   The Color Management area should be active on the right side of the dialog box.
3. If Color Management is not selected, select it from the dropdown menu.
4. Move the pointer over the Color Handling menu, Printer Profile menu, or Rendering Intent menu.

   Information on the selected option appears below Description. For example, under Color Handling, you should see Printer Manages Colors selected. This option asks your printer to determine how colors are printed.

   Under Rendering Intent, you should see Relative Colormetric selected.
5. When you've reviewed these options, click Cancel to close the Print dialog box.

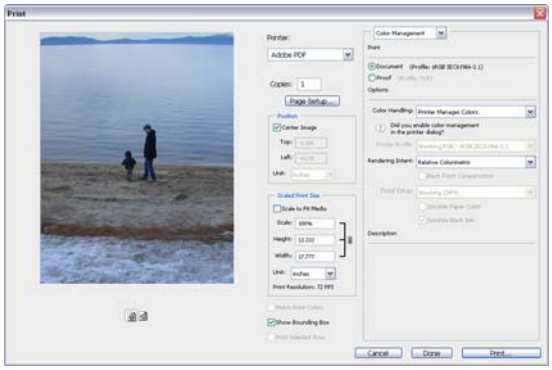

Figure 3 Print dialog box

Rendering intent

Rendering intent refers to the way colors are converted from one system to another. When you print, you're converting from one colorspace (Photoshop) to another (your printer). *Rendering intents* set the rules that determine how colors are adjusted. The product of a rendering intent depends on the colors in your image and the current settings in the Color Settings dialog box. Some profiles produce identical results for different rendering intents.

Photoshop sets a default rendering intent according to the profile you've selected in the Color Settings dialog box. For example, if you chose a color setting for North America or Europe, the default rendering intent is Relative Colorimetric. Generally, it's a good idea to go with these defaults, especially if you're still learning about color management.

Review and redesign of logos

Student name: _____ Date: _____

The questions on this worksheet will help you think about reviewing and redesigning your logo.

Questions are in the following four categories:

- Meeting initial goals
- Requiring new goals
- Reflecting good design principles
- Planning redesign changes

Meeting initial goals

What were your initial goals for the logo?

_____

_____

_____

Does the logo you have match the initial goals? Why or why not?

_____

_____

_____

Requiring new goals

Do you have new goals in mind for the logo? If so, what are these and why are you changing your goals?

_____

_____

_____

Reflecting good design principles

What design elements and principles did you originally incorporate into the logo?

_____

_____

_____

Do you want to include new design elements or principles in your logo? If so, what are they and why do you want to include them?

_____

_____

_____

Planning redesign changes

What changes do you need to make to account for the new design elements and principles? Sketch your changes below in addition to writing about them.

_____

_____

_____

How to create a new document

When you create a new document in Adobe Photoshop CS3, you set options such as resolution, color type, and size. Your choices depend on the type of image you're creating. Although you can change these options later, setting them right at the beginning is best. Sometimes changing the options later can affect the appearance of your image.

To create a new document:

1. Start Photoshop.
2. Choose File > New.

   The New dialog box appears. (**Figure 1**).
3. First, assign the document a name, such as "Logo."
4. Set a width and height for the images in inches.

   To set inches as the measurement unit, click the menus to the right of the Width and Height text boxes and select inches.

   Note: You can select from a number of default document sizes by using the Preset pop-up menu. Observe that the names of open documents also appear in the Preset menu. When you choose one of these, Photoshop fills in the settings for the document. This lets you quickly create a number of images with the same settings.
5. Enter a resolution for the image.

   If you plan to generate images for print, 300 pixels/inch is a good standard. (It's best to set the resolution at the highest you need. If you're planning to create a logo for use in print and the web, use 300 ppi, which is what print requires.)
6. Set Color Mode to RGB Color. You can also work in Grayscale or CMYK.

   You should generally select CMYK Color only if you know you are using an offset print vendor. Even if you choose RGB at this stage, you can convert the image to CMYK later before sending the image to the print vendor.

Figure 1 New dialog box

7. Set a background color in the Background Contents menu (you can change this setting later):
   - *White* fills the background with white, the default background color.
   - *Background Color* fills the background with the current background color.
   - *Transparent* makes the background transparent (it appears as a gray checkerboard). This option is useful when you want to create an image for transfer into another background. For example, you might want to create a circular logo with a transparent background so you could later place the logo on a colored background
8. Click OK to create the new document.

How to use drawing tools

Previous guides describe how to use Adobe Photoshop CS3 Extended to modify an existing image. In this guide, you create new content by using Photoshop's Brush tools.

You can use the Brush tools—the Pencil, Pen, and Pattern Stamp—to draw lines or paint areas. Photoshop gives you a remarkably wide set of options for Brush tools. You can select from a number of brush tips and then modify these further by using the Brushes palette. You can even create your own brush settings and save these for later use.

This guide is a basic introduction to drawing. After learning the basics, you should experiment with brushes to find the settings that work for you.

This guide covers three tools:

- The Pencil tool paints the current foreground color of an image and creates hard-edged lines.
- The Brush tool paints the current foreground color on an image and creates soft strokes of color.
- The Pattern Stamp tool paints whatever you have currently selected in the Pattern picker.

Setting brush options

With each brush, you set one or more of the following options in the options bar (**Figure 1**).

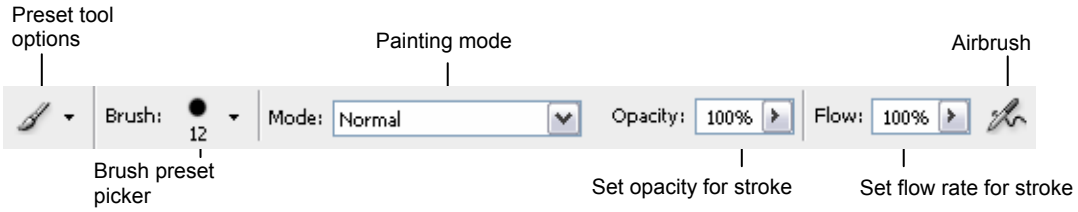

Figure 1 Brush tool options

Preset Tool Options: Save settings for the current tool, such as Airbrush Soft Round 50% Flow. As you change settings for the Brush tools, you can save your settings for later use.

