

How to keep the image size small ?

1. set your mail software to send your mail as plain text. most email clients will have an 'options' item in the menu, and you can set the option there, or in the message composing screen you can select 'plain text' from format.
2. when you send x-rays, take the time to crop out areas which are not important.
3. change x-rays to grayscale. any image editing software that you use to edit pictures will give you the option of '256 grays' or 'grayscale' or 'de-saturate' usually in the 'image' menu 3a. Change the image size so that it is not larger than 300 pixels in width or height
4. all image editing software will also give you the option will give you the option of increasing the compression when you save your image as a jpg file. use the 50% setting, this gives a good balance between file size and clarity.
5. if you use a scanner rather than a digital camera to get your images, scan at 72 dpi, or at least reduce the image size to 72 dpi before attaching it to the email
6. as a general rule, using the methods listed above, you should be able to get an x-ray image down to about 5-9 kb.
7. use color images only where color adds to the information, for example a clinical image to show a deformed limb would convey the same information as well if it were sent as a grayscale image..., whereas an image of a compound wound may show necrotic areas etc, better if it were in color.
9. send the images in multiple messages with the appropriate subject line. however, if the image that you are trying to send is not reduced to less than 40k, then this will not work for any queries or problems, feel free to contact me.

NOTES ON PHOTOSHOP

Lesson 1

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

- Use the marquee, lasso, and magic wand tools to select parts of an image in various ways.
- Reposition a selection marquee.
- Deselect a selection.
- Move and duplicate a selection.
- Constrain the movement of a selection.

- Adjust a selection with the arrow keys.
- Add to and subtract from selections.
- Rotate, scale, and transform a selection.
- Combine selection tools.
- Crop an image.

Tool overview

In Adobe Photoshop, you can make selections based on size, shape, and color using four basic sets of tools—the *marquee*, *lasso*, *magic wand*, and pen tools. In addition, you can use a fifth tool, the *move tool*, to reposition the selections you create. The first four tools in the palette are:

A. Marquee Tool *B. Move Tool*

C. Lasso Tool *D. Magic Wand Tool*

The marquee and lasso tool icons contain hidden tools, which you can select by holding down the mouse button on the toolbox icon and dragging to the desired tool in the pop-up menu.

The *rectangular marquee tool* lets you select a rectangular area in an image.

The *elliptical marquee tool* lets you select elliptical areas. The

Single row and single column marquee tools, let you select a 1-pixel-high row and 1-pixel-wide column.

You can also use the *crop tool* to crop an image.

The *lasso tool* lets you make a freehand selection around an area.

The *polygon lasso tool* lets you make a straight-line selection around an area.

The *magnetic lasso tool* lets you draw a freehand border that snaps to the edges of an area.

The *magic wand tool* lets you select parts of an image based on the similarity in color of adjacent pixels. This tool is useful for selecting odd-shaped areas without having to trace a complex outline using the lasso tool.

1 open End01.psd.

2 Zoom Out to make the image smaller.

3 select Start01.psd, and click Open.

4 Choose File > Save As, type the name **Work01.psd**, and click Save.

Selecting with the rectangular marquee tool

1 Click the rectangle marquee tool in the toolbox. In options tool bar new selection tool.

2 Drag it diagonally from the top left to the bottom right corner of the melon to create a rectangular selection.

You can move a selection border with shift arrow keys, you can size by arrow keys. or move by moving the mouse to the center of selection and click and move.

Note: Repositioning techniques for selection borders work with any of the marquee, lasso, and magic wand tools.

5 Deselect the selection by using either of these methods:

- Choose Select > Deselect.
- Click anywhere in the window outside the selection border.

Selecting with the elliptical marquee tool

Next you'll use the elliptical marquee tool to select eyes for the face. Note that in most cases, making a new selection replaces the existing selection.

1 zoom tool , the blueberry , zoom in to a 300% .

2 select elliptical marquee tool .

3 Move the pointer over the blueberry, and drag it diagonally from the top left to the bottom right edge of the blueberry to create a selection. Do not release the mouse button.

Repositioning a selection border while creating it

If a selection border isn't placed exactly where you want it, you can adjust its position and size while creating it.

1 Still holding down the mouse button, hold down the spacebar and drag the selection. The border moves as you drag.

2 Release the spacebar (but not the mouse button), and drag again. Notice that when you drag without the spacebar, the size and shape of the selection changes, but its point of origin does not.

3 When the selection border is positioned and sized correctly, release the mouse button.

Selecting from a center point

1 Choose Select > Deselect.

2 Position the marquee tool at the approximate center of the blueberry.

3 Click and begin dragging. Then without releasing the mouse button, hold down Alt and continue dragging the selection to the blueberry's outer edge. Notice that the selection is centered over its starting point.

4 When you have the entire blueberry selected, release first the mouse button and then the Alt/Option key.

Moving a selection

Now you'll use the move tool to move the blueberry onto the carrot slice to create an eye for the face. Then you'll duplicate and move the selection to make a second eye.

1 Use the move tool and position the pointer within the blueberry's selection. The pointer becomes an arrow with a pair of scissors to indicate that dragging the selection will cut it from its present location and move it to the new location.

2 Drag the blueberry onto the carrot slice.

3 Choose Select > Deselect.

4 Choose File > Save.

Moving and duplicating simultaneously

Next you'll move and duplicate a selection simultaneously.

1 Choose View > Fit on Screen to resize the document to fit on your screen.

2 Select the elliptical marquee tool.

3 Drag a selection around the carrot slice containing the blueberry.

4 Click the move tool, then hold down Alt and position the pointer within the selection. The pointer becomes a double arrow, which indicates that a duplicate will be made when you move the selection.

5 Continue holding down Alt/Option, and drag a duplicate of the eye onto the left side of the melon face. Release the mouse button and Alt/Option, but do not deselect the eye. Holding down Shift when you move a selection constrain the movement horizontally or vertically. Using this technique, you'll drag a copy of the left eye to the right side of the face so that the two eyes are level.

