

Common
Occupational
Readiness
Essentials

CERTIFICATION PREP

Adobe Photoshop CS5

D. Michael Floor



Certification Prep Series

by D. Michael Ploor

Start on Monday.
Test on Friday.

Certification Prep Series consists of individual guides that provide practice in the basic skills needed to be successful using the corresponding software. No previous software experience is required. Although the guides focus on learning skills, not test taking, users that complete the practice will be prepared to take the official software certification exam and exhibit workplace readiness. Step-by-step instructions demonstrate actual software commands and features, building from basic to advanced. Content is divided into small units for better learning and usage. There is no need to purchase additional materials as all lesson content is created using the software.

- Provides an affordable way to prepare for industry certification versus other methods.
- Integrates easily into existing classroom activities.
- Focuses on hands-on experience to develop skills.

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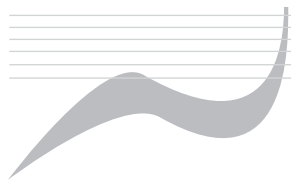


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Introduction

The Common Occupational Readiness Essentials (CORE) series of certification preparation guides focuses on mastering the essential basic skills needed as a workplace-ready user of the software. The goal of each CORE certification preparation guide is to provide practice in each essential basic skill required by employers who use the software. To prove workplace readiness, you will also be prepared to take the official certification exam for the software.

CORE Adobe Photoshop CS5 will help prepare you to take the Adobe Certified Associate (ACA) Adobe Photoshop CS5 certification exam. It provides step-by-step instruction for the features and commands covered on the certification exam. The focus of the lessons is to practice *using* the actual commands and features instead of creating a complete end product. Most lesson content is created using the software, and minimal downloading of files is required. Furthermore, each certification preparation guide is broken down into small learning units to enable better comprehension and application of the software. Where required, answers are provided at the back of the certification preparation guide.

Certification as an Adobe Certified Associate demonstrates an aptitude with Adobe software. ACA certification is offered for Adobe Dreamweaver, Adobe Flash, Adobe Photoshop, Adobe Premier, Adobe Illustrator, and Adobe InDesign. Certification exams are provided by Certiport, Inc., through various testing facilities. Visit www.certiport.com for more information on registering for certification exams.

About the Author

D. Michael Ploor is the author of the CORE series of certification preparation guides. Mr. Ploor's students have achieved exceptional results with the CORE certification preparation guides. His students collectively pass more than 500 industry certification exams each year without the need for other preparation materials. Mr. Ploor has demonstrated the strength of integrating the CORE guides in a diverse mix of courses.

Mr. Ploor is also the author of three textbooks on the subject of video game design: *Introduction to Video Game Design*, *Video Game Design Foundations*, and *Video Game Design Composition*. He is a National Board Certified Teacher in Career and Technical Education and holds an MBA degree from the University of South Florida. He maintains professional teaching credentials in Business Education and Education Media Specialist.

Mr. Ploor is at the forefront of innovative teaching and curriculum. He developed STEM curriculum while serving as the lead teacher in the Career Academy of Computer Game Design at Middleton Magnet STEM High School. Mr. Ploor has applied his skills as a STEM Curriculum Integration Specialist in designing innovative curriculum and by collaborating to construct the state standards for video game design in several states. He has also been instrumental in authoring competitive events for Career and Technical Student Organizations such as the Future Business Leaders of America (FBLA) and Phi Beta Lambda (PBL).

In addition to publishing textbooks and lessons, Mr. Ploor provides professional development as a frequent presenter at regional and national conferences to promote CTE education and video game design curriculum.



Lesson 4

Editing Images

Objectives

Students will copy and paste an image. Students will fit an image to size. Students will isolate an image element. Students will create a layer from a selection. Students will apply layer styles. Students will add to an existing image. Students will adjust an image. Students will manage layers. Students will manage the workspace.

Situation

The Nocturnal Interactive Computer Entertainment (NICE) company wants you to create a superhero image that will be used in different print and digital media. In the process, you will gain experience using Photoshop to edit images.

How to Begin

1. Before beginning this lesson, download the needed files from the student companion website located at www.g-wlearning.com, and unzip them into your working folder.
2. Launch Adobe Photoshop.
3. Click **New...** in the **File** pull-down menu to display the **New** dialog box.
4. Applying what you have learned, name the document *LastName_Hero_1* and set the color model to 8-bit RGB.
5. Click in the **Width:** text box, and enter 8. Click the drop-down arrow to the right of the **Width:** text box, and click **inches** in the drop-down list. This specifies the width of the document as 8". Notice the drop-down arrow to the right of the **Height:** text box has automatically changed to **inches**.
6. Click in the **Height:** text box, and enter 10. This specifies the height of the document as 10".
7. Click in the **Resolution:** text box, and enter 72. Make sure the drop-down arrow to the right of the **Resolution:** text box is set to **pixels/inch**.
8. Click the **Background Contents:** drop-down arrow, and click **Transparent** in the drop-down menu.
9. Click the **OK** button to create the new document.
10. Save the document as *LastName_Hero_1.psd* in your working folder.

Copying and Pasting an Image

Notice the canvas area is filled with a gray-and-white checkerboard. This checkerboard pattern indicates transparency or see-through. Also notice the **Layers**

TIP

The [Ctrl][C] key combination can be used to copy a selection. The [Ctrl][V] key combination can be used to paste content from the system clipboard.

panel displays Layer 1 and shows a thumbnail of the canvas. You will now paste the superhero image into this document.

11. Open the Hero file from your working folder.
12. Applying what you have learned, select the entire image.
13. Click **Copy** in the **Edit** pull-down menu.
14. Close the Hero file by clicking the close button (X) on the document name tab.
15. With the Hero_1 document active, click **Paste** in the **Edit** pull-down menu.
Notice the copied image is pasted onto Layer 1 because it is empty, as shown in **Figure 4-1**. If the current layer contained anything, a new layer would be created for the pasted image.

Fitting an Image to Size

Right now, the superhero does not fit the canvas. The pasted image needs to be modified to make it fit correctly on the canvas.

