

Common
Occupational
Readiness
Essentials

CERTIFICATION PREP

Adobe Photoshop Creative Cloud

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.

Microsoft Office Products

- Microsoft Word 2016
- Microsoft Excel 2016
- Microsoft PowerPoint 2016
- Microsoft Outlook 2016
- Microsoft Access 2016
- Microsoft Word 2013
- Microsoft Excel 2013
- Microsoft PowerPoint 2013
- Microsoft Outlook 2013
- Microsoft Access 2013

Microsoft Office 2010 is also available.

Adobe Products

- Adobe Photoshop Creative Cloud
- Adobe Dreamweaver Creative Cloud
- Adobe Flash Creative Cloud
- Adobe Illustrator Creative Cloud
- Adobe InDesign Creative Cloud
- Adobe Photoshop CS6
- Adobe Dreamweaver CS6
- Adobe Flash CS6
- Adobe Illustrator CS6
- Adobe Photoshop CS5
- Adobe Dreamweaver CS5
- Adobe Flash CS5



To learn more, please contact your G-W Educational Consultant, visit www.g-w.com, or call 800.323.0440.

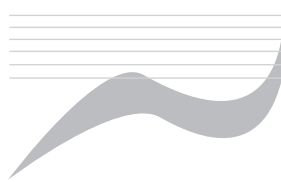


Table of Contents

| | | |
|-----------------|---|-----------|
| <i>Lesson 1</i> | <i>Elements of Art and Principles of Design</i> | <i>5</i> |
| <i>Lesson 2</i> | <i>Color Models, Images, and Fonts</i> | <i>17</i> |
| <i>Lesson 3</i> | <i>Exploring the Photoshop Interface</i> | <i>25</i> |
| <i>Lesson 4</i> | <i>Editing Images</i> | <i>42</i> |
| <i>Lesson 5</i> | <i>Destructive and Nondestructive Editing</i> | <i>56</i> |
| <i>Lesson 6</i> | <i>Working with Layers</i> | <i>63</i> |
| <i>Lesson 7</i> | <i>Compositing Images</i> | <i>75</i> |
| <i>Lesson 8</i> | <i>Outputting Client Changes</i> | <i>81</i> |



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 Creative Cloud will help prepare you to take the Adobe Certified Associate (ACA) Adobe Photoshop Creative Cloud 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.

19. Different texture styles are located in which panel?

20. Briefly describe how to straighten an image using the **Crop Tool**.

21. How do you set the maximum zoom level while still being able to see the entire image?

22. Which mode of the **Content-Aware Move Tool** is used to copy a selection?

23. Which mode of the **Content-Aware Move Tool** is used to cut a selection?

24. Which selection tool option is used to add missing parts to an active selection?

25. What is the difference between a vector mask and a layer mask?



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 the drop-down arrow to the right of the **Width:** text box, and click **Inches** in the drop-down list. Click in the **Width:** text box, and enter 6. This specifies the width of the document as 6".
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 **white** in the drop-down menu.
9. Click the **Create** 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 white. Also notice the **Layers** panel displays **Background** 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 as Layer 1 as shown in **Figure 4-1**.

Fitting an Image to Size

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

16. Make sure Layer 1 is selected in the **Layers** panel, and then click **Edit>Transform>Rotate 90° Counter Clockwise** in the **Menu** bar. The layer is rotated to the right by 90 degrees, but notice the canvas is not rotated.
17. Click the **Move Tool** button on the **Tools** panel. This tool moves everything on the current layer.
18. 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.

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.



Move Tool



Figure 4-1.

Pasting an image onto an empty layer.

19. 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.
20. Click the **Crop Tool** button on the **Tools** panel. 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.
21. On the **Options** bar, check the **Delete Cropped Pixels** check box. When checked, anything outside the crop box will be deleted. If unchecked, the area outside the box will be preserved, but hidden.
22. Click the **Set Additional Crop Options** button on the **Options** bar. A drop-down menu is displayed, as shown in Figure 4-2.
23. Click the **Color:** drop-down arrow, and click **Custom** in the drop-down list. The **Color Picker** dialog box is displayed.
24. 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.
25. Click in the **Opacity:** text box, and enter 90%. This sets the transparency of the color to almost opaque, but part of the image is still visible through the color.