6 Hold down Shift+Alt and drag a copy of the eye to the right side of the face.

7 Choose File > Save.

Moving with a keyboard shortcut

Next you'll select the kiwi fruit for the melon's mouth and then move it onto the melon using a keyboard shortcut. The shortcut allows you to temporarily access the move tool instead of selecting it from the toolbox.

1 Select the elliptical marquee tool from the toolbox.

2 Drag a selection around the kiwi fruit using one of the methods you learned earlier.

3 With the marquee tool still selected, hold down Control (Windows) and position the pointer within the selection. A pair of scissors appears with the pointer to indicate the selection will be cut from its current location.

4 Drag the kiwi mouth onto the face. Do not deselect.

Moving with the arrow keys

You can make minor adjustments to the position of a selection using the arrow keys, which allow you to nudge the selection 1 pixel or 10 pixels at a time.

Note:

The arrow keys adjust the position of a selection only if you've already moved the selection or if you have the move tool selected. If you try the arrow keys on a selection that has not yet been moved, they will adjust the selection border, not the part of the image that is selected.

1 Press the up arrow key a few times to move the mouth upward. Notice that each time you press the arrow key, the mouth moves in 1-pixel increments. Experiment with the other arrow keys to see how they affect the selection. Sometimes, the border around a selected area can distract you as you make adjustments. You can hide the edges of a selection temporarily without actually deselecting and then display the selection border once you've completed the adjustments.

2 Choose View > show/selection Edges deselect. The selection border around the mouth disappears.

3 Now hold down Shift and press an arrow key. Notice that the selection moves in 10-pixel increments.

4 Use the arrow keys to nudge the mouth until it is positioned where you want it. Then choose put on selection Edges.

5 Choose File > Save.

Selecting with the magic wand

The magic wand tool lets you select adjacent pixels in an image based on their similarity in color. You'll use the magic wand tool to select the pear tomato, which you'll use as a nose for the face.

1 click the magic wand tool

Note: Most tools in the toolbox come with their own Options palettes, which allow you to change the way the tools work.

In the Magic Wand Options palette, the Tolerance setting controls how many similar tones of a color are selected when you click an area. The default value is 32, indicating that 32 similar lighter tones and 32 similar darker tones will be selected.

2 For Tolerance, enter 50 to increase the number of shades that will be selected.

3 Click the magic wand tool anywhere within the pear tomato. Most of it will be selected.

4 To select the remaining area of the pear tomato, hold down Shift and click the unselected areas. Notice that a plus sign appears with the magic wand pointer indicating that you're adding to the current selection.

5 When the pear tomato is completely selected, hold down Control position the pointer within the selection, and drag the tomato nose onto the melon face.

6 Choose Select > Deselect.

7 Choose File > Save.

Selecting with the lasso tool

You can use the lasso tool to make selections that require both freehand and straight lines. You'll select a bow tie for the face using the lasso tool this way. It takes a bit of practice to use the lasso tool to alternate between straight line and freehand selections—if you make a mistake while you're selecting the bow tie, simply deselect and start again.

1 zoom bow tie pasta to 300%.

2 Select the lasso tool . Starting at the top left corner of the bow tie pasta, drag to the right to create a freehand outline across the curves at the top of the bow tie. Continue holding down the mouse.

3 To select the right edge of the bow tie, hold down **Alt** release the mouse button, and then begin outlining with short, straight lines by clicking along the edge. (Notice that the pointer changes from the lasso icon to the polygon lasso icon.) When you reach the bottom right corner of the bow tie, do not release the mouse button.

4 Release Alt/Option, and drag to the left to create a freehand outline across the bottom of the bow tie. (The pointer returns to the lasso icon.)

5 Hold down Alt/Option again, and click the mouse button along the left edge of the bow tie to draw straight lines.

6 To complete the selection, make sure that the last straight line crosses the start of the selection, release Alt/Option, and then release the mouse button.

7 Choose View > Fit on Screen to resize the document to fit on your screen.

8 Hold down Control and drag the bow tie selection to the bottom of the melon face.

9 Choose File > Save.

Adding and subtracting selections

Holding down **Shift** while you are selecting an area **adds** to the current selection; holding down **Alt** (Windows) **subtracts** from the selection. You'll now use these techniques with the lasso tool to perfect a rough selection of the mushroom image. The mushroom will become a hat for the melon face.

1 mushroom to 300%.

2 Select the lasso tool, and drag a rough outline around the mushroom (include some of the area outside the mushroom and some of the stem).

3 Hold down Shift. A plus sign appears with the lasso tool pointer.

4 Drag the lasso tool around an area you want to add to the selection; then release the mouse

button. The area is added to the current selection.

Note: If you release the mouse button while drawing a selection with the lasso tool, the selection closes itself by drawing a straight line between the starting point and the point where you release the mouse. To create a more precise border, end the selection by crossing the starting point.

Next, you'll remove, or subtract, part of the selection.

5 Hold down Alt (Windows) A minus sign appears with the lasso tool pointer.

6 Drag the lasso tool around an area you want to remove from the selection; then repeat the process until you've finished removing all the unwanted parts of the selection.

7 Choose View > Fit on Screen.

8 To move the mushroom hat onto the melon head, hold down Alt+Control and drag a copy of the mushroom to the top of the melon.

9 Choose File > Save.

Selecting with the magnetic lasso

You can use the magnetic lasso tool to make freehand selections of areas with high contrast edges. When you draw with the magnetic lasso, the border automatically snaps to the edge you are tracing. You can also control the direction of the tool's path by clicking the mouse to place occasional fastening points in the selection border.

You'll now make an ear for the melon face by using the magnetic lasso to select the red part of the grapefruit slice.

1 grapefruit slice, zoom in to a 200%.

2 Hold down the mouse button on the lasso tool in the toolbox, and drag to the magnetic lasso tool to select it.

3 Now click once at the lower left corner of the red flesh of the grapefruit slice, release the mouse button, and begin tracing the outline of the flesh by dragging to the right over the curved upper edge. Notice that the tool snaps to the edge and automatically puts in fastening points.

If you think the tool is not following the edge closely enough (in low contrast areas), you can place your own fastening point in the border by clicking the mouse button. You can add as many fastening points as you feel necessary. You can also remove fastening points and back up in the path by pressing the Delete key and moving the mouse back to the last remaining fastening point.