16. Click the **Move Tool** button on the **Tools** panel. This tool moves everything on the current layer.



Move Tool

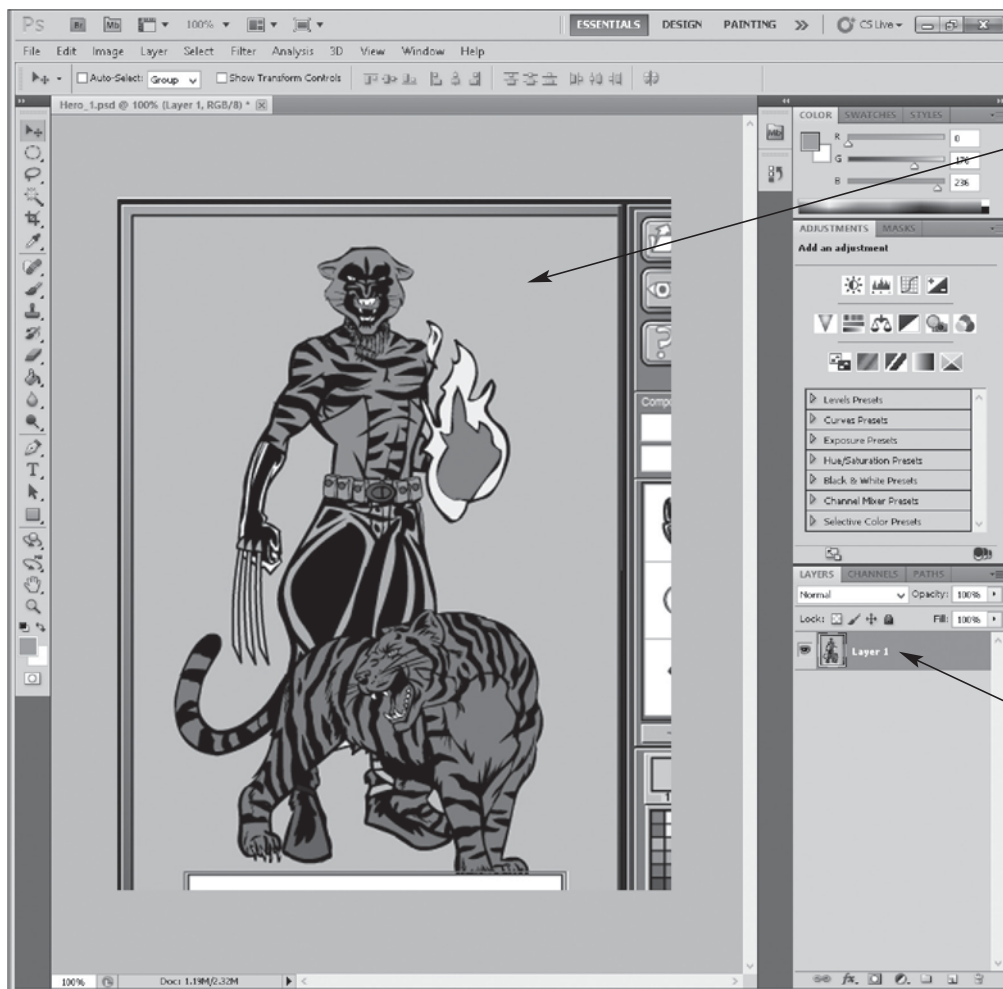


Figure 4-1.

Pasting an image onto an empty layer.



Crop Tool

17. Click the image, hold, and drag so the superhero is centered in the canvas. Notice the image is larger than the canvas with some extra elements in addition to the superhero. Some changes need to be made to the image.
18. Click **Reveal All** in the **Image** pull-down menu. This shows the entire image by resizing the canvas to fit the dimensions of the pasted image.
19. Click the **Crop Tool** button on the **Tools** panel. To *crop* is to remove the part of an image outside of a selected rectangular region.
20. Click on the image and drag a rectangular box around the superhero. You can partially enclose the desired area, and then resize the box by dragging the edges. Use the scroll bars as needed to see the image and define the rectangular region. There should be about a quarter inch of space between the character and the crop box, except at the bottom where the box should be at the bottom of the tiger's feet.
21. On the **Options** bar, click the **Delete** radio button next to **Cropped Area:**. When this radio button is on, anything outside the crop box will be deleted. If the **Hide** radio button is on, the area outside the box will be preserved, but hidden.
22. Click the **Color:** color swatch in the **Options** bar. The **Color Picker** dialog box is displayed.
23. In the **Color Picker** dialog box, click in the # text box at the bottom, enter FF0000, and click the **OK** button. FF0000 is the hexadecimal code for red. This color will be placed over the area to be removed by cropping, which is called the shield.

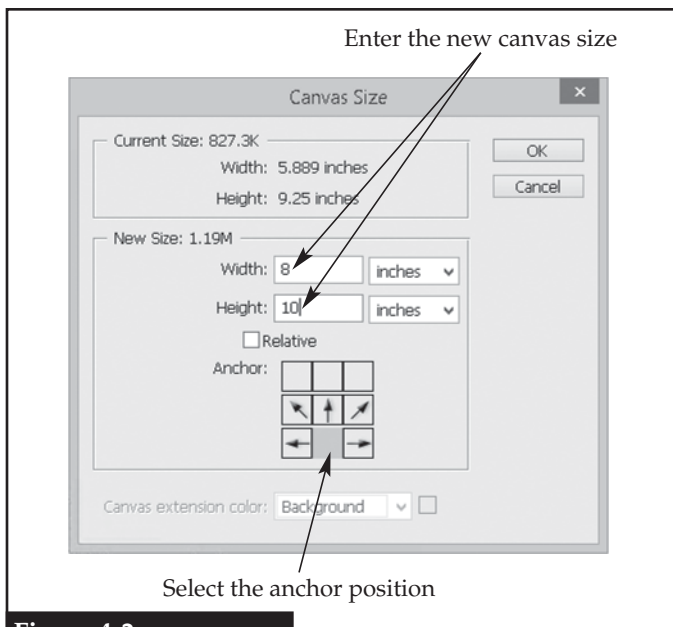


Figure 4-2.

Resizing the canvas for an image.

TIP
If the new canvas size is smaller than the current size, the image will be cropped.