**Set Additional
Crop Options**

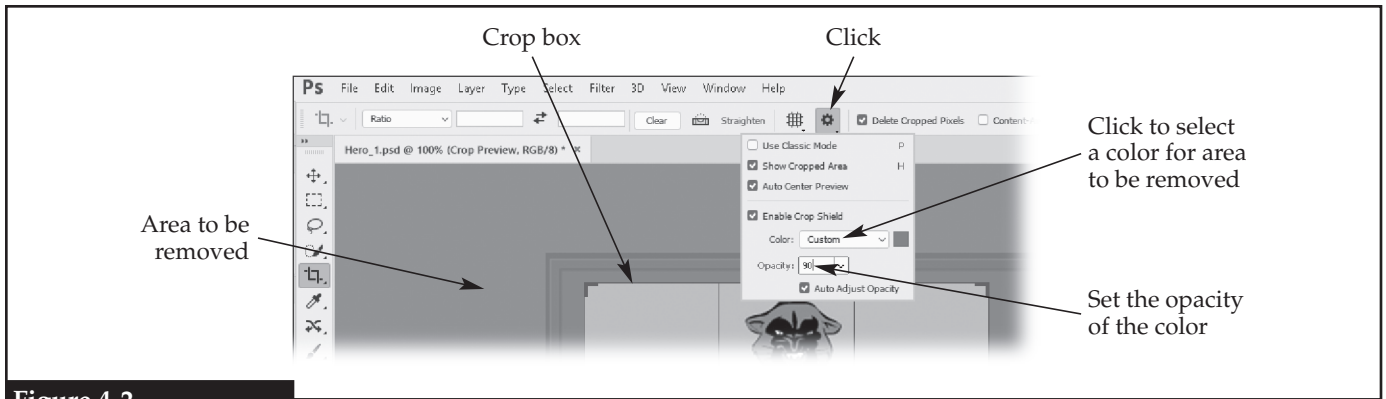


Figure 4-2.

Cropping an image.

Overlay
Options

26. Click the **Set Additional Crop Options** button to close the drop-down menu. Refine the crop box as needed. 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.
27. Click the **Overlay Options:** button on the **Options** bar, and click **Golden Ratio** in the drop-down menu. Notice how the guidelines within the crop area change. The view options help align and balance the elements of the image.
28. 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.
29. Click **Canvas Size...** in the **Image** pull-down menu. The **Canvas Size** dialog box is displayed, as shown in Figure 4-3.
30. Click in the **Width:** text box and enter 6. Make sure the drop-down arrow is set to **Inches**.
31. Click in the **Height:** text box and enter 10. Make sure the drop-down arrow is set to **Inches**.
32. 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



Figure 4-3.

Resizing the canvas for an image.

TIP

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



Quick Selection Tool

TIP

The Select and Mask workspace can be quickly set current using the [Ctrl][Alt][R] key combination.

TIP

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

anchor point so when the canvas is made larger or smaller, the image stays pinned to that position.

33. Click the **OK** button to change the canvas size.

Isolating an Image Element

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

34. 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.
35. Click the **Select and Mask...** button on the **Options** bar. The Select and Mask workspace is set current. This is a special workspace containing tools and options for making and fine-tuning selections. Notice that the entire image is covered by a semitransparent overlay of white. Anything covered by this overlay will not be part of the selection, so right now nothing is selected. The level of transparency for the overlay is controlled by the **Transparency** slider in the **Properties** panel displayed on the right-hand side of the screen.
36. Click the **Quick Selection Tool** on the **Tools** panel. This tool is used to click areas to be included in the selection. You can also click and hold to “paint” a selection.
37. Click once in the middle of the superhero. Notice that the tool automatically selects an area that is the same color or has a border. The overlay is removed in this area.
38. 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.
39. 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.
40. 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.

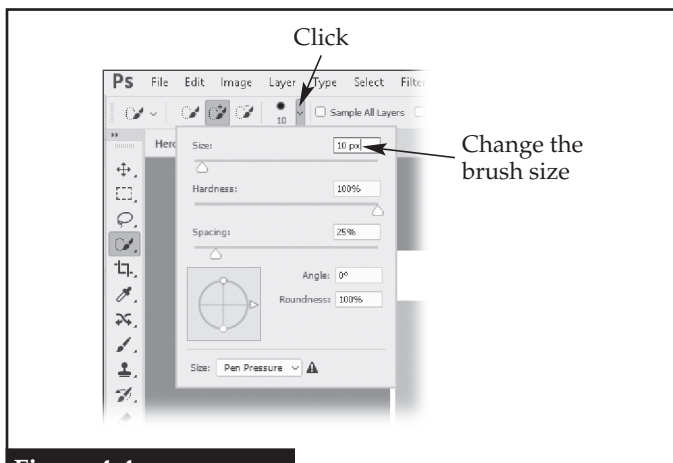


Figure 4-4.

Changing the size of a brush.

41. On the **Options** bar, click the drop-down arrow, and in the drop-down menu, enter 10 in the **Size:** text box, as shown in **Figure 4-4**. This makes the brush smaller so the selection can be increased to include finer details.
42. Clean up the selection edge on your superhero if needed using this smaller brush. Use the **Add to Selection** and **Subtract from Selection** buttons on the **Options** bar as needed. These are alternatives to using the [Alt] key.
43. Click **Edge Detection** in the **Properties** panel to expand that area. If that area is already expanded, clicking **Edge Detection** collapses it.