4 When you reach the lower right corner of the grapefruit flesh, double-click the mouse button, which signals the magnetic lasso tool to return to the starting point and close the selection. Notice that the tool automatically follows the remaining edge of the flesh as it completes the border.

You can now move the selected part of the grapefruit next to the melon.

5 Double-click the hand tool to fit the image on screen.

6 Click the move tool, and drag the grapefruit ear to the middle of the left side of the melon face. Do not deselect.

7 Choose File > Save.

Transforming a selection

Next you'll use the Free Transform command to rotate and scale the melon's left ear, and then you'll duplicate and flip a copy to create a right ear.

1 Choose Edit > Free Transform. A bounding box appears around the ear selection.

2 To rotate the ear, position the pointer outside a corner handle until you see a double-headed arrow, and then drag in the direction you want the ear to rotate. Notice that the ear rotates around the selection's center point .

3 To scale the ear, position the pointer directly on one of the corner handles, and drag to reduce the size of the ear. To scale the ear proportionately, hold down Shift as you drag.

4 To reposition the ear, place your pointer within the bounding box, but not on the center point, and drag.

Note: If you place the pointer on the center point and drag, you will move the center point. If you don't like the results of a Free Transform, press Escape and start over.

5 When you have the ear positioned correctly, press Enter to apply the transformation. The ear remains selected.

You will now move a copy of the ear to the right side of the face, **flip the ear horizontally**, and finetune its placement.

6 Position the pointer within the ear selection, hold down Shift+Alt (Windows) and drag a copy of the ear to the right side of the face.

7 Choose Edit > Transform > Flip Horizontal.

8 If necessary, place the pointer within the selection, and drag to reposition it next to the melon face.

9 If necessary, choose Edit > Free Transform, rotate the ear to fit the right side of the face, and press Enter (Windows) to complete the transformation.

10 Choose File > Save.

Combining selection tools

As you already know, the magic wand tool makes selections based on color. If an object you want to select is on a solid-colored background, it can be much easier to select the object and the

background and then use the magic wand tool to subtract the background color, leaving the desired object selected.

You'll see how this works by using the rectangular marquee tool and the magic wand tool to select radish eyebrows for the face.

1 Hold down the mouse button on the elliptical marquee tool, and drag to the rectangular marquee tool.

2 Drag a selection around the radishes. Notice that some of the white background is included in the selection.

At this point, the radishes and the white background area are selected. You'll subtract the white area from the selection, resulting in only the radishes being selected.

3 Click the magic wand tool in the toolbox; then hold down Alt A minus sign appears with the magic wand pointer.

4 Click anywhere in the white area surrounding the radishes. Now only the radishes are selected.

5 To duplicate and move the radish eyebrow to the melon face, hold down Alt+Control and drag the radish above the left eye on the melon face.

Do not deselect.

6 Hold down Shift+Alt+Control, position the pointer within the selection, and drag to duplicate and reposition another eyebrow above the right eye.

7 Choose Edit > Transform > Flip Horizontal to adjust the right eyebrow. If you like, reposition the eyebrow using any of the methods you've learned.

8 Choose File > Save.

Cropping the completed image

To complete the artwork, you'll crop the image to a final size.

1 Choose the crop tool from the toolbox. The crop tool is located in the hidden tools palette under the marquee tool.

2 Move the pointer into the image window, and drag diagonally from the top left to the bottom right corner of the completed artwork to create a crop marquee.

3 If you need to reposition the crop marquee, position the pointer anywhere inside the marquee and drag.

4 If you want to resize the marquee, drag a handle.

5 When the marquee is positioned where you want it, press Enter to crop the image.

6 Choose File > Save.

The fruit-and-vegetable face is complete.

Layer Basics

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

- Organize your artwork on layers.
- Create a new layer.
- View and hide layers.
- Select layers.
- Remove artwork on layers.
- Reorder layers to change the placement of artwork in the image.
- Apply modes to layers to vary the effect of artwork on the layer.
- Link layers to affect them simultaneously.
- Apply a gradient to a layer.
- Add text and layer effects to a layer.
- Save a copy of the file with the layers flattened.

Organizing artwork on layers

Every Adobe Photoshop image contains one or more *layers*; every new file is created with a *Background*, which can be converted to a layer. You can view and manipulate layers in Photoshop with the Layers palette.

All new layers in an image are transparent until you add artwork (pixel values). Working with layers in Photoshop is analogous to placing portions of a drawing on sheets of acetate—individual sheets of acetate may be edited, repositioned, and deleted without affecting the other sheets and when the sheets are stacked, the entire drawing is visible.

Getting started

start the Photoshop program. Then open the finished art file to see what you'll be creating.

1 Choose File > Open.. Then select End02.psd and click Open. A collage of business images is displayed.

2 If you like, choose View > Zoom Out to make the image smaller and leave it on your screen as you work. If you don't want to leave the image open, choose File > Close.

Now, you'll open the start file and work with the image as you learn about the Layers palette and layer options.

3 Choose File > Open. Locate and open Start02.psd, and click Open.

4 Choose File > Save As, type the name Work02.psd, and click Save.

Creating and viewing layers

To begin, you'll create a new layer in the Work02.psd file by bringing in an image from another file.

1 Choose File > Open. Locate and open the Lesson02 folder. Then select Clock.psd from the list of files.

2 Select the move tool . Then hold down Shift, click the image in Clock.psd, and drag it into the Work02.psd file on top of the image of the keyboard. (Holding down Shift when dragging artwork into a new file centers the art on the new file's image.) The clock now appears on its own layer, Layer 1, in the Work02.psd file's Layers palette.

Note: If the Layers palette is not visible on your screen, choose Window > Show Layers.

3 Close the Clock.psd file.

You can use the Layers palette in a Photoshop file to hide, view, reposition, delete, rename, and merge layers. The Layers palette displays all layers with the layer name and a thumbnail of the layer's image that is automatically updated as you edit the layer. You will now use the Layers palette Options dialog box to rename Layer 1 with a more descriptive name.