24. Click in the **Opacity:** text box on the **Options** bar, and enter 90%. This sets the transparency of the color to almost opaque, but part of the image is still visible through the color.
25. Click the **Crop Guide Overlay:** drop-down arrow on the **Options** bar, and click **Grid** in the drop-down menu. Notice how the guidelines within the crop area change. The overlay options help align and balance the elements of the image.
26. Click the **Commit Current Crop Operation** button (check mark) on the right-hand side of the **Options** bar. This executes the crop and removes all parts of the image covered by the red shield. Note: cropping changes the size of the canvas.
27. Click **Canvas Size...** in the **Image** pull-down menu. The **Canvas Size** dialog box is displayed, as shown in **Figure 4-2**.
28. Click in the **Width:** text box and enter 8. Make sure the drop-down arrow is set to **inches**.
29. Click in the **Height:** text box and enter 10. Make sure the drop-down arrow is set to **inches**.
30. In the **Anchor:** area, click the bottom-center box. The anchor is the point from where the operation will be applied. It is like putting a pin in the image at the anchor point so when the canvas is made larger or smaller, the image stays pinned to that position.
31. Click the **OK** button to change the canvas size.

Isolating an Image Element



Quick Select Tool

TIP

The [Alt] key is used to do the opposite of a tool's function.

Most of the unwanted parts of the image have been cropped from the image. Now, the superhero character must be isolated from the background.

32. Click the **Quick Selection Tool** button on the **Tools** panel. The **Quick Selection Tool** allows you to click areas to be included in the selection. You can also click and hold to “paint” a selection area.
33. Click once in the middle of the superhero. Notice that the tool automatically selects an area that is the same color or has a lined border. The selection is indicated by the marquee, or *marching ants*.
34. Click and hold the mouse button, and push the selection area outward to try and include the entire hero as one selection. Clicking selects an area. Holding down the [Alt] key while clicking deselects an area. The selection does not have to be extremely close for this exercise, and the **Quick Selection Tool** works well for this purpose.
35. Right-click on the selected area, and click **Select Inverse** in the shortcut menu. This reverses what is selected with what is unselected. In other words, since the superhero is selected, this selects the background.

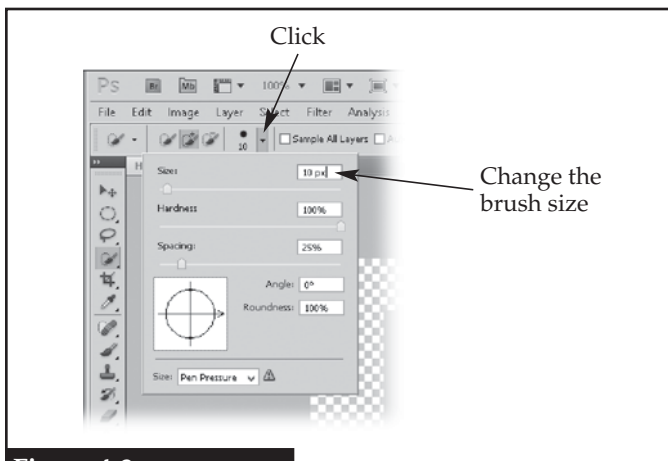


Figure 4-3.

Changing the size of a brush.

36. Click **Inverse** in the **Select** pull-down menu, which is another way to invert the selection. The previous selection is restored, which is the superhero.
37. On the **Options** bar, click the brush picker drop-down arrow, and in the drop-down menu, enter 10 in the **Size:** text box, as shown in **Figure 4-3**. This makes the brush smaller so the selection can be increased to include finer details.
38. Clean up the selection edge on your hero if needed using this smaller brush. Use the [Alt] key as needed to subtract from the selection.
39. Click the **Refine Edge...** button on the **Options** bar. The **Refine Edge** dialog box is displayed. Notice in the image the areas outside the selection are masked in white.

40. Click in the **Radius:** text box, and enter 60. Notice how the white area blurs into the selection, which is indicated by removal of some of the color in the image.
41. Check the **Show Radius** check box in the dialog box. The radius of the selection is now shown on the image.
42. Drag the **Radius:** slider to the left until the radius shown on the image is approximately the outline of the superhero character. Then, uncheck the **Show Radius** check box.
43. Drag the **Contrast:** slider to the right to a setting of 60%. Notice the edge is sharply defined. Contrast adjusts the color balance on the image to make it stand out more from the background. Return the setting to 0%.
44. Drag the **Smooth:** slider to the right to a setting of 60 pixels (px). Notice that any sharp points on the image are rounded. Smoothing takes away any sharp angles and points. Return the setting to 0 pixels.

TIP

The [Delete] key can be used to remove the selected area.

45. Drag the **Feather:** slider to the right to a setting of 10 pixels. Notice the edge has a uniform blur similar to the radius setting. Return the setting to 0 pixels.
46. Drag the **Shift Edge:** slider to the right to a setting of +30%. This pushes the selection outward. A negative value will push the selection inward. When the selection is modified using the other settings in the dialog box, sometimes the defined edge is lost. The **Shift Edge** setting can help restore the selection edge.
47. Click the **View:** button at the top of the dialog box, and click **Marching Ants** in the drop-down list. The selection is displayed as a marquee, and the white mask is removed.
48. Click the **View:** button, and click **Black & White** in the drop-down list. The areas excluded from the selection are shown in black, and the areas included in the selection are shown in white.
49. Click the **OK** button to accept the refined edge and close the dialog box.
50. Applying what you have learned, invert the selection so the background is selected instead of the superhero.
51. Click **Cut** in the **Edit** pull-down menu. The selected area, the background, is removed from the document and the character is isolated.

Creating a Layer from a Selection

52. Applying what you have learned, cancel the selection.
53. Applying what you have learned, select just the character's right hand.
54. Right-click on the selection, and click **Layer Via Cut** in the shortcut menu. This cuts the selected area from the Layer 1 layer and places it on a new layer. No change is visible in the image as the layers are stacked, but Layer 2 now appears in the **Layers** panel.
55. Applying what you have learned, turn off the visibility of Layer 2. The right hand is no longer visible. The hand is still part of the image, just not visible because the layer it is on has been hidden.
56. Applying what you have learned, turn on the visibility of Layer 2. The hand is visible again.