44. 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.
45. Drag the **Radius:** slider to the left until the radius shown on the image is approximately the outline of the superhero character.
46. 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.
47. 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.
48. 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%.
49. 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, sometimes the defined edge is lost. The **Shift Edge** setting can help restore the selection edge.
50. Click the **OK** button at the bottom of the **Properties** panel. A layer mask is created, as indicated in the **Layers** panel. The Select and Mask workspace is also exited and the previous workspace (Essentials) is restored.
51. Right-click on the layer mask thumbnail in the **Layers** panel to display a shortcut menu. Examine the options in this menu.
52. Click **Add Mask to Selection** in the shortcut menu. If there were a current selection, the mask would be added to that selection, but since nothing is selected, the mask becomes the selected area.
53. Right-click on the mask thumbnail again, and click **Apply Layer Mask** in the shortcut menu. Anything on the layer that was covered by the mask is deleted. Notice that the selection made from the mask is still active.

TIP

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

Creating a Layer from a Selection

54. Applying what you have learned, cancel the selection.
55. Applying what you have learned, select just the character's right hand.
56. 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.
57. 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.
58. Applying what you have learned, turn on the visibility of Layer 2. The hand is visible again.

Applying Layer Styles and Effects

59. Click Layer 1 in the **Layers** panel to make it the current layer. This is the layer containing the character minus the hand.
60. 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.



Add a Layer Style

61. Click **Stroke...** in the drop-down menu. The **Layer Style** dialog box is displayed with **Stroke** automatically checked and selected, as shown in **Figure 4-5**. Stroke is another word for line or shape outline.
62. Click in the **Size:** text box, and enter 7. This is the width of the stroke in pixels.
63. 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.
64. 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 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 in Layer 1 when the hand was moved to Layer 2.



Ellipse Tool

TIP

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

Adding to the Image

65. Click the **Ellipse Tool** in the **Tools** panel.
66. Click anywhere on the canvas and drag to draw an oval about 2" tall and 2.5" wide. As you drag, the dimensions of the object are displayed as help text. Notice the object is added to a new layer named **Ellipse 1**.
67. Double-click the thumbnail for the **Ellipse 1** layer in the **Layers** panel. The **Color Picker** dialog box is displayed.
68. 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.
69. Applying what you have learned, move the ellipse shape so it covers the superhero's head.

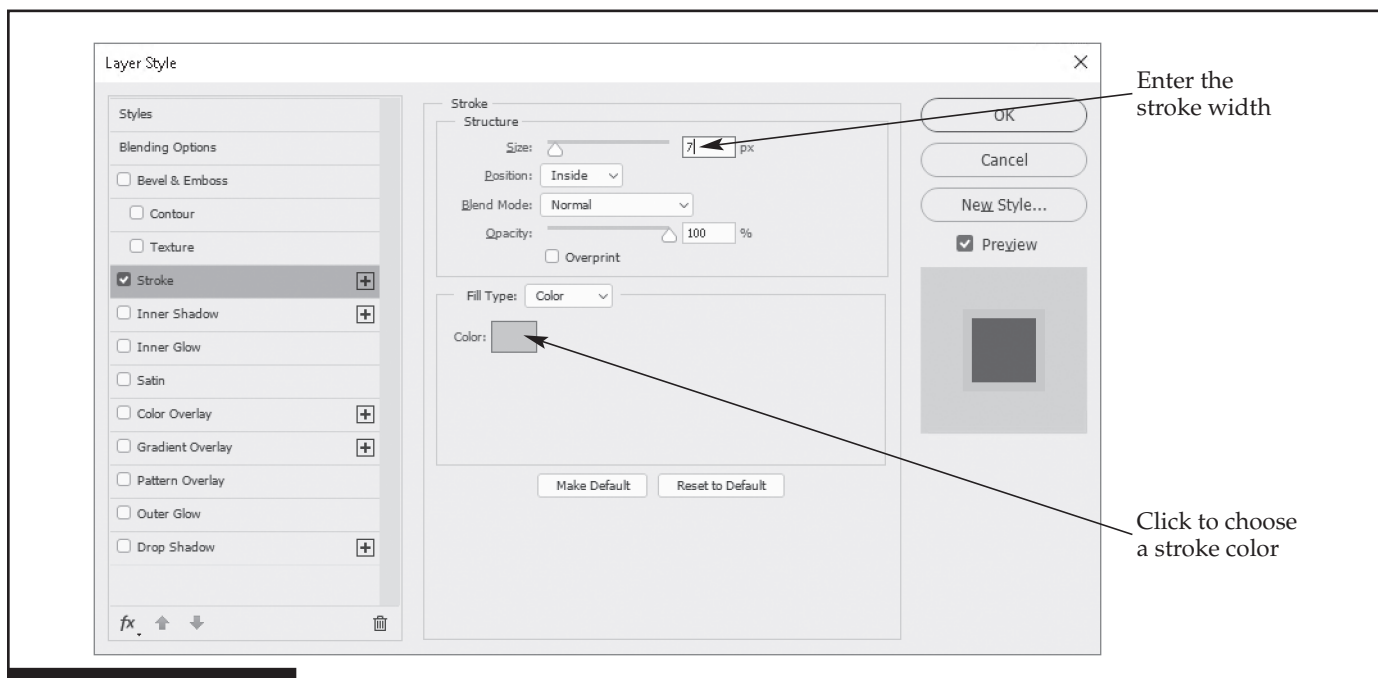


Figure 4-5.