4 In the Layers palette, double-click Layer 1.

5 In the Layer Options dialog box, type the name Clock and click OK. Layer 1 is now renamed Clock in the Layers palette. The Layers palette shows Work02.psd contains three layers in addition to the Clock layer, some of which are visible and some of which are hidden. The eye icon to the far left of a layer name in the palette indicates that the layer is visible. You can hide or show a layer by clicking this icon.

6 Click the eye icon next to the Clock layer to hide the clock. Click again to redisplay it.

Selecting and removing artwork on a layer

Notice that when you moved the clock image onto the keyboard in Work02.psd, you also moved the white area surrounding the clock. This opaque area blocks out part of the keyboard image, since the clock layer sits on top of the keyboard, or background.

You'll now remove the white area from around the clock image on the Clock layer.

1 Make sure that the Clock layer is selected. To select the layer, click the layer name in the Layer palette. The layer is highlighted and a paintbrush icon appears to the left of the layer name, indicating the layer is active.

2 To make the opaque areas on this layer more obvious, hide the keyboard by clicking the eye icon in the Layers palette to the left of the background layer name. The keyboard image disappears, and the clock displays on a checkerboard background. The checkerboard indicates transparent areas on the active layer.

3 Now select the magic wand tool , click the white area surrounding the clock to select it, and

press the delete key to delete the selection. Notice that the checkerboard fills in where the white area had been, indicating this area is now also transparent.

4 Choose Select > Deselect.

5 Turn the background back on by clicking the eye icon column next to its layer name. The keyboard image now shows through where the white area on the Clock layer was removed.

Rearranging layers

In Photoshop, the order in which the layers of an image are organized is called the *stacking order*. The stacking order of layers determines how the image is viewed—you can change the order to make certain parts of the image appear in front of or behind other layers.

Next you'll rearrange layers in the Work02.psd file so that the clock image moves in front of the other images in the file.

1 Make the Gauge and Bearing layers visible by clicking the eye icon column next to their layer names. Notice that the clock image is partly covered up by the other images in the file.

2 Click the Clock layer in the Layers palette, and drag upward to position it at the top of the palette. When you see a thick black line above the Gauge layer, release the mouse button. The Clock layer moves to the top of the palette's stacking order, and the clock image appears in front of the other images.

Changing the opacity and mode of a layer

The clock image now blocks out any images that lie on layers below it. You can reduce the opacity of the clock layer, which allows other layers to show through it. You can also apply different blending modes to the layer, which affect how the clock image blends with the layers below it.

1 With the Clock layer still active, click the arrow next to the Opacity text box in the Layers palette and drag the slider to 50%. The clock becomes partially transparent, and you can see the layers underneath. Note that the change in opacity affects only the image areas on the Clock layer.

2 Next try applying some blending modes to the Clock layer. Choose Difference and then Darken from the mode menu (to the left of the Opacity text box), and notice the effect on the clock image. Then select the Screen mode, which is the mode we used for our example, and change the opacity to 90%.

3 Choose File > Save.

Note: For more information on blending modes and examples of their effects, see Chapter 9, “Painting,” in the Adobe Photoshop User Guide.

LAYER BASICS

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Linking layers

An efficient way to work with layers is to link two or more of them together. By linking layers, you can move and transform them simultaneously, thereby maintaining their alignment to each other. You’ll now move the clock image away from the bearing image; link the two layers; and then reposition, scale, and rotate them together.

1 Select the move tool, and drag the clock to the bottom right corner of the collage so that just the top half of the clock face is visible.

2 With the Clock layer active in the Layers palette, click the small box to the right of the eye icon for the Bearing layer. Notice that a link icon appears in the box, indicating that the Bearing layer is linked to the Clock layer. (The active or selected layer does not display a link icon when you create linked layers.)

3 Position the move tool in the image window, and drag toward the top margin of the image. Notice that the clock and bearing images move simultaneously.

Now you’ll try scaling and rotating the linked layers by using the Free Transform command.

4 Choose Edit > Free Transform. A transformation bounding box appears around the clock face.

5 To rotate the clock, position the pointer outside one of the handles until you see a double-headed arrow, drag the face clockwise, and release the mouse button. Notice the bearing rotates as well.

6 Hold down Shift, drag on a handle of the bounding box, and scale the clock and bearing to a smaller size.

7 If necessary, position the pointer inside the bounding box, and drag to reposition the two images.

8 Press Enter to apply the transformation changes.

Adding a gradient to a layer

Next, you’ll create a new layer and add a gradient effect to it. You can add a layer to a file with the New Layer command, which creates a transparent layer with no artwork on it. If you then add a special effect to the layer, such as a gradient, the effect is applied to any layers stacked below the new layer.

1 In the Layers palette, click the background to make it active.

2 Choose New Layer from the Layers palette menu.

3 In the New Layer dialog box, type the name Gradient, and click OK. The Gradient layer appears above the background in the Layers palette. You can now apply a gradient to the new layer. A gradient is a gradual transition between one or more colors. In Photoshop, you control the type of transition using the gradient tool.

4 Double-click the linear gradient tool in the toolbox to select the tool and its Options palette.

5 In the Options palette, choose Foreground to Transparent for the type of Gradient.

6 Click the Swatches palette tab to bring it to the front of its palette group, and select a shade of purple that appeals to you.

7 With the Gradient layer active in the Layers palette, drag the gradient tool from the right to the left margin of the image. The gradient extends over the width of the layer, starting with purple and gradually blending to transparent, and affects the look of the keyboard on the layer below it. Because the gradient partially obscures the keyboard, you'll now lighten the effect by changing the Gradient layer's opacity.

8 In the Layers palette, change the opacity for the Gradient layer to 60%. The full keyboard shows through the gradient.

Adding text

Now you're ready to create and manipulate some text. You'll create the text with the type tool, which places the text on its own type layer. You'll then edit the text and apply a special effect to that layer.

1 In the Layers palette, click the Clock layer to make it active.

2 Select the type tool, and click the image in the upper left corner.

3 Click the color box on the Type Tool dialog box, select a beige color from the color picker, and click OK.

4 Choose a font from the Font menu in the dialog box, and enter a point size in the Size text box (we used 70-point Helvetica Neue Condensed Heavy).