Brush Preset Picker: Select from a series of preset brushes. There are a wide range of these preset brushes, and you can also create your own.

Painting Mode: Describe how painted colors will blend with the underlying image. See the Photoshop Help topic "List of Blending Modes" for more detail.

Set Opacity For Stroke: Set the transparency for painted lines, from 0% (invisible) to 100% (opaque). As you paint over an area, the color's transparency remains the same until you release the mouse button, no matter how many times you move the pointer over the area. When you release the mouse button and then paint over the same area, you apply additional color at the same opacity.

Set Flow Rate For Stroke: Set the rate at which color is applied as you paint. For example, if you set the opacity to 100% and the flow to 33%, the color moves 33% toward 100% opacity each time you move over an area. Note: This setting is for the Brush only.

Airbrush: Simulate painting with an airbrush. Paint builds up as you hold down the mouse button. Brush hardness, opacity, and flow options control how fast and how much the paint is applied. Click the button to turn this option on or off. Note: This setting is for the Brush only.

Auto Erase: Paint the background color over areas that contain the foreground color. **Note**: This setting is for the Pencil only.

Note: The Brush options bar presents only a subset of Brush options. Many other options—brush tips, settings, and so on—are available through the Brushes palette. See Photoshop Help for more information on these options.

To draw with the Pencil:

1. Open Photoshop and create a new document.
2. Select the Pencil tool.
3. Choose a foreground color in the Tools palette.
4. Choose a relatively small brush, such as 9 px, from the Brush preset picker (**Figure 2**).

   Note: You can also set the diameter and hardness manually in the Brush preset picker. *Hardness* determines the softness of the line's edges.
5. In the Brush options bar, leave Mode set to Normal.
6. Make sure Opacity is set to 100%.
7. Draw by using one of the following methods:
   - To draw freehand, drag in the image (**Figure 3**).
   - To draw a straight line, click a starting point in the image. While holding down the Shift key, click an ending point for the line (**Figure 4**).
8. Change Opacity to 50% in the Brush options bar and draw another line that overlaps the first line (**Figure 5**).

   Observe that the line is half as dark as the first line and that the first line shows through wherever you overlapped it.

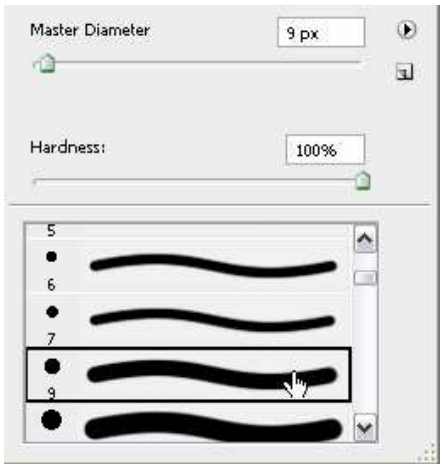

Figure 2 Basic brush options in the Brush Preset picker

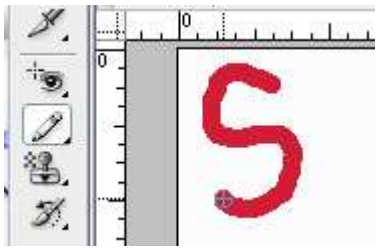

Figure 3 Drawing freehand with the Pencil tool

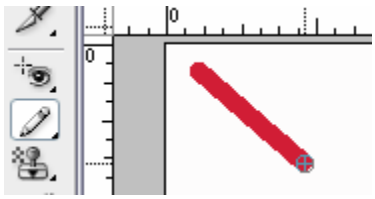

Figure 4 Drawing straight lines with the Pencil tool

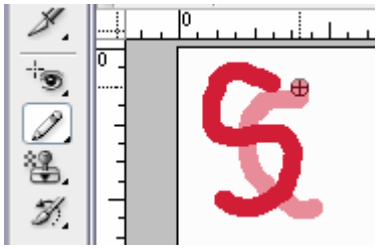

Figure 5 Second line with Opacity set to 50%

To draw with the Brush:

1. Open a new document in Photoshop.
2. Select the Brush tool.
3. Choose a foreground color in the Tools palette.
4. Choose a relatively small brush, such as 9 px, from the Brush Preset picker.

   Note: You can also set the diameter and hardness manually in the Brush preset picker. *Hardness* determines the softness of the line's edges.
5. In the Brush options bar, leave Mode set to Normal.
6. Set Opacity to 100%.
7. Set Flow to 10%.

   When you set Flow to 10%, the darkness of the line moves 10% closer to full opacity each time you overlap lines.
8. Draw freehand by dragging in the image. Without lifting the pointer, drag back over the line you just painted (**Figure 6**).

   When you are using the Brush, observe that the line's edges have softer edges than they did with the Pencil. Also observe that the line's color is lighter because you set Opacity to 10% and Flow to 100%.

   At the point where the lines overlap, the line becomes darker because you set Flow to 10%. In that area, the traced-over line has an opacity of 20%

   Note: As you did with the Pencil, you can draw a straight line with the Brush by holding down the Shift key.
9. To draw a new line, release the mouse button and click on the image again.

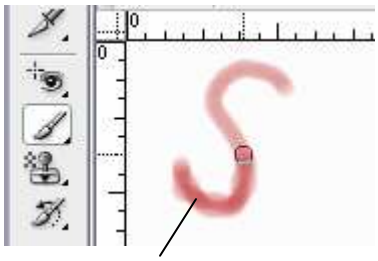

Figure 6 Drawing with Brush, Opacity 100%, Flow 10%

Using specialty brush tips

A large number of brush tips are included with Photoshop. These range from artistic brushes—wet or calligraphic brushes—to specialty brushes such as starbursts or snowflakes. You access these in the Brushes palette. The Brushes palette also lets you change settings for these brushes.

To use brush tips:

1. Choose Window > Brushes to open the Brushes palette.
2. Click the Brushes pop-up menu (upper right corner of the palette) and select Assorted Brushes (**Figure 7**).
3. When you are asked if you want to replace the current brushes or append, click OK to replace them.

   This loads the Assorted Brushes set into the Brushes palette.
4. Click one of the specialty brush tips in the Brushes palette, such as Crosshatch 2 brush (#14) (**Figure 8**).
5. Drag in the image to paint with the specialty brush (**Figure 9**).