Applying Layer Styles and Effects



Add a Layer Style

57. Click Layer 1 in the **Layers** panel to make it the current layer. This is the layer containing the character minus the hand.
58. Click the **Add a Layer Style** button (fx) at the bottom of the **Layers** panel to display a menu. The commands in this menu apply effects to the current layer.
59. Click **Stroke...** in the drop-down menu. The **Layer Style** dialog box is displayed with **Stroke** automatically checked and selected, as shown in **Figure 4-4**. Stroke is another word for line or shape outline.
60. Click in the **Size:** text box, and enter 7. This is the width of the stroke in pixels.
61. Click the **Color:** swatch to open a color picker dialog box. Notice the color can be defined using any of the five color models. Change the color to light blue by entering 0 in the **R:** text box, 225 in the **G:** text box, and 255 in the **B:** text box. Then, close the color picker.
62. Click the **OK** button to close the **Layer Style** dialog box and apply the stroke. The character is outlined in blue, except for the right hand. The style is applied to the

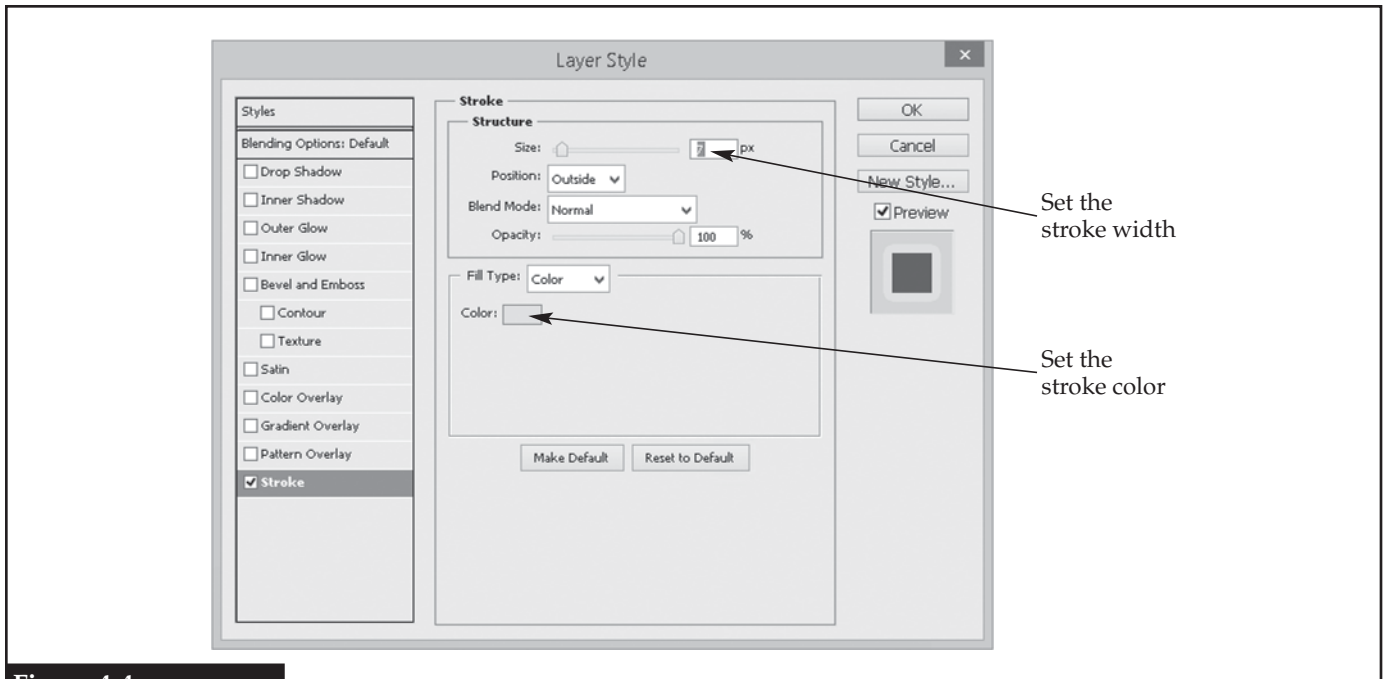


Figure 4-4.

Applying a stroke to a layer.

layer, not the entire image. If any of the stroke appears to be applied to the hand, it is because small areas around the hand remained on Layer 1 when the hand was moved to Layer 2.

Adding to the Image



Ellipse Tool

TIP

Rulers can be displayed along the sides of the document by clicking **Rulers** in the **View** pull-down menu.



Rounded Rectangle Tool



Horizontal Type Tool

63. Click the **Ellipse Tool** in the **Tools** panel.
64. Click near the top of the canvas and drag to draw an oval about 2" tall and 2.5" wide. Notice the object is added to a new layer named Shape 1.
65. Double-click the thumbnail for the Shape 1 layer in the **Layers** panel. A color picker dialog box is displayed.
66. Applying what you have learned, create a color with hue of 250, saturation of 80%, and brightness of 100%. Close the color picker. The color of the ellipse is changed.
67. Applying what you have learned, move the ellipse shape so it covers the superhero's head.
68. In the **Layers** panel, click and hold the Shape 1 layer, drag it to the bottom of the layer stack, and drop it. This rearranges the layers so the Shape 1 layer is on the bottom. Any content on layers above it will hide parts of the ellipse. The result is the ellipse simulates a halo effect behind the superhero's head.
69. Click the **Rounded Rectangle Tool** in the **Tools** panel, and draw a shape centered at the top of the canvas to fit above the superhero's head. It can overlap the ellipse.
70. Applying what you have learned, change the color of the rounded rectangle to yellow.
71. Click the **Horizontal Type Tool** button in the **Tools** panel.
72. Click anywhere on the canvas to set the insertion point, and enter the text My Superhero. Notice the text is placed on a new horizontal text layer.



Link Layers



Polygon Tool

73. Applying what you have learned, move the text so it is centered on the yellow rectangle.
74. In the **Layers** panel, click the text layer, hold the [Ctrl] key, and click the Shape 2 layer (the rounded rectangle). This selects both layers.
75. Click the **Link Layers** button at the bottom of the **Layers** panel. These two layers are now *linked*, or locked together, as indicated by the chain icon to the right of the layer names, as shown in **Figure 4-5**. Moving one layer automatically moves the other layer, so the text and yellow rectangle can be moved as one.
76. Applying what you have learned, use the **Polygon Tool** to add a green, five-sided polygon on the left side of the canvas.
77. In the **Layers** panel, right-click on the Shape 3 layer (the polygon), and click **Rasterize Layer** in the shortcut menu. This converts the shape layer to a raster layer that defines each pixel of the image layer. You will no longer be able to change the color of the shape by double-clicking on its layer in the **Layers** panel. Notice the thumbnail has changed from showing just the polygon to showing the entire canvas with the polygon in place.