5 Type "Z2000" in the large text box at the bottom of the dialog box. The text is automatically placed on a new layer in the upper left corner of the image where you clicked.

6 Move the cursor into the image area, where the cursor temporarily changes to the move tool, and reposition the text.

7 When the text is placed where you want it, click OK. Notice that the Layers palette now includes a layer named *Z2000* with a T icon next to the name, indicating it is a type layer.

Adding a layer effect

You can enhance a layer by adding a shadow, glow, bevel, or emboss special effect from the program's collection of automated layer effects. These effects are easy to apply and link directly to the layer you specify.

You'll now apply a bevel and emboss layer effect to the type.

1 With the Z2000 type layer still active, choose Layer > Effects > Bevel and Emboss.

2 In the Effects dialog box, change the opacity for Highlight to 20%. Then click the Highlight color box, select a color from the color picker (we chose a light blue), and click OK.

3 Next change the opacity for Shadow to 40%. Click the Shadow color box, select a color from the color picker (we chose black), and click OK.

4 Select Emboss from the Style menu, and click OK to apply the layer effect to the type.

Layer effects are automatically applied to changes you make to a layer. You can edit the text and watch how the layer effect tracks the change.

5 Double-click the Z2000 type layer in the Layers palette.

6 In the Type Tool dialog box, select "Z2000" and change it to "Z999."

7 Reselect the new text, enter a larger point size in the Size text box (we used 90 points), and click OK. Note that the layer effect is applied to the text both as you type the new word and when you change to the larger font size.

8 Choose File > Save.

Flattening and saving files

When you have edited all the layers in your image, you can make a copy of the file with the layers flattened. Flattening a file's layers merges them into a single background layer, thus greatly reducing the file size. Note that you shouldn't flatten an image until you are certain you're satisfied with all your design decisions. In most cases, you will also want to retain a copy of the file with its layers intact, in case you later need to change a layer.

To save a flattened version of the file, you will use the Save a Copy command. Flat02

Photo Retouching

In this lesson, you will learn to do the following:

- Choose the correct resolution for a scanned photograph.
- Crop an image to final size.
- Adjust the tonal range of an image.
- Remove a color cast from an image using an adjustment layer.
- Use the Replace Color command to change the hue and saturation of a selected color in a

photograph.

- Adjust the saturation and brightness of isolated areas of an image using the sponge and dodge tools.
- Use the rubber stamp tool to eliminate an unwanted object from an image.
- Replace parts of an image with another image.
- Apply the Unsharp Mask filter to finish the photo-retouching process.
- Save an Adobe Photoshop file in a format that can be used by a page layout program.

Strategy for retouching

In Photoshop, you can retouch photographic images in ways once left only to highly trained professionals. You can correct problems in color quality and tonal range created during the original photography or during the image's scan. You can also correct problems in composition and sharpen the overall focus of the image.

Basic steps

Most retouching in Photoshop follows these general steps:

- Check the scan quality and make sure that the resolution is appropriate for how the image will be used.
- Crop the image to final size.
- Adjust the overall contrast or tonal range of the image.
- Remove any color casts.
- Adjust the color and tone in specific parts of the image to bring out highlights, midtones, shadows, and desaturated colors.
- Sharpen the overall focus of the image.

Intended use

The retouching techniques you apply to an image depend in part on how the image will be used. Whether an image is intended for black-and-white publication on newsprint or for full-color Internet distribution will affect everything from the resolution of the initial scan to the type of tonal range and color correction the image requires.

To illustrate one application of retouching techniques, this lesson takes you through the steps of correcting a photograph intended for four-color print publication. The image is a scanned photograph of Venice that will be placed in an Adobe PageMaker® layout for an A4-size magazine. The original size of the photo is 5 inches x 7 inches and its final size in the print layout will be 3.75 inches x 6 inches.

Resolution and image size

The first step in retouching a photograph in Photoshop is to make sure that the image is the correct resolution. The term *resolution* refers to the number of small squares known as *pixels* that describe an image and establish its detail. Resolution is determined by *pixel dimensions* or the number of pixels along the width and height of an image.

Types of resolution

In computer graphics, there are different types of resolution:

The number of pixels per unit of length in an image is called the *image resolution*, usually measured in pixels per inch (ppi). An image with a high resolution has more pixels, and therefore a larger file size, than an image of the same dimensions with a low resolution.

The number of pixels per unit of length on a monitor is the *monitor resolution*, usually measured in dots per inch (dpi). In Adobe Photoshop, image pixels are translated directly into monitor pixels.

Thus, if the image resolution is higher than the monitor resolution, the image appears larger on screen than its specified print dimensions. For example, when you display a 1-inch-by-1-inch, 144-ppi image on a 72-dpi monitor, the image fills a 2-inch-by-2-inch area of the screen.

The number of ink dots per inch produced by an imagesetter or laser printer is the *printer* Or *output resolution*

. Higher resolution printers combined with higher resolution images generally produce the best quality. The appropriate resolution for a printed image is determined both by the printer resolution and by the *screen frequency* or lines per inch (lpi) of the halftone screens used to reproduce images.

Resolution for this lesson

To determine the image resolution for the photograph in this lesson, we followed the computer graphics rule of thumb for color or grayscale images intended for print on large commercial printers: Scan at a resolution 1.5 to 2 times the screen frequency used by the printer. Because the magazine in which the image will be printed uses a screen frequency of 133 lpi, the image was scanned at 200 ppi (133 x 1.5).

Getting started

- 1 Choose File > Open. Locate and open the Training\Lesson03 select End03.psd and click Open.
- 2 If you like, choose View > Zoom Out to make the image smaller, and leave it on your screen as you work. If you don't want to leave the image open, choose File > Close.

Now open the start file to view the photograph you will be retouching. (Although the photograph for this lesson was originally scanned at 200 dpi as described above, the file in which you will be working is actually a low-resolution file. The resolution was changed to limit the file size and to

make work on the exercises more efficient.)

