

Demonstrate Knowledge of Preparing Images for Web, Print and Video (Domain 5.1)

When preparing an image to be displayed on the web, you must always consider file size because file size can determine how quickly an image downloads. Unfortunately, not every user accesses the Internet with the same speed or the same device. When preparing an image to be viewed over the Internet, finding the balance between image quality and image file size is known as **optimizing**. Photoshop provides tools to help you prepare your images to be displayed on the web, whether you want to simply prepare images, create navigation, design animation elements, build an entire web page, or generate a web gallery. This domain focuses on saving and preparing images.

File Format and Image Size

You should first consider an image's dimensions when preparing an image for the web. Dimensions include the image size in pixels and the resolution. When saving from Photoshop, you save your image to a bitmap format such as GIF, JPEG, or PNG, which are **resolution dependent**. Resolution dependent means that the quality of the image may be affected by the resolution of the computer display. Because monitor resolution can vary, you should always consider the monitor resolution you are designing for and the pixel dimensions available on screen when the browser is maximized. You can adjust an image's pixel dimensions and resolution in the Image Size dialog box, which you can open by clicking the Image Size command on the Image menu. As you change the pixel dimensions, Photoshop compares the new file size to the old file size just below the title bar in the dialog box.

TIP: When you modify image size in the Image Size dialog box, the image may appear much smaller in the document window; click Actual Pixels on the View menu to view its real size!

Once you are satisfied with the dimension of the image, you are ready to export the file using the Save for Web & Devices command on the File menu. As you learned in Domain 3, the Save for Web & Devices dialog box allows you to preview the image file size, quality, and file format as you optimize it for the web or a mobile device. There are four tabs at the top of the dialog box, Original, Optimized, 2-Up, and 4-Up. The **Original tab** displays the image without any optimization. The **Optimized tab** displays the settings that you have applied to the image. The **2-Up and 4-Up tabs** allow you to compare multiple versions of the image with different optimization settings applied. By selecting one of the previews, you can change the setting preset and then compare quality, file size, and approximate download time for up to four images at a time. Click the Preview button at the bottom of the dialog box to view the image in a browser. The preview includes file format, pixel dimensions, and optimization settings.

When saving a file in the GIF or PNG file format, you can reduce file size by removing colors from the index, in a process known as **indexing**. Options in the Color reduction algorithm pop-up menu and the Colors pop-up menu reduce the number of colors in the Color Table by deleting colors not used in the image. An **algorithm** is a set of well-define instructions used to perform a task. The Color Table algorithms include Perceptual, Selective, Adaptive, and Restrictive. The **Perceptual algorithm** prioritizes colors based on the colors that can be seen by the human eye, which can sometimes result in prominent colors being removed. The **Selective algorithm** is the default and creates a palette based on a larger range of colors, which results in an image with colors that most resemble the colors in the original. The **Adaptive algorithm** selects color based on the number of pixels with the same color. The **Restrictive algorithm** creates colors based on creating a color palette that only includes colors and shades of color that can be displayed on monitors displaying 256 colors (although this is no longer a common method). The **Color**

Table displays the index of colors that are used in the document. Colors in the Color Table can be selected and changed to another color, made transparent, or converted to a web-safe color.

When creating a transparent image in the GIF file format, you can apply a matte color to eliminate an edge halo. Another option to improve the results of transparency in a GIF image is to apply transparency dithering. **Dithering** lessens the appearance of random noise in your image that may occur when working with transparency by creating dots of color along the edge of the image. The PNG-24 file format supports transparency without the need of applying a matte color or using transparency dithering.

TIP: To preview an image on a variety of mobile devices, click the Device Central button in the Save for Web & Devices dialog box to launch Device Central.

Web Photo Gallery

You can create a web photo gallery in Adobe Bridge. A web photo gallery is a collection of images that can be viewed as a slide show with or without thumbnails, or as a collection of images that link to the full size image. As you learned in Domain 3, you can open the Output panel by clicking the Output workspace switcher, where you can create a PDF or a web gallery.

Click the Web Gallery button in the Output panel, and then click the Template pop-up menu to select a layout for the web gallery. Bridge places the photos that are selected in the Content panel in the web gallery. You can further customize the web gallery in the Site Info, Color Palette, and Appearance sections of the Output panel. To preview the web gallery, click the Refresh Preview button; the web gallery appears in the Output Preview panel.

In Adobe Bridge, categories in a panel are referred to as **drawers**.

Printing Images

Before printing an image, it is important to verify file size, file format, resolution, and color, just as you do when preparing an image for the web. Because most desktop printers are configured to print from RGB mode, you do not need to convert your image to CMYK mode when using a desktop printer.

To open the Print dialog box, click the Print command on the File menu, where you can preview the image, verify the dimensions, and specify color management. The Print Settings button opens the Printer Properties for the selected printer, where you can specify paper size, source, and page orientation.

TIP: To scale an image to fit the paper size automatically, click the Scale to Fit Media check box.

Saving for Video

When preparing a document for use in a video, it is also important to verify file size, dimension, and file format. You can select a preset value specifically for video in the New dialog box. Click the Preset pop-up menu, and then click Film & Video to select the broadcast format and pixel aspect ratio for the document.

You should prepare your images properly before using them in a video-editing application. Preparation reduces rendering time and improves the quality of the images. Set the pixel dimensions to the same resolution you use in the video-editing application. If you plan to scale the image, set the image dimensions to the largest size the image will be in the video project. Scaling an image larger than its original size can cause loss of sharpness. Finally, crop the parts of the image that you do not want to be visible in your video project.

A **pixel aspect ratio** is the width to height ratio of a single pixel in a digital image. Computer displays are defined typically as having a 1.0 pixel aspect ratio, based on a frame size of 640 pixels by 480

pixels, creating a square pixel. Digital video standards have a 0.9 (standard screen) or 1.2 (widescreen) pixel aspect ratio, which creates a rectangular pixel. When you display an image created with a square pixel on a television, the image appears distorted. If you need to adapt an existing document to be used in video, you can reset or select a pixel aspect ratio for video by clicking View on the Application bar, point to Pixel Aspect Ratio, and then clicking an aspect ratio.

Viewing area **safe zones**, or margins, are designed to ensure that certain content is not missed when played on television screens. The safe zone consists of two areas: the title-safe zone and the action-safe zone. The inner margin represents the **title-safe zone**; the outer margin represents the **action safe-zone**. The Actions panel has an action titled **Title Safe Overlay**; this action creates a title-safe overlay that displays title-safe and action-safe boundaries. You can add an additional library of video actions to the Actions panel by clicking the Panel Options icon, and then clicking Video Actions. Additional actions available can apply broadcast standards for the size of the image and color profiles.

TIP: When you create a new document with the Film and Video preset, Photoshop automatically creates nonprintable guides that represent the title-safe and action-safe boundaries.

*TIP: The **NTSC (National Television Standards Committee)** video broadcast format is used in the United States; the **PAL (Phase Alternating Line)** format is used in Europe, Australia and parts of Asia.*