Figure 4-5.

Layers can be linked so they move as one.



Magic Wand Tool



Gradient Tool



Linear Gradient

TIP

If a selection is active, the gradient is limited to the selection. If no selection is active, the gradient is applied to the entire layer.



Create a new Levels adjustment layer

78. Click the **Magic Wand Tool** in the **Tools** panel, and click anywhere inside the green polygon. The magic wand selects all adjacent pixels of the same color as the pixel clicked, so the entire green polygon is selected.
79. Click the **Gradient Tool** in the **Tools** panel.
80. Applying what you have learned, display the **Swatches** panel.
81. Left-click on the red swatch to set the foreground color. Notice in the **Options** bar that red is the first color of the gradient, as shown in **Figure 4-6**. Also notice the current background color is the second color of the gradient.
82. Click the drop-down arrow next to the gradient sample in the **Options** bar. The drop-down menu displayed contains several preset gradient styles. Hover the cursor over each style to display the name of the preset as help text.
83. Click the Transparent Rainbow style in the drop-down menu. Notice how the gradient preview changes to match the style. Click the drop-down button or press the [Esc] key to close the menu.
84. To the right of the gradient preview on the **Options** bar are commands to control how the gradient is applied. Click the **Linear Gradient** button.
85. Click near the bottom of the selection (the polygon), drag toward the top, and release to draw a *gradient line*. The gradient is drawn following the gradient line. Notice that since the two outside colors of the gradient are transparent, the original green color of the polygon may still be seen outside of the gradient.

Adjusting the Image

86. Click the **Collapse to Icons** button (>>) at the top of the panels to make the canvas area larger.
87. Applying what you have learned, expand the collapsed **Adjustments** panel.
88. Click the **Create a new Levels adjustment layer** button. The **Adjustments** panel displays a histogram that illustrates the color density of each color channel. A *histogram* is a chart showing the frequency of occurrence, so the higher the line the higher the color density.
89. Click the drop-down arrow above the histogram, and click **Green** in the drop-down list, as shown in **Figure 4-7**. Only the green channel is displayed in the histogram.
90. At the bottom of the histogram are three sliders for adjusting the color saturation: shadows, midtones, and highlights. Click the shadows slider, which

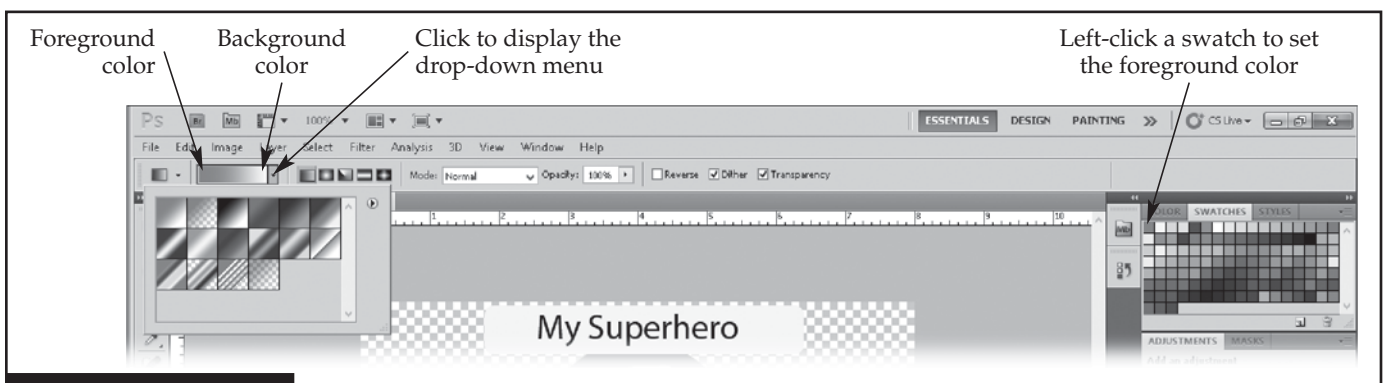


Figure 4-6.

Defining a gradient.

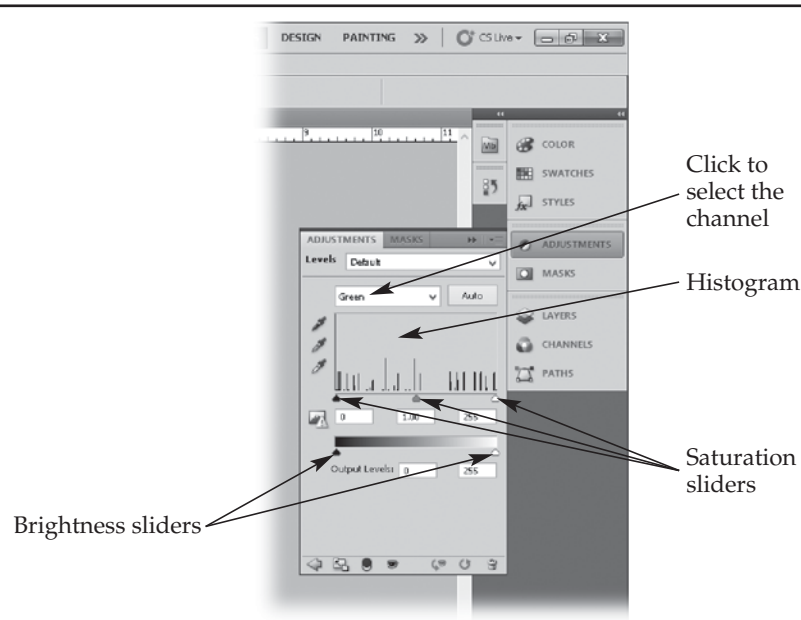


Figure 4-7.

Adjusting color levels.

is the left-hand slider, and drag it to the right. Notice how the colors in the gradient become darker. The green colors become nearly black the farther to the right you drag the slider. The other colors are not affected as much because only the green channel is displayed in the histogram.