3 Choose File > Open. Locate and open the Lesson03 folder, select Start03.psd, and click Open.

4 Choose File > Save As, type the name **Work03.psd** , and click Save.

Cropping an image

Once you've scanned an image and opened it in Photoshop, you're ready to retouch it. To start, you'll use the crop tool to scale the photograph for this lesson so that it fits the space designed for it.

1 in the toolbox, and select the crop tool. Then double-click the crop tool to display its Options palette, select Fixed Target Size, and enter the dimensions of the finished image—3.75 inches (width) by 6 inches (height).

2 Next drag a marquee around the image, making sure you include the top of the tower and the orange tarp in the bottom right gondola. Notice that as you drag the marquee it retains the same proportion as the dimensions you specified for the target size.

Because the photograph was scanned in slightly crooked, you'll now use the crop tool to straighten the image before applying the new dimensions to it.

3 Move the pointer outside the crop marquee, and drag clockwise until the marquee is parallel with the image.

4 Place the pointer within the crop marquee, and drag until the right edge of the marquee lines up with the right edge of the image.

5 If necessary, fine-tune the size of the marquee by dragging its bottom right corner handle.

6 Press Enter (Windows) The image is now cropped.

7 Choose File > Save.

Adjusting the tonal range

The tonal range of an image represents the amount of *contrast*, or detail, in the image and is determined by the image's distribution of pixels, ranging from the darkest pixels (black) to the lightest pixels (white). You'll now correct the photograph's contrast using the Levels command.

1 Choose Image > Adjust > Levels, and make sure that the Preview option is checked.

Notice the histogram in the dialog box. The triangles at the bottom of the histogram represent the shadows (black triangle), highlights (white triangle), and midtones or gamma (gray triangle). If your image had colors across the entire brightness range, the graph would extend across the full width of the histogram, from black triangle to white triangle. Instead, the graph is clumped toward the center, indicating there are no very dark or light colors.

You can adjust the black and white points of the image to extend its tonal range.

2 Drag the left and right triangles inward to where the histogram indicates the darkest and lightest colors begin. Click OK to apply the changes.

3 Choose Image > Histogram to view the new histogram. The tonal range now extends throughout the entire range of the histogram. Click OK.

4 Choose File > Save.

Removing a color cast

Some images contain color casts (imbalances of color), which may occur during scanning or which may have existed in the original image. The photograph of the gondolas has a color cast—it's too red.

Note:

To see a color cast in an image on your monitor, you need a 24-bit monitor (one that can display millions of colors). On monitors that can display only 256 colors (8 bits), a color cast is difficult, if not impossible to detect.

You will now use a Color Balance adjustment layer to correct the photograph's color cast. An adjustment layer lets you edit an image as many times as you like without permanently changing the original pixel values. Using an adjustment layer to adjust color balance is a particular advantage for images you plan to print. After you see the color proof or printed copy, you can make additional changes to the image, if necessary.

1 Choose Layer > New > Adjustment Layer.

2 For Type, choose Color Balance.

3 Click OK to create the adjustment layer and to display the Color Balance Layer dialog box.

4 Select the Preview option.

5 To adjust the midtones so that they're less red, drag the top slider to the left (we used -15) and the middle slider to the right (we used +8).

6 Click OK to apply the changes to the Color Balance adjustment layer. Notice that a Color Balance layer has appeared in the Layers palette.

7 In the Layers palette, click the eye icon next to the Color Balance layer to hide and show the layer. You'll see the difference between the adjusted colors and the original colors.

8 Choose File > Save.

Note: When you double-click an adjustment layer in the Layers palette, the corresponding dialog box appears, where you can edit the values of the adjustment layer.

Replacing colors in an image

With the Replace Color command, you can create temporary masks based on specific colors and then replace these colors. *Masks* let you isolate an area of an image, so that changes affect just the selected area and not the rest of the image. Options in the Replace Color command's dialog box allow you to adjust the hue, saturation, and lightness components of the selection.

Hue

is color,

saturation

is the purity of the color, and

lightness

is how much white or black is in the image.

You'll use the Replace Color command to change the color of the orange tarp in the gondola at the bottom right corner of the image.

1 In the Layers palette, select the background.

2 Select the zoom tool and click once on the tarp to zoom in on it.

3 select the rectangle marquee tool, and then drag a selection around the tarp. Don't worry about making a perfect selection, but be sure to include all the tarp.

4 Choose Image > Adjust > Replace Color to open the Replace Color dialog box. By default, the Selection area of the Replace Color dialog box displays a black rectangle, representing the current selection. You will now use the eyedropper tool to select the area of color that will be masked and replaced with a new color. Three eyedropper tools are displayed in the Replace Color dialog box.

A. Select single color

B. Add to selection

C. Subtract from selection

The first eyedropper tool selects a single color, the eyedropper-plus tool is used to add colors to a selection, and the eyedropper-minus tool is used to subtract colors from a selection.

5 Click the eyedropper tool in the dialog box, and click once on the orange tarp to select it.

6 Then select the eyedropper-plus tool, and drag over the other areas of the tarp until the entire tarp is highlighted in white in the dialog box.

7 Adjust the tolerance level of the mask by moving the Fuzziness slider to 61. Fuzziness controls the degree to which related colors are included in the mask.

8 In the Transform area of the Replace Color dialog box, drag the Hue slider to 149, the Saturation slider to -17, and the Lightness slider to -39. The color of the tarp is replaced with the new hue, saturation, and lightness.

9 Click OK to apply the changes.

10 Double-click the hand tool to fit the image on screen.

11 Choose Select > Deselect.

12 Choose File > Save.

Adjusting saturation with the sponge tool

Now you'll saturate the color of the gondolas in the foreground using the sponge tool. When you change the saturation of a color you adjust its strength or purity. The sponge tool is useful in letting you make subtle saturation changes to specific areas of an image.

1 Hold down the mouse button on the dodge tool in the toolbox, and drag to the sponge tool

2 Click the Options tab and choose Saturate from the pop-up menu. To set the intensity of the saturation effect, click the arrow next to the Pressure text box, and drag the Pressure pop-up slider to 90%.