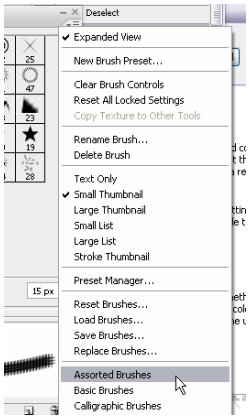

Figure 7 Brushes palette pop-up menu

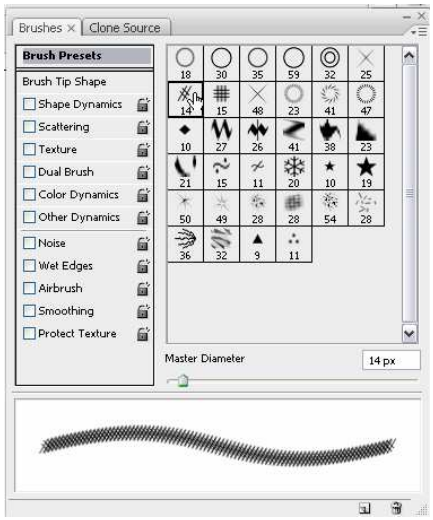

Figure 8 Selecting a specialty brush tip

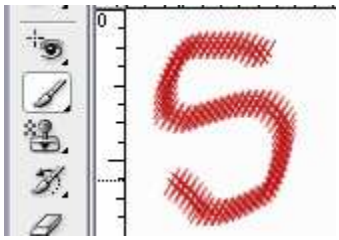

Figure 9 Painting with a specialty brush tip

Using the Pattern Stamp tool

With the Pattern Stamp tool, you can paint patterns onto an image, choosing from a variety of patterns.

To use the Pattern Stamp tool:

1. Click the Clone Stamp tool and hold down the mouse button to open the Pattern Stamp tool (**Figure 10**).

   Observe that the options bar appears slightly different than it does for the Brush tool (**Figure 11**).

   To the right of the Flow field is the Pattern picker.

2. Select a pattern from the Pattern picker.
3. Select the Aligned option to keep the pattern aligned with your original starting point.

   Otherwise, the pattern starts anew each time you lift the pointer.

4. Leave the Impressionist option deselected.

   With this option on, the pattern appears in blocks of color.

5. Drag on the image to draw with the Pattern Stamp tool (**Figure 12**)

Figure 10 Pattern Stamp tool

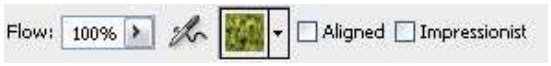

Figure 11 Pattern Stamp tool options

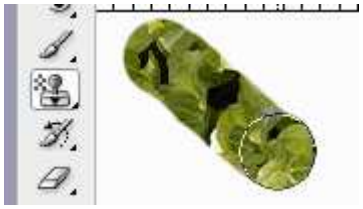

Figure 12 Painting with the Pattern Stamp tool

How to draw shapes

In addition to its photo-editing features, Adobe Photoshop CS3 has a full suite of drawing tools. This guide teaches you to draw shapes in Photoshop. If you've used other drawing tools, such as Adobe Illustrator, you will see that Photoshop's approach to drawing is slightly different. Everything in Photoshop is based on the idea of film exposure, of letting light show through rather than placing things onto a canvas.

Photoshop uses both *bitmapped* and *vector* images. Bitmapped images are made up of individual pixels and do not scale well; vector images are constructed from mathematical formulas and scale very well.

Types of shapes

This guide addresses adding shapes as shape layers, which gives you the most flexibility in determining how your shapes appear. However, adding shapes as separate layers adds to your image's file size and may eventually affect Photoshop's speed. Shape layers are added as vector *masks*—that is, they are vector shapes through which only part of the background shows.

If you're creating very simple shapes that do not need to be scaled, you can create bitmaps by using the Fill Pixels option. This option creates shapes that are *rasterized* or created from individual pixels. Because Fill Pixels shapes don't require additional layers, they can improve performance.

You set shape options in the Shape options bar (**Figure 1**).

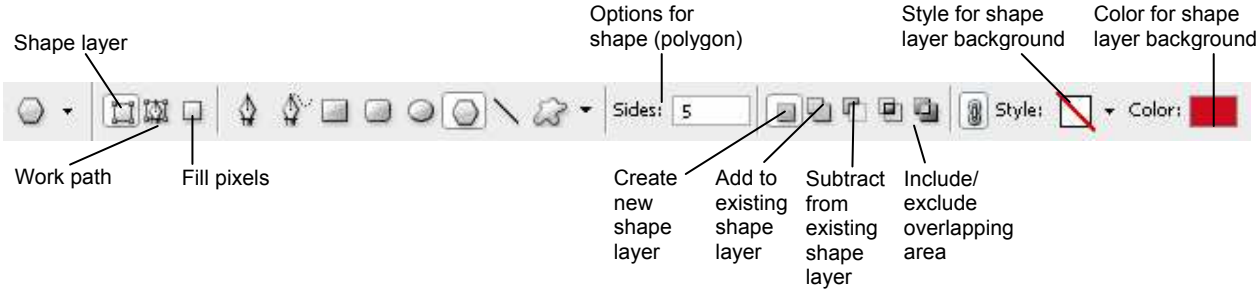

Figure 1 Shape options bar

Drawing shape layers

Shape layers are essentially vector masks that hide a background. They consist of two parts: a mask and a background color.

Shape layers offer the most flexibility in determining a shape's appearance, position, and visibility. Because the shape masks are vector shapes, you can transform these shapes without loss of clarity.

To draw a shape in a shape layer:

1. Start Photoshop and create a new file.
2. Click one of the shape tools in the Tools palette, such as the Polygon tool.

   Shape tools are located between the Notes tool and the Path selection tool. By default, the Tools palette shows the Rectangle tool. To access other shapes, click and hold on the Rectangle tool (**Figure 2**).

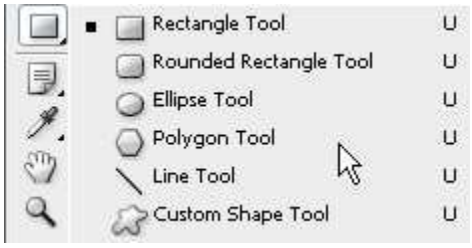

Figure 2 Shape tools in the Tools palette

3. In the options bar (**Figure 1**), make sure Shape Layers and Create New Shape Layer are selected.
4. In the color picker, choose a color for the layer background.
5. From the Custom Shape Tool pop-up menu, select options for the shape you chose.