91. Below the histogram is a gradient bar containing two sliders to adjust the color brightness. The left-hand slider is the input for pure black, and the right-hand slider is the input for pure white. The position of the sliders on the bar determines the output level. Click the white slider, which is the right-hand slider, and drag it to the left. Notice how much darker the colors of the rainbow become as white is removed. When the white slider is in the middle of the bar, pure white is replaced with gray, which is why the colors become darker.
92. Applying what you have learned, collapse the **Adjustments** panel and expand the **History** panel. Notice a list of different *states*, or stages, of the document is shown. Up to 20 states are stored in the default history panel list.
93. Right-click on the last history state, and click **Delete** in the shortcut menu. In the dialog box that appears asking if you want to delete the state, click the **Yes** button. The state is removed, and the image is restored to its previous state. In effect, the color alterations to the gradient are undone. Note: states must be removed in order from the bottom up.
94. Applying what you have learned, close the **History** panel, expand the normally expanded panels, and select the layer that contains the yellow rectangle.
95. Display the **Adjustments** panel, and click the **Create a new Black & White adjustment layer** button. The **Adjustments** panel displays settings for removing color, as shown in Figure 4-8. Notice that a new layer is created above the layer containing the yellow rectangle, and all layers below this new layer have the color removed.

TIP
The **History** panel can be resized by dragging the lower-right corner of the panel.



Create a new Black & White adjustment layer

Managing Layers



Create a new group

96. In the **Layers** panel, drag the Shape 1 layer (the ellipse) above the Black & White 1 layer. Notice how color is restored to the ellipse.
97. Click the **Create a new group** button in the **Layers** panel. A group is added to the layer stack above the current layer. A *group* is a folder into which layers can be placed, which can help to better organize a project.
98. Double-click on the Group 1 name. The name appears in a text box. Enter the new name of Nonhero Layers.
99. Right-click on the Nonhero Layers group, and click **Group Properties...** in the shortcut menu.
100. In the **Group Properties** dialog box that is displayed, click the **Color:** drop-down arrow, and click **Red** in the drop-down list.
101. Click the **OK** button to close the **Group Properties** dialog box. A red background is added for the group in the **Layers** panel. This is only for organizational purposes and does not affect the image.
102. Hold down the [Ctrl] key, and click each layer in the **Layers** panel that does not contain part of the superhero image. The [Ctrl] key allows you to select multiple individual layers. Do not select the Nonhero Layers group.
103. Drag the selected layers, and drop them into the group. The selected layers are moved into the group folder, which is indicated by the red background that now appears in the **Layers** panel for each of those layers.
104. Click the triangle next to the folder icon in the Nonhero Layers group. The group is closed or collapsed, and all of the layers it contains are hidden in the **Layers** panel. However, the layers are still visible in the document.
105. Click the triangle again to display the layers within the Nonhero Layers group.
106. Applying what you have learned, change the name of the layer containing the rounded rectangle to Title Block.

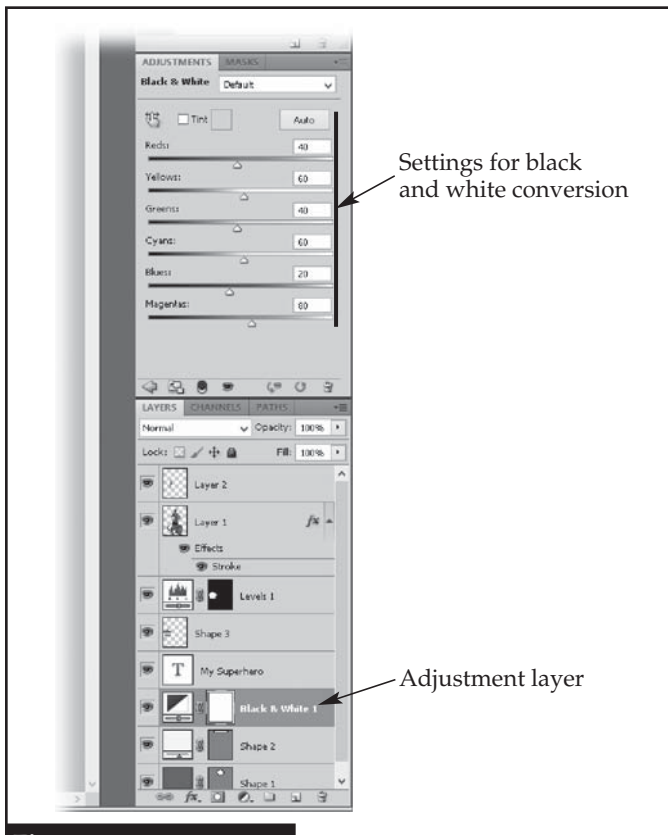


Figure 4-8.

Creating a layer to remove color.

Managing the Workspace

As you have seen, it is easy to move panels. After you gain experience with Photoshop, you may want to rearrange the panels to configure the workspace to better match how you work. After you have the workspace adjusted to suit your preferences, the workspace can be saved.

107. Click the workspace switcher button, and click **Reset Essentials** in the drop-down menu. This ensures any modifications you have made to the workspace are undone.

108. Applying what you have learned, drag the **Color** panel, and drop it below the **Layers** panel. Notice that only the **Color** panel is moved even though it had been grouped with the **Swatches** panel.

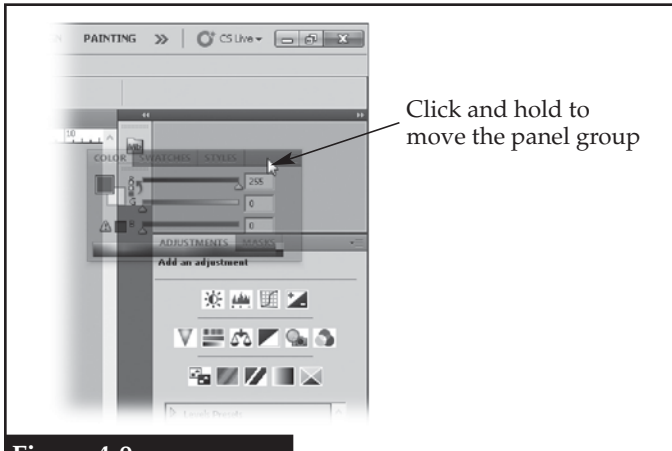


Figure 4-9.

Relocating a panel.