3 Select a large, feathered brush from the second row of the Brushes palette.

4 Drag the sponge back and forth over the gondolas to saturate their color.

Adjusting lightness with the dodge tool

Next you'll use the dodge tool to lighten the highlights along the gondola's hull and exaggerate the reflection of the water there. The dodge tool is based on the traditional photographer's method of holding back light during an exposure to lighten an area of the image.

1 Hold down the mouse button on the sponge tool, and drag to the dodge tool (). Then choose Highlights from the menu in the Tool Options palette, and set Exposure to 50%.

2 Select a medium, feathered brush from the second row of the Brushes palette.

3 Drag the dodge tool back and forth over the gondola's hull to bring out its highlights.

Removing unwanted objects

With Adobe Photoshop, you can remove unwanted objects from a photograph. Using the rubber stamp tool, you can remove an object or area by "cloning" an area of the image over the area you want to eliminate. You'll eliminate the small boat near the center of the image by painting over it with a copy of the water.

1 Select the zoom tool; then click the small boat to magnify that part of the image.

2 Choose File > Preferences > Display & Cursors. For Painting Cursors, click Brush Size; then

click OK.

3 Double-click the rubber stamp tool in the toolbox, and make sure that the Aligned option in the Rubber Stamp Options palette is deselected.

4 Center the rubber stamp tool over the water between the large gondola and the post to its right. Then hold down Alt (Windows) copy that part of the image. Make sure that the area you sample blends well with the area around the object you are removing.

Clicking to sample image Dragging to paint over image

5 Drag the rubber stamp tool over the boat to paint over it with a copy of the water you just sampled. Notice the crosshair that follows your cursor as you paint; it represents the point from which the rubber stamp tool is cloning.

6 Double-click the hand tool in the toolbox to fit the image on screen.

7 Choose File > Save.

Replacing part of an image

Because the sky is fairly drab and overcast in this photograph, you'll replace it with a more interesting sky from another file. You'll begin by selecting the current sky.

1 Select the magic wand tool Click to select part of the sky. Hold down Shift, and click the rest of the sky to select it.

2 Open the Clouds.psd file located in the Lesson03 folder.

3 Choose Select > All; then choose Edit > Copy. Close the Clouds.psd file.

4 Choose Edit > Paste Into to paste the clouds into the current selection. Notice that a new layer has been added to the Layers palette.

5 Select the move tool (), and drag the clouds into the position you want.

Now you'll change the clouds' opacity to make them blend better with the rest of the image.

6 Use the keyboard shortcut of typing any number from 01 (1%) to 100 (100%) to set the new cloud layer's opacity (we used 55%).

7 Choose File > Save.

You will now flatten the image into a single layer so that you can apply the Unsharp Mask filter, the final step in retouching the photo. Because you may want to return to a version of the file with all its layers intact, you will use the Save As command to save the flattened file with a new name.

8 Choose Layer > Flatten Image., filter, sharpen, unsharpmask. Amount 120%

9 Choose File > Save As. In the dialog box, type a new filename, and click Save.

Combining Illustrator Graphics and Photoshop Images

This lesson shows you how to do the following:

- Differentiate between bitmap and vector graphics.
- Place an Adobe Illustrator® graphic in an Adobe Photoshop file.
- Scale the placed graphic.
- Distort a graphic to match the perspective of a photograph.
- Apply different blending modes to a graphic.
- Use the Export Transparent Image wizard to prepare a Photoshop image for use in an Illustrator file.

Combining artwork

You can combine Photoshop artwork with art from other graphics applications in a variety of ways for a wide range of creative results. Sharing artwork between applications allows you to combine line art with continuous-tone paintings and photographs. It also allows you to move between two types of computer graphics—bitmap images and vector graphics.

Bitmap vs. vector graphics

Adobe Photoshop uses *bitmap images*, also called raster images, which are based on a grid of pixels. In working with bitmap images, you edit groups of pixels rather than objects or shapes. Because bitmap graphics can represent subtle gradations of shade and color, they are appropriate for continuous-tone images such as photographs or artwork created in painting programs. A disadvantage of bitmap graphics is that they lose definition and appear “jagged” when scaled up. *Vector graphics*, also called draw graphics, are made up of shapes based on mathematical expressions and are created in drawing applications. These graphics consist of clear, smooth lines that retain their crispness when scaled. They are appropriate for illustrations, type, and graphics such as logos that may be scaled to different sizes.

In deciding whether to use Photoshop or a vector graphics program such as Illustrator for creating and combining graphics, consider both the elements of the image and how the image will be used. In general, use Photoshop for images that have the soft lines of painted or photographic art and for applying special effects to line art. Use Illustrator if you need to create art or type with clean lines that will look good at any magnification. In most cases, you will also want to use Illustrator for laying out a design, since Illustrator allows you more flexibility in working with type and with reselecting, moving, and altering images.

Project overview

To illustrate how you can combine vector art with bitmap images and work between applications,

this lesson steps you through the process of creating a composite image. In this lesson, you will add a logo created in Adobe Illustrator to a photographic image in Adobe Photoshop and adjust the logo so that it blends with the photo. You will then save the resulting image so that it can be brought back into Illustrator for final layout as a print advertisement.

Getting started

1 Choose File > Open. Locate and open the Training\Lesson04 folder in the Adobe Photoshop 5.0 application folder or on the tutorial CD. Then select end04.psd and click Open.

2 If you like, choose View > Zoom Out to make the image smaller, and leave it on your screen as you work. If you don't want to leave the image open, choose File > Close.

Now you'll open the start file, the photographic image to which you will add a logo.

3 Choose File > Open. Locate and open the Lesson04 folder, select Start04.psd, and click Open.

4 Choose File > Save As, type the name **Work04.psd**, and click Save.

Placing an Adobe Illustrator file

You can open an Adobe Illustrator file as a new Adobe Photoshop file, or you can use the Place or Paste commands to add an Illustrator file into an existing Photoshop file. When you open, place, or paste an Illustrator image, Photoshop *rasterizes* it so that it becomes a bitmap, or raster, image. In this lesson, you will be using the Place command to add an Illustrator file to an existing Photoshop image. The advantage of the Place command is that it allows you to scale the image while it is still vector art, so that the scaling does not sacrifice image quality. With the Place command, a graphic is not rasterized until you press Enter (Windows) Alternatively, if you were to cut and paste a graphic from Illustrator into Photoshop, the image would come in already rasterized at the size it was in the Illustrator file. If you then scaled the graphic, it would lose image quality.