   In **Figure 3**, the polygon is set to Star, leaving the Indent Sides By setting at its default of 50%.

5. Draw the shape by dragging the pointer across the canvas (**Figure 4**).
6. If the Layers palette is not already visible, choose Window > Layers.

   Observe that the shape is on a separate layer with the default name of Shape 1 (**Figure 5**). The link icon between the shape and fill indicates the two are linked.
7. Double-click the fill thumbnail.

   The color picker appears (**Figure 6**).
8. Pick a new color for the shape's fill.
9. Click OK to apply the color and close the color picker.

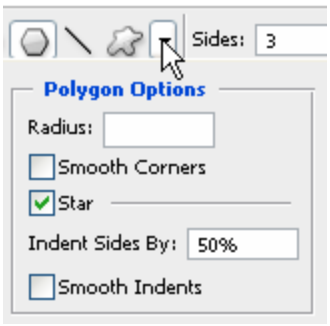

Figure 3 Polygon options pop-up menu

Figure 4 Shape appearance as you draw it

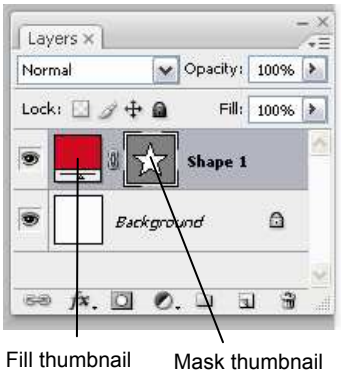

Figure 5 Shape layer in Layers palette

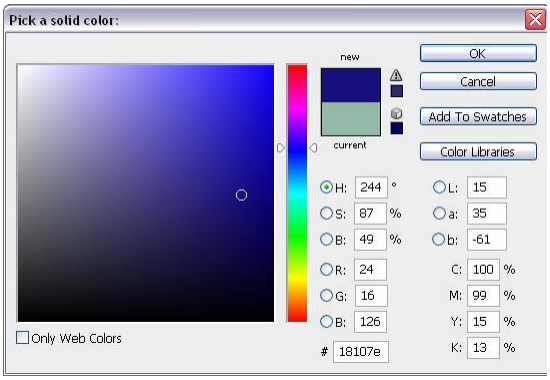

Figure 6 Color picker

Adjusting a shape's path

A *path* is the edge of a vector shape. By changing the path, you change the appearance of the vector mask and thus the appearance of the shape. One way to change the shape's path is by moving one of its *anchor points*. Anchor points appear at the shape's corners.

To adjust a shape's path:

1. Click and hold on the Path Selection tool and select the Direct Selection tool (**Figure 7**).
2. Click the edge of the shape to select its path.

   Anchor points—small hollow squares—appear at the corners of the shape (**Figure 7**).
3. Move the pointer over an anchor point.
4. Click to select the anchor point.

   Observe that the anchor point changes from a hollow square to a solid square when you select it.
5. Drag to change the shape (**Figure 8**).

   In **Figure 8**, the left corner of the square has been moved up by dragging its anchor point.

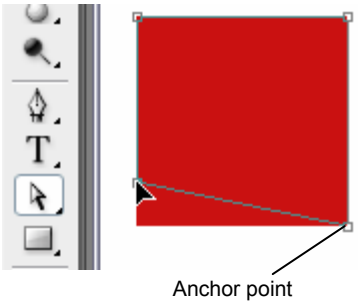

Figure 7 Moving a point with the Direct Selection tool

Figure 8 Path change completed

Adding to and subtracting from shape areas

You can add to and subtract from a shape layer to show more or less of the background. You set add and subtract options in the Shape options bar.

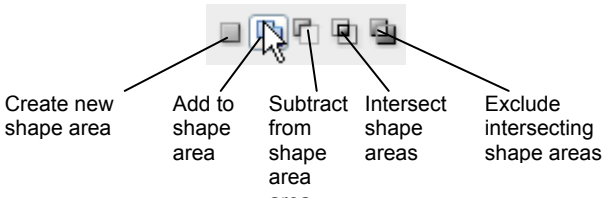

Figure 9 Shape options bar

Create new shape area: Create a new shape layer.

Add to shape area: Add to the existing shape.

Subtract from shape area: Subtract from the existing shape. You will only observe the effect of subtracting if you draw over an existing shape.

Intersect shape areas: Show only those areas where the last two shapes drawn intersect.

Exclude intersecting shape areas: Show all parts of a shape except where the last two drawn shapes intersect.

To add to a shape layer:

1. Click the shape thumbnail to select the shape.
2. Select a shape tool, such as the Ellipse tool.
3. Click the Add To Shape Area icon in the Shape options bar (**Figure 9**).
4. Draw a shape that adds to the image (**Figure 10**).

   Observe that the new shape appears in the shape layer (**Figure 10**).

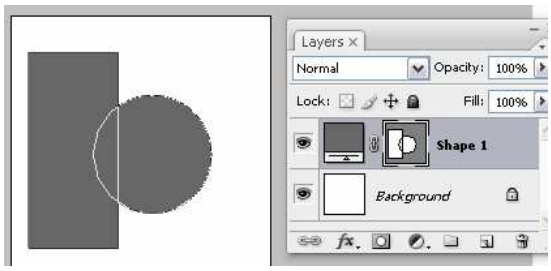

Figure 10 Adding to a shape layer

To subtract from a shape layer:

1. Click the mask thumbnail to select the shape.
2. Select a shape tool, such as the Ellipse tool.
3. Click the Subtract From Shape Area icon in the Shape options bar (**Figure 9**).
4. Draw a shape that overlaps the image (**Figure 11**).

   Observe that the shape has been modified in the shape layer (**Figure 11**).

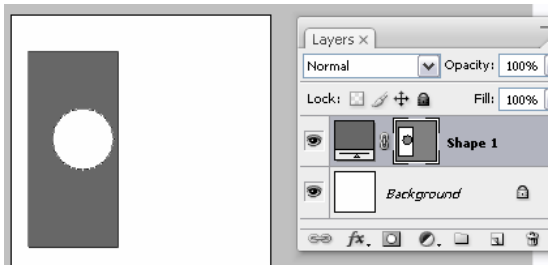

Figure 11 Subtracting from a shape layer

Controlling shape appearance with layer styles

Because shapes are on a layer, you can change their appearance by using layer styles. You can add a drop shadow to the shape, make the shape appear embossed or beveled, or outline the shape with a stroke.