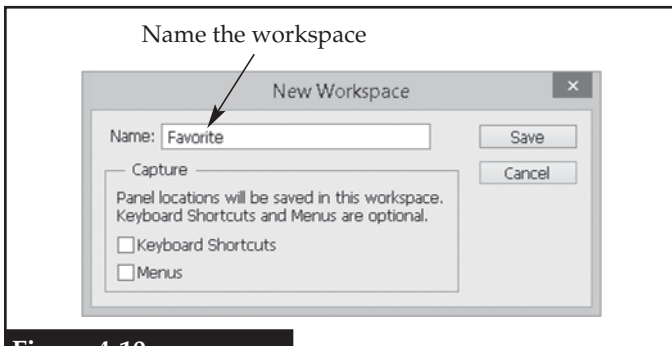


Figure 4-10.

Saving a new workspace.

109. Reset the workspace to default.
110. Look at the group of the **Color** panel, **Swatches** panel, and **Styles** panel. There is a blank space to the right of the panel names, as shown in **Figure 4-9**. Click and hold on the blank space, and drag the panel group below the **Layers** panel. The entire panel group is moved, not just a single panel. When the group is over the bottom of the **Layers** panel, a blue line appears. Drop the panel group when this line appears and the panel group snaps into place. The process of moving a panel or group so it snaps in place is called *docking*.
111. Applying what you have learned, dock the **Layers** panel group as the last panel group, and dock the **History** panel above the **Layers** panel group.
112. Move the **Styles** panel into the **Color** panel group.
113. To save this workspace configuration, click the workspace switcher, and click **New Workspace...** in the drop-down menu. The **New Workspace** dialog box is displayed, as shown in **Figure 4-10**.
114. Click in the **Name:** text box, and enter **Favorite**, and click the **Save** button. The workspace switcher now displays the name **Favorite**.

115. Applying what you have learned, restore the Essentials workspace and reset it. Make note of the panel locations. Continue to use this workspace for the remainder of the lessons.

116. Save the file, and close Photoshop.

Lesson Review

Vocabulary

In a word processing document or on a sheet of paper, list all of the *key terms* in this lesson. Place each term on a separate line. Then, write a definition for each term using your own words. You will continue to build this terminology dictionary throughout this certification guide.

Review Questions

Answer the following questions. These questions are aligned to questions in the certification exam. Answering these questions will help prepare you to take the exam.

1. How can the canvas be resized only to the right-hand side?

2. List two ways to invert the selection.

3. When refining a selection and the view is set to black and white, what is the significance of areas shown in black and areas shown in white?

4. Describe how to remove a selected area from an image.

5. Describe the function of the **Layer Via Cut** tool.

6. Where is the **Add a Layer Style** tool located?

7. Which layer style applies an outline color to the image elements on the layer?

8. Describe how to change the color of a drawn shape, such as an ellipse.

9. How is a new horizontal type layer added?

10. How can a layer be moved below another layer?

11. What happens when a shape layer is rasterized?

12. Which tool is used to select an area with the same color with only a single click?

13. List the steps needed to apply a gradient to a selection using the current foreground and background colors.

14. Where is the command located that will create a new layer group?

15. Describe how to save the layout of the panels and toolbar.

Answers

Lesson 1

1. Shape, form, line, color, value, space, and texture.
2. Regular shapes and objects that are used to assemble more complex shapes or objects.
3. The primary colors of red, blue, and yellow.
4. A complementary color is located opposite of the selected color on the color wheel, while an analogous color is located next to the selected color.
5. Positive space is the area or volume occupied by the primary objects, while negative space is the area or volume around or between the primary objects.
6. The point or points in a perspective drawing where receding parallel lines appear to meet.
7. Movement, emphasis, harmony, variety, balance, contrast, proportion, pattern, and unity.
8. Movement.
9. Emphasis.
10. Balance.
11. An image is divided into three sections horizontally and three sections vertically to create nine areas, and where the lines cross are the focal points for a scene.
12. Contrast.
13. Unity.
14. To achieve site-wide consistency.
15. Shorter development time, easier maintenance, and improved usability.

Lesson 2

1. RGB
2. CMYK
3. It is the total spectrum a given color model can produce.
4. Bit depth of 8.
5. The alpha channel allows for a masking color, which is a single shade of a color that determines areas of transparency in the image.
6. Vector.
7. The process of converting a vector image into a raster image.
8. Raster images are composed of colored dots at specified locations, while vector images are composed of elements recorded by their mathematical definitions.
9. Applying the most appropriate resolution and file compression.
10. Download it from a digital camera.
11. The image is dithered, and the software creates a color through interpolation.
12. 576
13. Bicubic for enlargement.
14. A serif font has decorations called serifs at the ends of letters, while a sans serif font lacks these decorations.
15. Sans serif.

Lesson 3

Figure 3-3

- | | | |
|------------------------------------|-----------------------------------|---------------------------------------|
| 1. Move Tool | 21. Note Tool | 41. Custom Shape Tool |
| 2. Rectangular Marquee Tool | 22. Convert Point Tool | 42. Pen Tool |
| 3. Lasso Tool | 23. Pencil Tool | 43. Horizontal Type Tool |
| 4. Quick Selection Tool | 24. Clone Stamp Tool | 44. Path Selection Tool |
| 5. Crop Tool | 25. History Brush Tool | 45. Zoom Tool |
| 6. Eyedropper Tool | 26. Eraser Tool | 46. Elliptical Marquee Tool |
| 7. Spot Healing Brush Tool | 27. Gradient Tool | 47. Polygonal Lasso Tool |
| 8. Edit in Quick Mask Mode | 28. Blur Tool | 48. Pattern Stamp Tool |
| 9. Magic Wand Tool | 29. Dodge Tool | 49. Paint Bucket Tool |
| 10. Healing Brush Tool | 30. Brush Tool | 50. Rounded Rectangle Tool |
| 11. Art History Brush Tool | 31. Background Eraser Tool | 51. Single Row Marquee Tool |
| 12. Sharpen Tool | 32. Pen Tool | 52. Horizontal Type Mask Tool |
| 13. Burn Tool | 33. Vertical Type Tool | 53. Ellipse Tool |
| 14. Rotate View Tool | 34. Magic Eraser Tool | 54. Single Column Marquee Tool |
| 15. Magnetic Lasso Tool | 35. Smudge Tool | 55. Slice Select Tool |
| 16. Slice Tool | 36. Sponge Tool | 56. Ruler Tool |
| 17. Color Sampler Tool | 37. Add Anchor Point Tool | 57. Delete Anchor Point Tool |
| 18. Patch Tool | 38. Mixer Brush Tool | 58. Count Tool |
| 19. Color Replacement Tool | 39. Polygon Tool | |
| 20. Vertical Type Mask Tool | 40. Red Eye Tool | |