1 With the photo of the gift box open, choose File > Place. Select the file Logo.ai located in the Lesson04 folder, and click Place. Notice that the logo appears with a bounding box around it and that Photoshop automatically creates a new Logo.ai layer for the image in the Layers palette.

2 Hold down Shift, and drag a corner handle of the bounding box to scale the logo to fit the gift box. (Holding down Shift constrains the proportions of the logo.)


3 Position the pointer outside the bounding box (the pointer turns into a curved arrow), and drag to rotate the logo slightly counter-clockwise.


4 If necessary, position the pointer inside the bounding box so that you see a move pointer, and

drag to reposition the logo so that it fits within the borders of the box. Fine-tune with other rotation or scaling adjustments; then press Enter (Windows) to apply the changes and rasterize the logo.

Distorting the graphic to match the photograph

Your next step is to distort the logo so that it appears to wrap around the top and front of the box. To create this effect, you'll cut the logo in half, place each half on its own layer, and then apply the distortion to the logo's top half.

1 With the Logo.ai layer active, select the polygon lasso tool , and click the right front corner of the box top. Drag to the next corner, click, and then continue dragging around the box top, clicking at each corner. Complete the selection by crossing over the starting point.

2 Choose Layer > New > Layer Via Cut to cut the top half of the logo from the Logo.ai layer and place it on its own layer. Notice that a new layer, Layer 1, has appeared in the Layers palette. To see the artwork on the layer, turn off the other two layers by clicking the eye icon  to the left of the layers in the Layers palette. Click again to turn all layers back on. Now you're ready to distort the top of the logo.

3 Make sure that Layer 1 is active, and then choose Edit > Transform > Skew. A transformation bounding box appears around the top half of the logo.

4 Experiment by dragging the handles of the bounding box to distort the logo so that it matches the perspective of the box. In particular, try dragging the upper left handle in the direction of the back left corner of the box top.

To undo the last handle adjustment, choose Edit > Undo. To cancel the transformation, press Escape.

5 When the logo appears to wrap around the top of the box, apply the transformation by pressing Enter (Windows)

Using blending modes on the graphic

Now you'll make the logo appear more integrated with the box by using different blending modes on each half of the logo. First you'll lighten the top half of the logo so that it matches the box top.

1 With Layer 1 still active in the Layers palette, change the opacity of the layer to 60% and make sure that Normal is selected for the blending mode. Changing the opacity of the layer lightens the top of the logo and makes it blend better with the highlights on the top of the box.

Next you'll darken the bottom half of the logo so that it blends with the shadow on the box front.

2 Click the Logo.ai layer in the Layers palette to make it active, change the opacity to 70%, and select Multiply from the blending mode menu. Using the Multiply blending mode on the layer darkens the bottom of the logo and makes it appear to be in shadow.

3 Choose File > Save.

Exporting the image

You'll now prepare the new composite image so that it can be placed back into Illustrator for its final layout. By default, when you export an Adobe Photoshop file to another program such as Illustrator, the entire image becomes opaque, including the background. In this project, the gift box in the Photoshop file is targeted for an Illustrator file with a colored background. Therefore, if you were to export the file without any adjustment, the white background around the box would appear as an opaque white area against the colored Illustrator background.

With the help of a Photoshop wizard, you can export a Photoshop image to Illustrator and hide, or clip, the background. Wizards are assistants available through the Help menu that guide you through common tasks in Photoshop. To hide the background around the box image, you will use the Export Transparent Image wizard, which identifies the desired portion of the photograph and makes everything outside it appear transparent when the image is exported.

Before running the Export Transparent Image wizard, you must select the part of the image you want to make transparent. In the Work04.psd file, you will select the white background around the box.

1 In the Layers palette, click Background to make it active.

2 Select the polygon lasso tool, and draw a selection around the box. Then choose Select > Inverse to select the background around the box.

You're now ready to run the wizard, which uses dialog boxes to step you through the process of exporting the file.

3 Choose Help > Export Transparent Image.

4 In the first dialog box, choose the second option, indicating that you have already selected the area of the image you want to make transparent. Then click Next.

5 In the next dialog box, choose Print and click Next.

6 In the third dialog box, accept the Photoshop EPS default file format and the default file name, and click Save.

7 In the EPS Options dialog box, for Preview choose the option TIFF (8 bits/pixel) for Windows and click OK.

Note:

If you place an EPS file with a TIFF preview into Adobe Illustrator, the transparency created by

the wizard won't display properly. This display affects the on-screen preview only; when the image prints to a PostScript® printer, the areas designated for transparency in the wizard will in fact be transparent.

8 In the final dialog box, click Finish.

Note that you now have two files open on your desktop: Work04 and Export Wizard Work04 (Windows) Because you are finished with the Work04 file, you can close it. Be careful not to save the file, however, since the Export Transparent Image wizard flattened the file's layers as one of the steps in preparing the file for export. If you save this version of the file, you will lose the original file's separate layers.

9 With the Work04.psd file active, choose File > Close.

10 In the dialog box, click the Don't Save option.

The final step in preparing the Photoshop file for export to a print color publication is to change the image to CMYK color mode so that it will be printed correctly in four-color process inks. You can use the Mode command to change the image's color mode.

11 With the Export Wizard Work04 (Windows) active, choose Image > Mode > CMYK.

12 Choose File > Save.

The box-and-logo image is now fully composed and ready for placement in the Adobe Illustrator layout. If you have a copy of Illustrator, you can try placing the exported image in the Mailer.ai file located in the Lesson04 folder.

Exploring on your own

Now that you've learned the basic steps involved in combining an Illustrator graphic with a Photoshop image, you can try applying the logo to a new Photoshop image.

1 Locate and open the Lesson04 folder. Then select Cap.psd or Cup.psd, and click Open.

2 Choose File > Place. Select the Logo.ai file, and click Place.

Now try out techniques presented here to blend the graphic with the Photoshop image.