To modify a shape by using layer styles:

1. If it is not already visible, choose Window > Layers to open the Layers palette.
2. Double-click the shape's layer to open the Layer Style dialog box (**Figure 12**).
3. One of the simplest things you can do is apply a stroke or outline to the shape. Select the Stroke option to apply a stroke. Make sure the Preview option is selected so you can observe the effects of applying the stroke.
4. Now, set options for the stroke by clicking the word itself. You can set the size, position, blend mode, opacity, fill type, and color of the stroke.

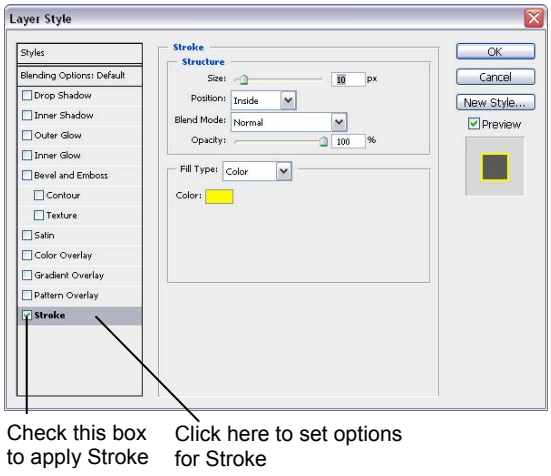

Figure 12 Layer Style dialog box

5. Click OK to apply the stroke (**Figure 13**).
6. Apply one or more additional layer styles to the shape.

   Figure 14 shows the shape with the Bevel style, to give the shape a slightly raised appearance, and the Drop Shadow style, to make the shape appear slightly above the page.

   Note: You can apply layer styles to rasterized shapes as well. However, the advantage with shapes on shape layers is that you can resize them without loss of resolution.

Figure 13 Stroke applied

Figure 14 Bevel and Drop Shadow applied

Bitmap and vector images

Adobe Photoshop CS3 uses two different types of images, *bitmap* and *vector*.

Bitmap images (also called *raster images*) combine different-colored pixels to make the image. When you create bitmaps, you (using your graphics program) essentially decide the color for each pixel. Graphics and photographs saved as GIFs or JPEGs are bitmapped formats. Because bitmaps assign colors pixel by pixel, they are very good at representing gradations of shade and color. If you import a GIF or JPEG, it will remain bitmapped in Adobe Photoshop CS3.

Bitmap images are *resolution-dependent*. This means the size and quality of the image depends on the number of pixels per inch in the image. Images saved for on-screen display have a resolution of 72 pixels per inch because that's all most monitors can handle. Images saved for print should have at least 300 pixels per inch.

In contrast to bitmaps, *vector* images are not created pixel by pixel. Instead, vector graphics make use of mathematical equations to calculate a line's shape. These equations are stored in the image and determine the image's dimensions, color, shape, and thickness. The actual shape is rendered (or drawn) on the screen at view time.

Because they use equations and not pixels, vector images are not resolution-dependent. As a result, vector images are great for illustrations and logos that need to be scaled to different sizes. When you import images from Adobe Illustrator, these are generally vector images. You also create vector images in Photoshop when you draw shapes on shape layers.

Scaled bitmap and vector images

Because bitmaps are composed of individual pixels, they tend to *scale* poorly. That is, when you try to increase their size, their edges become blurry, as is evident in **Figure 1**.

Figure 1 Bitmapped image scaled

Vector images, on the other hand, scale well, because they rely on mathematical equations to determine their appearance (**Figure 2**).

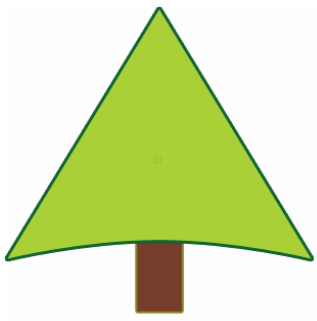

Figure 2 Vector image scaled

How to add text to images

In Adobe Photoshop CS3 Extended, you add text directly to an image. As with shapes, you add text in its own layer, which is named after the first few words of your text. Once you add text, you can modify it by using the Character and Paragraph palettes, by transforming the text box, and by applying layer styles to the text's layer.

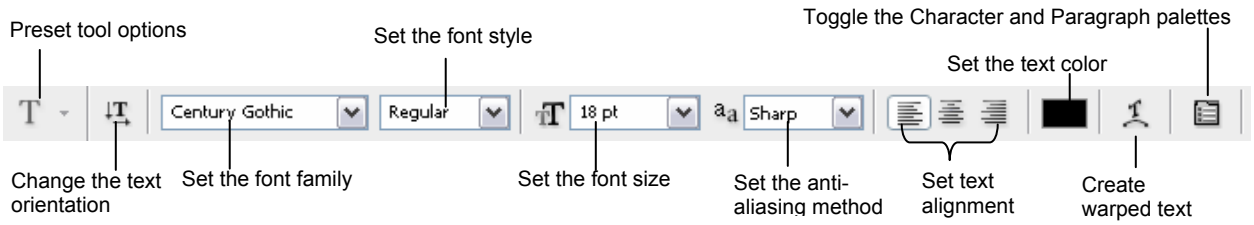

Figure 1 Text options bar

Adding text to an image

1. Start Photoshop and open an image.
2. Select the Text tool.
3. In the Text options bar, set a font family, font style, size, alignment, and color for the text (**Figure 1**).

   Note: When you're working with a font on-screen, you may observe that it seems smaller or larger than its point size. This is because the on-screen appearance of fonts depends on the document size and magnification. To see the font sized as it will appear when printed, choose View > Print Size.
4. Select an anti-aliasing mode from the Anti-aliasing pop-up menu.
5. Drag on the image to draw a text box (**Figure 2**). When you are satisfied with the size of the box, release the mouse.
6. Click in the text box you've created and type to add text (**Figure 3**).