Review Questions

- Sample graphics and the final image.
- Conduct preproduction interviews.
- Client goals set the direction of the creative work, while the target market is the group the people for whom the work is intended.
- Sketches and specifications.
- Cultural differences between America and the target market.
- Light is passed over an image, and the scanner digitally records each point of color.
- It is approval from the client to create the final output needed.
- The ability to quickly make changes and cost saving.
- CS Review.
- It is a portal for storing design elements used in more than one Adobe program.
- The **Menu** bar.
- In the **Options** bar.
- Collapsed panels have been minimized to icons, while expanded panels have commands visible.
- Canvas.
- By the small triangle in the lower-right corner of the button.
- The **Adjustments** panel.
- The **Styles** panel.
- Add to Selection.**
- Right-click on the layer mask thumbnail, click **Refine Mask...** in the shortcut menu, and adjust the **Feather:** setting in the **Refine Mask** dialog box.
- Content-Aware Scale Tool.**

Lesson 4

1. By selecting the left-middle button in the **Anchor:** area of the **Canvas Size** dialog box.
2. Right-click on the selection and click **Select Inverse** in the shortcut menu, and click **Inverse** in the **Select** pull-down menu.
3. Areas shown in black are excluded from the selection, and areas shown in white are included in the selection.
4. Click **Cut** in the **Edit** pull-down menu or press the [Delete] key.
5. It cuts the current selection, creates a new layer, and pastes the selection on the new layer.
6. At the bottom of the **Layers** panel.
7. Stroke.
8. In the **Layers** panel, double-click on the layer containing the shape, and select a new color in the color picker that is displayed.
9. Click the **Horizontal Type Tool** button, click the location on the canvas where the text is to be placed, and enter the text. The layer is automatically created.
10. Select the layer in the **Layers** panel, drag it below the other layer, and drop.
11. The shape is defined by each pixel, and the shape color can no longer be edited by double-clicking the layer.
12. The **Magic Wand Tool**.
13. 1. Create the selection. 2. Click the **Gradient Tool** button. 3. Click the **Linear Gradient** button. 4. Click in the selection and drag to draw the gradient line.
14. At the bottom of the **Layers** panel.
15. Click the workspace switcher, click **New Workspace...** in the drop-down menu, and name the workspace in the **New Workspace** dialog box.

Lesson 5

1. The **Magnetic Lasso Tool**.
2. It is loaded by clicking **Load Selection...** in the **Select** pull-down menu.
3. The **Add Layer Mask** button is located in the **Layers** panel.
4. Nondestructive editing involves making changes that do not permanently eliminate the original image data, while destructive editing eliminates the data.
5. In the settings information display located in the lower-left corner of the screen.
6. All of its layers are collapsed into the background.
7. Click **Smart Objects** and then **Convert to Smart Object** in the **Layer** pull-down menu, and click **Convert for Smart Filters** in the **Filter** pull-down menu.
8. Any filter is applied as a smart filter if the layer to which it is applied is a smart object.
9. So any filters applied to it are smart filters and can be altered later.
10. By applying an unsharp mask filter and then modifying the radius setting.

Lesson 6

1. Use the **Red Eye Tool**, and drag a rectangle over the area containing red-eye.
2. By painting with gray instead of white or black.
3. Select the **Brush Tool**, and click the brush preset drop-down arrow on the **Options** bar and choose the brush with the grass shape.
4. Click **New Guide...** in the **View** pull-down menu, and in the **New Guide** dialog box specify the location of the guideline.
5. Kerning is the spacing between certain letters when they are adjacent to each other, such as A and V, while tracking is the overall spacing between all letters.
6. The World Intellectual Property Organization (WIPO) Copyright Treaty.
7. A design or symbol placed on an image to render it unusable, but so that somebody can still view the image.
8. Click **Layer Style** and then **Blending Options...** in the **Layer** pull-down menu, and enter a value in the **Opacity:** text box.
9. It is a small version of the full-size image.
10. Click **Image Size...** in the **Image** pull-down menu, and, in the **Image Size** dialog box, choose a resampling method and enter 300 in the **Resolution:** text box.
11. By checking the **Constrain Proportions** check box in the **Image Size** dialog box to lock the width and height dimensions.
12. The **Save for Web & Devices...** command in the **File** pull-down menu.
13. PNG, JPEG, and GIF.
14. By checking the **Scale to Fit Media** check box in the **Print** dialog box.
15. Photoshop will render RGB color as CMYK color for the printer.

Lesson 7

1. By bending the cage the tool places on the image, the layer can be stretched and squashed, or warped.
2. 50%
3. Check the **Invert** check box in the **Load Selection** dialog box.
4. It interpolates pixels in the image where the tool is dragged.
5. It is used to create a selection by clicking to draw an irregular or regular geometric shape.

Lesson 8

1. Click **Adjustments** and then **Black & White...** in the **Image** pull-down menu, adjust the color influence in the **Black and White** dialog box, and apply the change.
2. The foreground color.
3. Click **Adjustments** and then **Hue/Saturation...** in the **Image** pull-down menu.
4. Blends the edges of an image or element, such as text, by averaging foreground and background colors to smooth the edge to make it look less jagged.
5. Unwanted irregular or wavy pattern in an image.
6. Click the **Add a layer style** button in the **Layers** panel and click **Blending Options...** in the drop-down menu, and in the **Layer Style** dialog box click the **New...** button and name the new style.
7. Click **Adjustments** and then **Replace Color...** in the **Image** pull-down menu.
8. Print size.
9. Click **Auto Color** in the **Image** pull-down menu.
10. **Burn Tool**.
11. **Dodge Tool**.
12. Information about other data, such as a document; on an image, metadata may include the artist's name, company, and copyright information.
13. Material in the public domain carries no copyright protection.
14. A magazine writer could use the image in a story describing or commenting on the game.
15. Adobe Bridge.