Applying a stroke to a layer.



**Rounded
Rectangle Tool**



**Horizontal
Type Tool**



**Toggle the
Character and
Paragraph Panels**



Link Layers



Polygon Tool

70. In the **Layers** panel, click and hold the Ellipse 1 layer, drag it to the bottom of the layer stack above Background, and drop it. This rearranges the layers so the Ellipse 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.
71. 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.
72. Applying what you have learned, change the color of the rounded rectangle to yellow.
73. Click the **Horizontal Type Tool** button in the **Tools** panel. Notice the **Options** bar displays common property settings for text, such as typeface, style, size, alignment, and color.
74. Click anywhere on the canvas and drag to create a text box. By creating a text box, the text will be paragraph text. If you just single-click, the text will be single-line text (not a paragraph).
75. Enter the text My Superhero in the text box. Notice the text is placed on a new layer.
76. Click the **Toggle the Character and Paragraph Panels** button in the **Options** bar. This will open the panel group containing the **Character** and **Paragraph** panels. These panels can be used to set various options for text.
77. Display the **Paragraph** panel, and then click the **Justify all** button. Justification is a typesetting term that describes how the lines of type are set. To *justify* lines of text is to adjust the spacing between words so the beginning and end of each line is aligned to the left and right margins. Notice how the space between My and Superhero is increased, and My aligns with the left margin and Superhero aligns with the right margin. Examine the icons on the four justification buttons to see a representation of how these options affect the text.
78. Click the **Center text** button on the **Paragraph** panel. Justification is removed from the text, and the text is aligned to the center of the text box.
79. Applying what you have learned, move the text so it is centered on the yellow rectangle.
80. In the **Layers** panel, click the text layer, hold the [Ctrl] key, and click the Rounded Rectangle 1 layer. This selects both layers.
81. 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 4-6**. Moving one layer automatically moves the other layer, so the text and yellow rectangle can be moved as one.
82. Applying what you have learned, use the **Polygon Tool** to add a green, five-sided polygon on the left side of the canvas.
83. With the Polygon 1 layer selected in the **Layers** panel, click **Layer>Rasterize>Layer** in the **Menu** bar. 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.