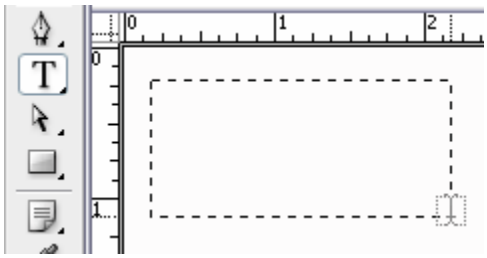

Figure 2 Drawing a text box

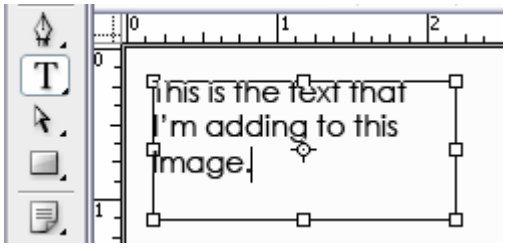

Figure 3 Text box with text added

Modifying text by using the Character and Paragraph palettes

You can change textual characteristics through the Character and Paragraph palettes. These options are similar to those found in many word-processing and layout applications.

Modifying text by using the Character palette

To set an option in the Character palette, you first open the palette and select the text you want to change. For each option in the palette, choose a value from the pop-up menu (**Figure 4**) or type a value. When you type a value directly, press Enter (Windows) or Return (Mac OS) to apply it.

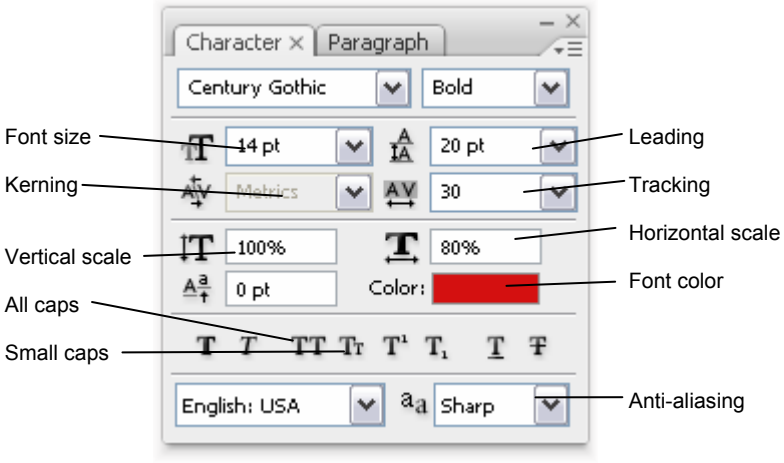

Figure 4 Character palette options

The options in the Character palette include the following:

Font size: Depends on document size. You set this in points.

Leading: Space between lines. You set leading in points.

Tracking: Space between characters. You set tracking in points. You can also fine-tune the space between any two characters by selecting them and adjusting *kerning*. Usually you only need to adjust kerning for large font sizes—at least 16 points.

Horizontal scale: Height of the letters. You set this as a percentage.

Vertical scale: Width of the letters. You set this as a percentage.

Anti-aliasing

Anti-aliasing produces smooth-edged type by partially filling the edge pixels so the edges of the type blend into the background. For print jobs, you will generally want to apply anti-aliasing to your text, especially for larger text. For smaller text or for web images, you may want to leave anti-aliasing turned off.

Note: When you use anti-aliasing, type may be rendered inconsistently at small sizes and low resolutions (such as the resolution used for web graphics). To reduce this inconsistency, deselect the Fractional Width option in the Character palette menu.

- *None:* Applies no anti-aliasing.
- *Sharp:* Type appears at its sharpest. (This option is set by default.)
- *Crisp:* Type appears somewhat sharp.
- *Strong:* Type appears heavier.
- *Smooth:* Type appears smoother.

To modify text by using the Character palette:

1. Choose Window > Character. If this option is not available, first choose Window >Show All Menu Items.

   The Character palette appears (**Figure 5**).

2. Apply changes to the text.

   In **Figure 5**, for example, the following changes have been applied:

   - Font size set to 14 pt.
   - Leading set to 20 pt.
   - Font color set to dark red.
   - Horizontal scale set to 80%.

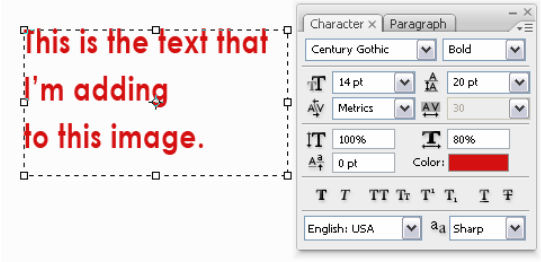

Figure 5 Character palette

Modifying text by using the Paragraph palette

You can make further changes to the text in the Paragraph palette. Most importantly, you can change the text's *alignment*—whether the text lines up with the right, left, or center of the text box. You can also *justify* the text. Justification means spacing the text so it meets both margins.

To modify text by using the Paragraph palette:

1. Choose Window > Paragraph. If this option is not available, first choose Window >Show All Menu Items.

   The Paragraph palette appears (**Figure 6**).

2. Apply changes to the text.

   In **Figure 6**, for example, the text has been aligned with the right side of the text box.

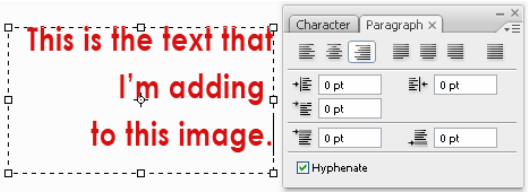

Figure 6 Paragraph palette

Transforming a text box

As with most objects in Photoshop, you can transform text boxes. After you apply transformations, the text remains editable.

To transform a text box:

1. Choose Edit > Free Transform.
2. Drag a transform control to change the shape of the text box.
3. Move the pointer over the corner of the text box until the pointer changes into a rotation tool (**Figure 7**).
4. Drag the rotation tool to rotate the text box (**Figure 7**).
5. Choose the Text tool in the Tools palette.
6. A message appears asking if you want to apply the transformation. Click Yes.
7. Click in the text box.

   Observe that the text remains editable even while rotated. If you resize the text box vertically, the font size changes accordingly.

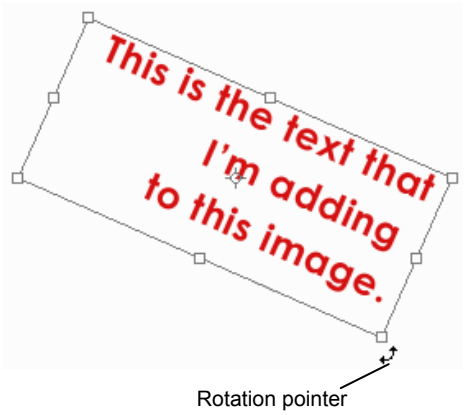

Figure 7 Transforming a text box

Warping text

You can also curve, or warp, text by using the Create Warped Text option.

1. Select the text you wish to warp.
2. Click the Create Warped Text option in the Text options bar.

   The Warp Text dialog box appears (**Figure 8**).
3. Select a style, such as Arch.
4. Choose Horizontal or Vertical to determine a direction for the warp.
5. Select a degree of bend for the warp.
6. Leave Horizontal Distortion and Vertical Distortion at **0**.

   These settings let you create asymmetrical warps in either a horizontal or vertical direction. You can experiment with these settings later, but for now, keep the warp straightforward.
7. Click OK to apply the warp (**Figure 9**).

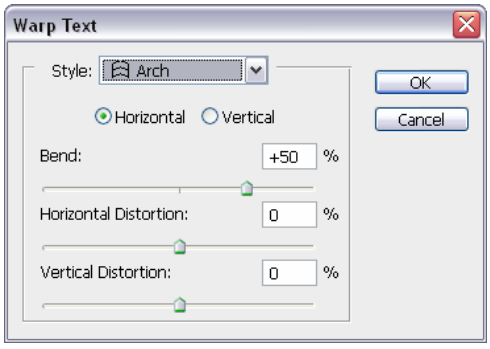

Figure 8 Warp Text dialog box

Figure 9 Text with Arch warp applied

Modifying text by using layer styles

Because text is added to its own layer, you can also change the appearance of text by using layer styles. You can add a drop shadow to the text, make the text appear embossed or beveled, or outline each letter with a stroke.

To modify text by using layer styles:

1. If the Layers palette is not already visible, choose Window > Layers.
2. Double-click the text layer to open the Layer Style dialog box (**Figure 10**).

   Layer styles appear in a column to the left. To apply a style, check its box. You can also modify a style by clicking its name.
3. Apply one or more layer styles to the text. Bevel style and Drop Shadow style have been applied to the text in **Figure 11**.

   Bevel style gives the text a slightly raised appearance, and Drop Shadow style makes the text appear to float slightly above the page.

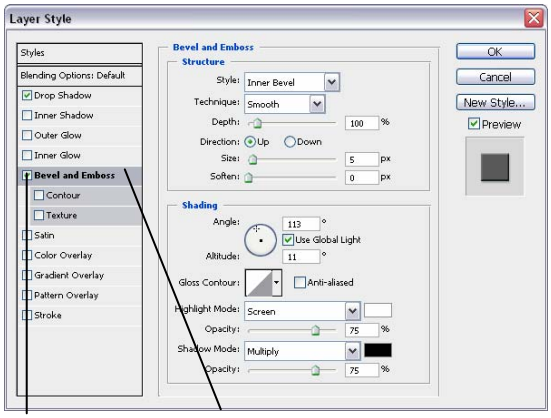

Figure 10 Layer Style dialog box

Figure 11 Layer effects applied to text

How to generate different file formats

Different mediums—print and web—require different file formats. This guide describes how to generate appropriate file formats for both the web and print by using Adobe Photoshop CS3.

When generating any image in Photoshop, it's important to remember that when you save an image, Photoshop saves the image as it appears onscreen. That is, if you have hidden some layers, they will not appear in the saved image.

Saving files for the web

For web pages, you will generally want to save photos in JPEG format. JPEG is used more than any other format for photos on web pages. (Other web formats include GIF—usually used for images with limited colors—and PNG—a less often used, but flexible format.)

JPEG is popular because it *compresses* well—that is, you can make files smaller without sacrificing quality. However, if you compress too much, file quality will suffer; the trick is to find the right balance between image quality and compression.

Photoshop makes this process easier through a command called Save For Web & Devices. You can use Save For Web & Devices to preview JPEGs with different compression settings before you save them.

Note: When you save a file for the web, it appears at its full pixel size. The document size does not affect how the image appears in a browser. For example, an image whose pixel size is 640 x 480 displays at that size in a browser. The document size affects only how the image prints.

To save a file as a JPEG:

1. Start Photoshop and open an image.
2. Choose File > Save For Web & Devices.

   The Save For Web & Devices dialog box appears (**Figure 1**).
3. Click the 2-Up tab to display both the original and a preview of the file to be saved.

Figure 1 Save For Web & Devices dialog box

4. In the Optimized File Format pop-up menu, choose JPEG (**Figure 2**).
5. Adjust quality by using either the Compression Quality pop-up menu or the Quality slider (**Figure 2**).

   As you change settings, observe how the photo to the right appears.
6. When you are satisfied, click Save.

   Clicking Save automatically saves a copy of the image as a JPEG with the settings you indicated. The original image is left unchanged. For working purposes, you may want to incorporate some of the settings into the filename, such as "banner_high.jpg" for an image saved as a high-quality JPEG.

   After you save, the original file stays open in Photoshop.

Note: If the original image is also a JPEG (many digital cameras use JPEG as a format), you need to save the copy in a different location from the original (or give it a different name) to avoid confusion.

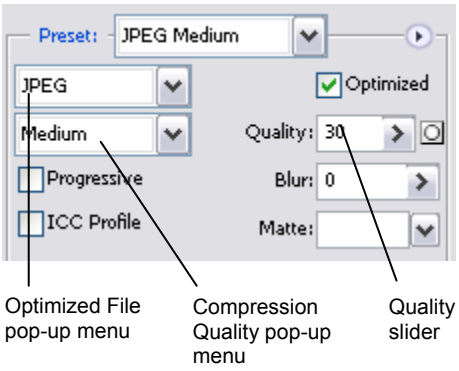

Figure 2 Save for web settings

Generating files for print

Generating files for print use is different from saving images for the web: you use an uncompressed file format and you must be sure the file is at a high enough resolution (preferably 300 ppi) before you save it. It is always good to import the image into Photoshop at the highest possible resolution to give more flexibility in the kinds of images you can generate.