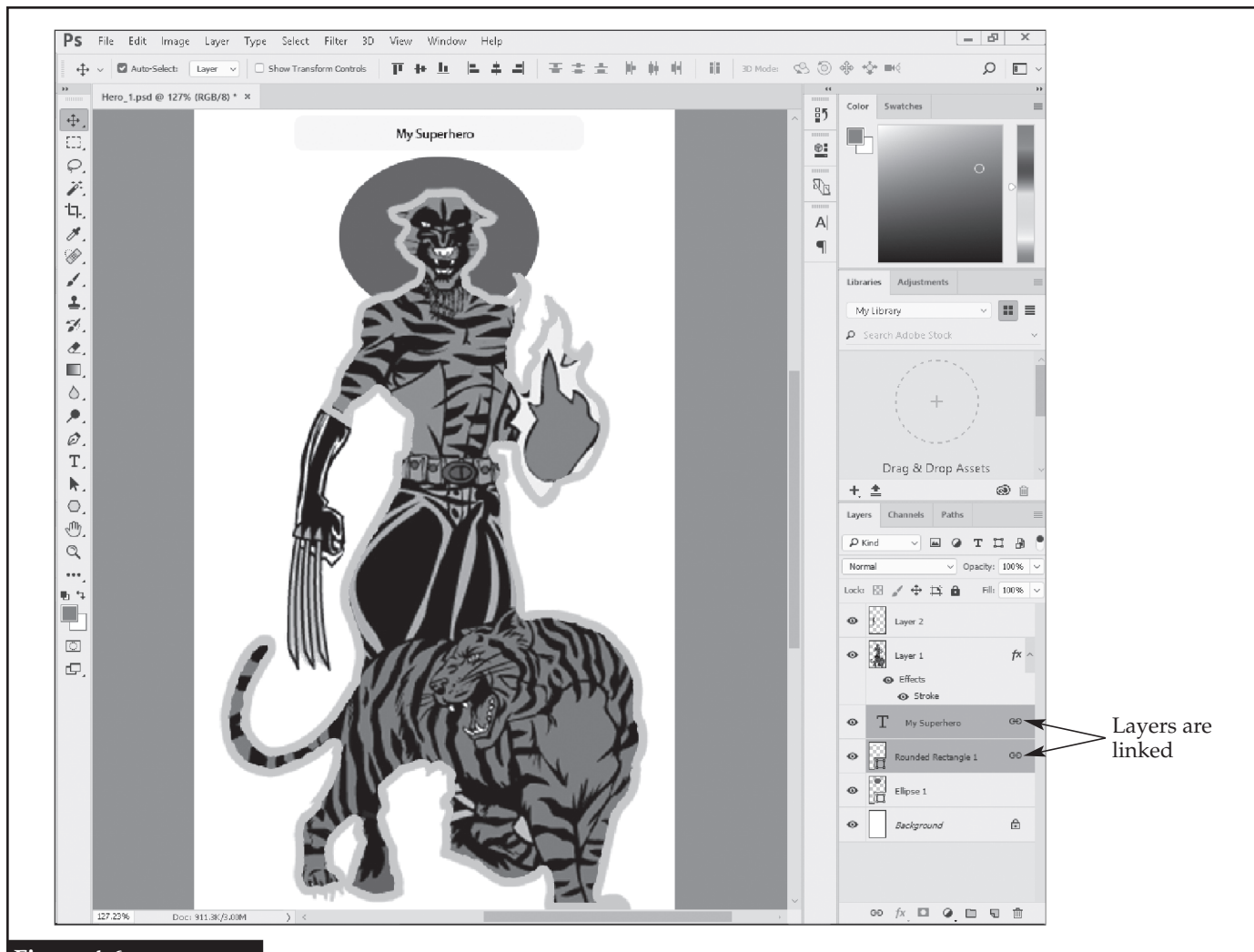


Figure 4-6.

Layers can be linked so they move as one.



Magic Wand Tool

84. 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.
85. Click in the **Tolerance:** text box in the **Options** bar, and change the tolerance to 0. The tolerance setting determines how close of a match the adjacent color needs to be to be included in the magic wand selection. A tolerance of 0 requires all adjacent pixels to be the same color. A tolerance of 100 allows adjacent pixels of vastly different colors to be selected. Since the polygon is a single color, a tolerance of 0 can be used.
86. Click the **Gradient Tool** in the **Tools** panel.
87. Applying what you have learned, display the **Swatches** panel.
88. 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 4-7**. Also notice the current background color is the second color of the gradient.
89. 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.



Gradient Tool

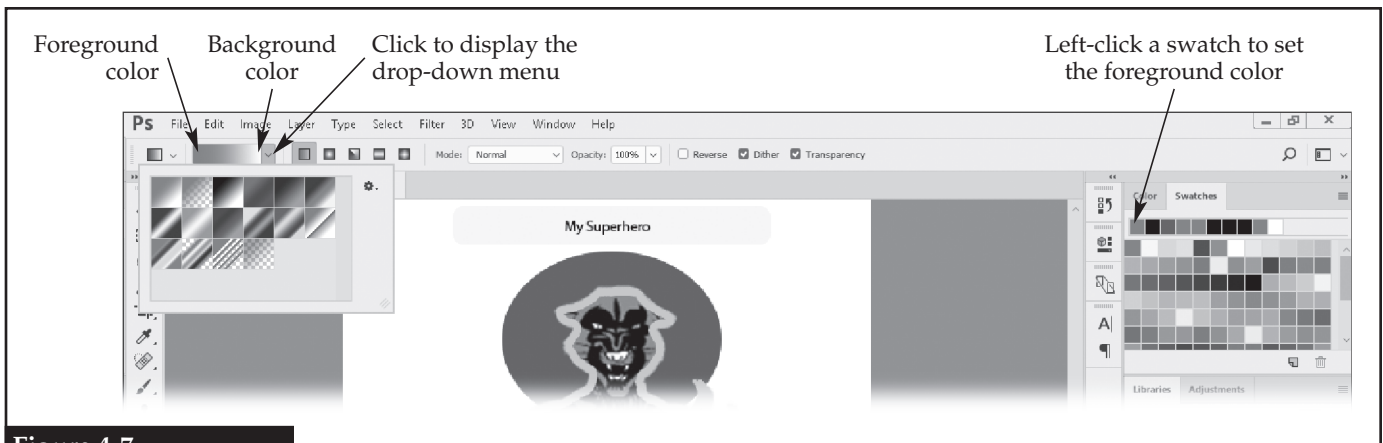


Figure 4-7.

Defining a gradient.



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

90. 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.
91. 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.
92. 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

93. Click the **Collapse to Icons** button (>>) at the top of the panels to make the canvas area larger.
94. Applying what you have learned, expand the collapsed **Adjustments** panel.
95. Click the **Create a new Levels adjustments layer** button. The **Properties** panel is displayed containing 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.
96. Click the drop-down arrow above the histogram, and click **Green** in the drop-down list, as shown in **Figure 4-8**. Only the green channel is displayed in the histogram.
97. At the bottom of the histogram are three sliders for adjusting the color saturation: shadows, midtones, and highlights. Click the shadows slider, which 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.