Note: You can print to a printer directly from any computer running Photoshop. The options described here are for sending an image to a printer, to another computer to be printed, or to another application.

Generating files for print involves three steps:

1. Setting the image resolution to 300 ppi.
2. Converting the image to CMYK (if the image is going to an offset print vendor).
3. Generating a print-friendly (compression-free or lossless) format, such as TIFF.

Setting resolution to 300 ppi

1. Open an image in Photoshop.
2. Choose Image > Image Size.

   The Image Size dialog box appears (**Figure 3**).
3. Make sure the Resample Image option is *not* selected.

   When you leave this option unselected, you ensure that you're only changing the image's resolution, not removing or adding pixels.
4. Enter **300** in the Resolution text box.

   Make sure pixels/inch is selected as the units for Resolution.
5. Click OK.

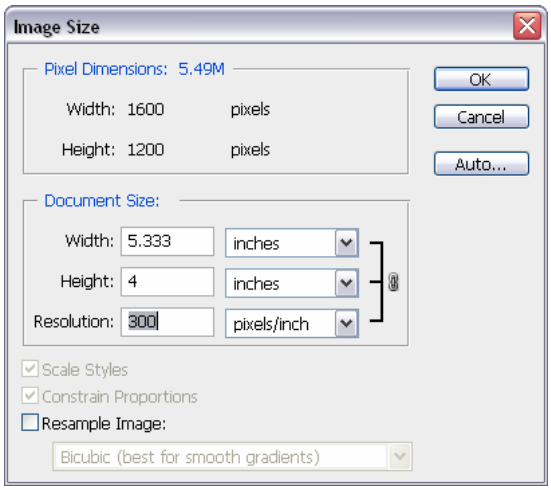

Figure 3 Image Size dialog box

To preview an image at the size it will appear when printed, choose View > Print Size (you may need to first select View > Show All Menu Items).

Converting images to CMYK

Computers use combinations of red, green, and blue (RGB) to display photos. Offset printing presses print full-color photos, using cyan (blue), magenta (red), yellow, and black. This is known as CMYK printing. If you are printing to an inkjet printer, you can leave the image in RGB mode, but if you are sending the image to an offset print vendor, you need to convert the image to CMYK.

To view how the image will appear in CMYK, choose View > Proof Setup > Working CMYK. (For some images, you may not observe any difference at all.) This preview is called a *soft proof*.

Note: Soft proofs are approximations. What you see onscreen depends on the quality and settings of your monitor as well as the lighting conditions of your work environment. You may observe different results when you actually print. Nevertheless, soft proofs can be useful.

Photoshop also lets you preview how the image will appear on a range of different printers, including most Epson models and offset printing. To view these, choose View > Proof Setup > Custom.

To convert the image to CMYK:

1. Save a copy of the image.
2. Choose Image > Mode > CMYK Color.
3. If the image has layers, Photoshop asks whether you wish to flatten these. Click Yes.

   (Because you saved a copy of the file, you can open the saved copy to recover the layers.)

Generating TIFFs

After you convert the image to CMYK and make sure it is at the correct resolution, you can save it in a print-friendly format (a format with no compression, known as a lossless format). In this exercise, you will choose the TIFF format.

Note: Although TIFF is the most common lossless image format, you can also use EPS or an Adobe PDF.

1. Choose File > Save As.

   The Save As dialog box appears (**Figure 4**).

2. In the Format box, choose TIFF (*.TIF, *.TIFF).

3. Click Save.

   The TIFF Options dialog box appears (**Figure 5**).

4. Because the image is going to a printer, you do not need to compress it. Leave Compression set to None. Leave Pixel Order set to Interleaved.

   Note: In practice, TIFF files are seldom compressed.

5. Set Byte Order to your operating system (Windows or Mac OS).

6. Because the image is going to a printer, you also don't need to save the layers. Make sure Discard Layers And Save A Copy is selected. This option flattens the layers in the image.

7. Click OK.

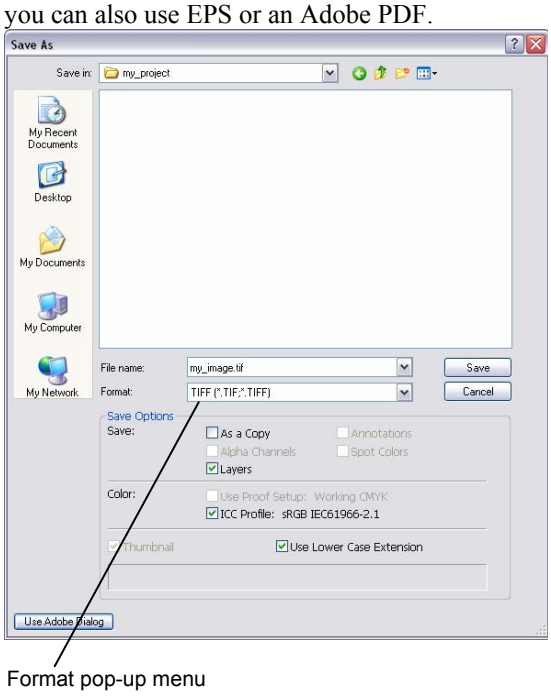

Figure 4 Save As dialog box (Windows)

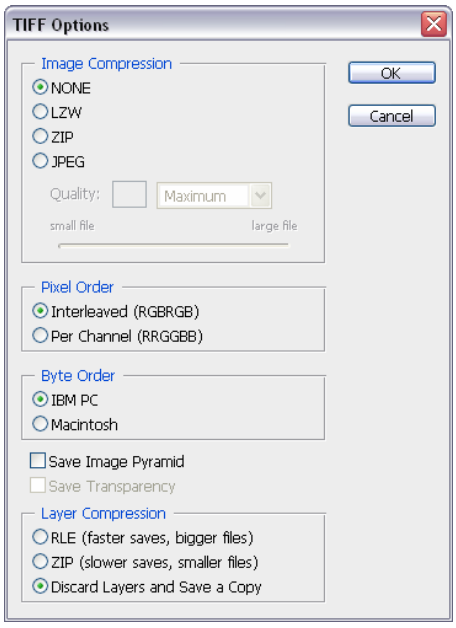

Figure 5 TIFF Options dialog box