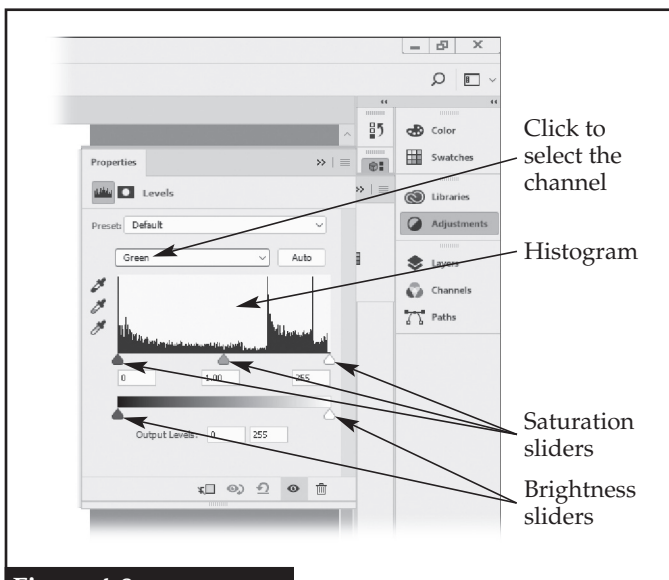


Figure 4-8.

Adjusting color levels.

98. 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.

TIP

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



Create a new snapshot

99. Applying what you have learned, collapse the **Properties** 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.
100. Select the last state in the **History** panel (Gradient) by checking the box to the left of the state. This action sets which state will be used as the source for the history brush.
101. Click the **Create a new snapshot** button at the bottom of the **History** panel. A *snapshot* is a duplicate of the working image in its current form. This is similar to saving the image using a different file name to create a copy of the image, except the snapshot is not saved. Snapshots are cleared when the file is closed or Photoshop is exited. However, snapshots are ideal for seeing the before and after of changes such as applying an image filter.
102. 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.



Create a new Black & White adjustment layer

103. Applying what you have learned, close the **History** panel, expand the normally expanded panels, and select the layer that contains the yellow rectangle.

104. Display the **Adjustments** panel, and click the **Create a new Black & White adjustment layer** button. The **Properties** panel is displayed containing settings for removing color, as shown in **Figure 4-9**. Note: using the **Adjustments** panel applies nondestructive editing.

105. Collapse the **Properties** panel to accept the default settings. 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.

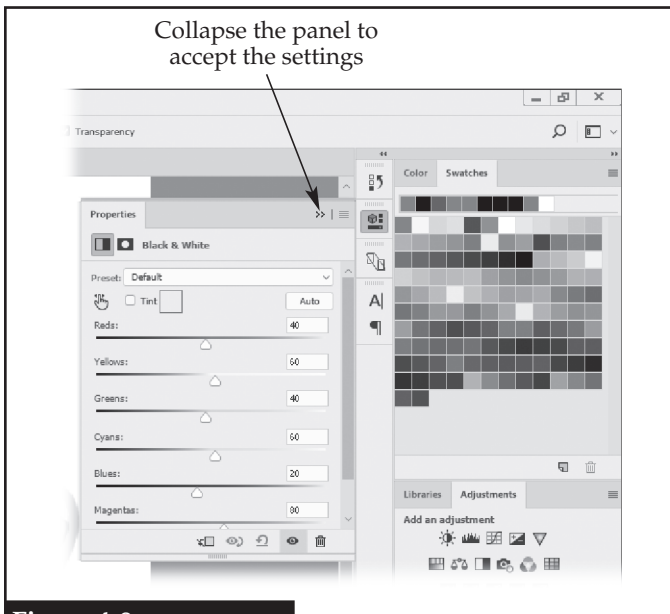


Figure 4-9.

Creating a layer to remove color.



Create a new group

Managing Layers

106. In the **Layers** panel, drag the Ellipse 1 layer above the Black & White 1 layer. Notice how color is restored to the ellipse.
107. 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.

108. Double-click on the Group 1 name. The name appears in a text box. Enter the new name of Nonhero Layers.
109. Right-click on the Nonhero Layers group, and click **Red** in the shortcut menu. A red background is added for the group in the **Layers** panel. This is only for organizational purposes and does not affect the image.
110. 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 or the Background layer.
111. 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.
112. 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.
113. Click the triangle again to display the layers within the Nonhero Layers group.
114. Applying what you have learned, change the name of the layer containing the rounded rectangle to Title Block.

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.

115. 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.
116. Click **View>Rulers** in the **Menu** bar. Rulers are displayed along the top and left-hand side of the work area. The units displayed in the ruler are inches by default.
117. Right-click on either ruler, and click **Centimeters** in the shortcut menu. The units for both rulers are changed to centimeters.
118. 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.

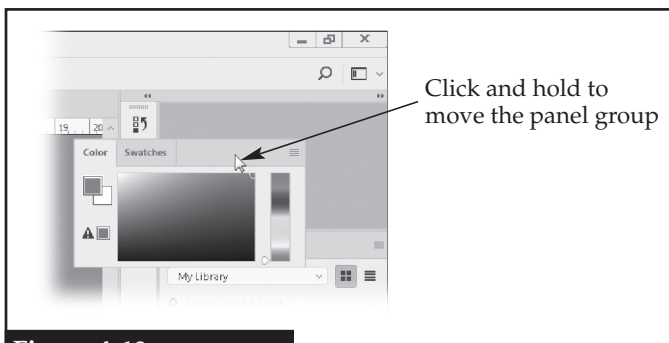


Figure 4-10.

Relocating a panel.

119. Reset the workspace to default.
120. Look at the group of the **Color** panel and the **Swatches** panel. There is a blank space to the right of the panel names, as shown in **Figure 4-10**. 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*.

121. 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.
122. Move the **Libraries** panel into the **Color** panel group.
123. 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 4-11**.

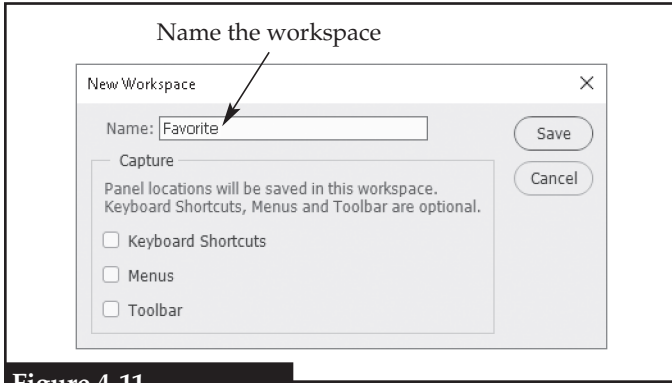


Figure 4-11.

Saving a new workspace.

124. Click in the **Name:** text box, and enter **Favorite**, and click the **Save** button. The workspace switcher now displays the name **Favorite**.
125. Applying what you have learned, restore the **Essentials** workspace and reset it. Make note of the panel locations. Notice the rulers still display centimeters as the units. The ruler setting is not saved in the workspace. Continue to use this workspace for the remainder of the lessons.
126. Applying what you have learned, set the rulers to display inches. Leave the rulers displayed for the remainder of the lessons.
127. 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. Describe how to remove a selected area from an image.

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

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

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

7. How can a layer be moved below another 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. What happens when a shape layer is rasterized?

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

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

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

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

15. Which tool creates a selection by painting over an area of the image?

16. List the steps needed to rotate one layer of an image 90 degrees counterclockwise.

17. If paragraph text is justified to the right, what is the effect?

18. A designer wants to select a section of the blue sky in a photograph using the **Magic Wand Tool**. When the sky is clicked, only part of the blue sky is selected. What needs to be done so the tool will select the entire sky with one click?

19. What feature of Photoshop can be used to compare the before and after of applying a filter to an image?

20. Describe how to display the rulers and to change the unit of measurement from inches to pixels.



Lesson 5

Destructive and Nondestructive Editing

Objectives

Students will isolate an image element. Students will save a selection. Students will apply a nondestructive layer mask. Students will use zoom tools. Students will explain how to use the **Spot Healing Brush Tool**. Students will flatten an image. Students will explain smart filters. Students will describe an unsharp mask.

Situation

The Nocturnal Interactive Computer Entertainment (NICE) company wants you to create a new image for the superhero created in the previous lesson. The new image will be photo based. The first step is to edit a portrait photograph to create an image of just the person's face. This file will be used later to create the final image, so quality of work is an important attribute for this project. You will also gain valuable experience that will help you prepare for certification.



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. PNG-24
2. GIF, PNG-8, PNG-24, JPEG, BMP, and RAW or CIFF. (There are other file types.)
3. CGM, AI, and EPS. (There are other file types.)
4. RGB color model at a resolution of 72 or 96 dpi.
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 raster image into a vector 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. Bitmap is device-independent and SVG is supported by most browsers and mobile devices.
11. L*A*B color works for both video displays (RGB) and printed materials (CMYK).
12. 10.1" ($728 \div 72 = 10.1$) \times 1.25" ($90 \div 72 = 1.25$)
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 | 23. Convert Point Tool | 45. Custom Shape Tool |
| 2. Rectangular Marquee Tool | 24. Pencil Tool | 46. Pen Tool |
| 3. Lasso Tool | 25. Clone Stamp Tool | 47. Horizontal Type Tool |
| 4. Quick Selection Tool | 26. History Brush Tool | 48. Path Selection Tool |
| 5. Crop Tool | 27. Eraser Tool | 49. Zoom Tool |
| 6. Eyedropper Tool | 28. Gradient Tool | 50. Elliptical Marquee Tool |
| 7. Spot Healing Brush Tool | 29. Blur Tool | 51. Polygonal Lasso Tool |
| 8. Edit in Quick Mask Mode | 30. Dodge Tool | 52. Material Eyedropper Tool |
| 9. Magic Wand Tool | 31. Change Screen Mode | 53. Pattern Stamp Tool |
| 10. Healing Brush Tool | 32. Perspective Crop Tool | 54. Paint Bucket Tool |
| 11. Art History Brush Tool | 33. Brush Tool | 55. Direct Selection Tool |
| 12. Sharpen Tool | 34. Background Eraser Tool | 56. Rounded Rectangle Tool |
| 13. Burn Tool | 35. Pen Tool | 57. Single Row Marquee Tool |
| 14. Rotate View Tool | 36. Vertical Type Tool | 58. Horizontal Type Mask Tool |
| 15. Magnetic Lasso Tool | 37. Magic Eraser Tool | 59. Ellipse Tool |
| 16. Slice Tool | 38. Material Drop Tool | 60. Single Column Marquee Tool |
| 17. Color Sampler Tool | 39. Smudge Tool | 61. Slice Select Tool |
| 18. Patch Tool | 40. Sponge Tool | 62. Ruler Tool |
| 19. Color Replacement Tool | 41. Add Anchor Point Tool | 63. Delete Anchor Point Tool |
| 20. Content-Aware Move Tool | 42. Mixer Brush Tool | 64. Count Tool |
| 21. Vertical Type Mask Tool | 43. Polygon Tool | |
| 22. Note Tool | 44. 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.
- Contact the client and discuss your concerns and possible solutions.
- Sketches, mockups, and specifications.
- The image should be linked because it will automatically update when the image is edited and saved in Photoshop.
- 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.
- 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 outline.
- The **Color** panel.
- The **Adjustments** panel.

19. The **Styles** panel.
20. Activate the **Crop Tool**, click the **Straighten** button on the **Options** bar, and click and drag on the image to tell Photoshop what should be horizontal.
21. Click **View>Fit to Screen** on the **Menu** bar.
22. Extend.
23. Move.
24. **Add to Selection**.
25. The vector mask is resolution-independent and has clean edges, while a layer mask is resolution-dependent and uses a bitmap (raster) masking object.

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. Click **Cut** in the **Edit** pull-down menu or press the [Delete] key.
4. It cuts the current selection, creates a new layer, and pastes the selection on the new layer.
5. At the bottom of the **Layers** panel.
6. Stroke.
7. Select the layer in the **Layers** panel, drag it below the other layer, and drop.
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. The shape is defined by each pixel, and the shape color can no longer be edited by double-clicking the layer.
11. The **Magic Wand Tool**.
12. 1. Create the selection. 2. Click the **Gradient Tool** button. 3. Click the **Linear Gradient** button. 4. Click the Foreground to Background style. 5. Click in the selection and drag to draw the gradient line.
13. At the bottom of the **Layers** panel.
14. Click the workspace switcher, click **New Workspace...** in the drop-down menu, and name the workspace in the **New Workspace** dialog box.
15. **Quick Select Tool**
16. Click **Image>Image Rotation>90° Clockwise** on the **Menu** bar.
17. The text is expanded to exactly end at the left- and right-hand margins, and the last line is aligned to the right.
18. Increase the **Tolerance:** setting on the **Options** bar.
19. The **Snapshot** function in the **History** panel.
20. To display the rulers, click **View>Rulers** on the **Menu** bar. To change the units, right-click on either ruler, and select the new units in the shortcut menu.

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. All visible layers are flattened into a single layer. The file size is reduced. All hidden layers can be deleted if you so choose.
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 Picker** 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. First, move the Trees layer above the Writing layer in the **Layers** panel, then click the panel menu button in the **Layers** panel, and click **Create Clipping Mask** in the menu.
7. The World Intellectual Property Organization (WIPO) Copyright Treaty.
8. A design or symbol placed on an image to render it unusable, but so that somebody can still view the image.
9. A picture package is a set of multiple copies of a single image fitted onto a single print page, while a contact sheet contains many different images printed as thumbnail images on a single sheet.
10. It is a small version of the full-size image.
11. 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.
12. By checking the **Constrain Proportions** check box in the **Image Size** dialog box to lock the width and height dimensions.
13. 900 pixels (600 pixels new width ÷ 200 pixels previous width = 3 change factor; 300 pixels previous height × 3 change factor = 900 pixels new height)
14. 12" wide by 8" high (600 dpi ÷ 150 dpi = 4 change factor; 3" wide × 4 change factor = 12" wide; 2" high × 4 change factor = 8" high)
15. The **Save for Web...** command in the **File** pull-down menu.
16. PNG, JPEG, and GIF.
17. By checking the **Scale to Fit Media** check box in the **Photoshop Print Settings** dialog box.
18. 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. **Export As...** and **Quick Export As PNG**, both either in the **Layers** pull-down menu or the shortcut menu in the **Layers** panel.
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. The **Eyedropper Tool** is used to pick up the color, and the **Paint Bucket Tool** is used to apply the color.
4. Click **Adjustments** and then **Hue/Saturation...** in the **Image** pull-down menu.
5. 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.
6. Unwanted irregular or wavy pattern in an image.
7. 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.
8. Click **Adjustments** and then **Replace Color...** in the **Image** pull-down menu.
9. Print size.
10. Click **Auto Color** in the **Image** pull-down menu.
11. **Burn Tool**.
12. A model-release form.
13. Information about other data, such as a document; on an image, metadata may include the artist's name, company, and copyright information.
14. Material in the public domain carries no copyright protection.
15. A magazine writer could use the image in a story describing or commenting on the game.