

CLASSROOM IN A BOOK® INSTRUCTOR NOTES

ADOBE® PHOTOSHOP® CS3

Introduction

The *Adobe® Photoshop® CS3 Classroom in a Book™* course presents students with tips, techniques, and solutions for using the Adobe Photoshop CS3 software. The Instructor Notes are intended to complement the information in the *Adobe Photoshop CS3 Classroom in a Book®*.

The information is organized to follow the sequence of instruction in each lesson.

About the workbooks

It is recommended that each student in the class have an individual copy of the *Adobe Photoshop CS3 Classroom in a Book*. Students will use this book as you lead them through projects. Additionally, the book can be used as a self-paced tutorial.

You can buy more copies of the *Adobe Photoshop CS3 Classroom in a Book* for your students, or you can refer them to a local book-seller to purchase the book.

For additional information, call Pearson Education at 800-922-0579.

Course strategy

If you're teaching a 15-session class, you can teach approximately one chapter of this book per class. The book contains 14 lessons, some of which may take a while to complete. If you are teaching a 10-session class, you may want to combine some of the lessons in a single class. For example:

- Lessons 1 and 13 are both focused on learning about the Photoshop user interface (including Adobe Bridge). However, because Lesson 13 also covers features in Photoshop CS3 Extended, it may be better suited for advanced users.

- Lessons 3 and 7 cover related aspects of photo retouching.

- Lessons 4 and 6 both are about making selections. Also, Lessons 6 and 11 cover effects that are based on-masking and selections.

- Lessons 5 and 10 deal specifically with layers, although layering is a crucial element in almost every lesson following Lesson 5.

- Lessons 9 and 10 both cover vector graphics. If your students are already competent in the use of drawing programs such as Adobe Illustrator, they may be able to skip straight to the project with the Saucer.psd file in Lesson 9.

- Lesson 14 addresses printing issues and topics related to color management; after basic photo correction, Lesson 2 touched on four-color printing.

The following lessons cover enhanced or new features in Photoshop CS3:

- Lesson 1 covers the new interface, streamlined across the Adobe Creative Suite 3 products, and illustrates the updated toolbox.

- Lesson 7 details enhancements to the Adobe Camera Raw 4 file format and Vanishing Point filter. It introduces students to Adobe Lightroom™, a new CS3 component that incorporates raw conversion into a single workflow, and allows scrolling through dozens of images quickly, and branding and show casing them. It also includes valuable tips on setting up a proper workflow. covers the Quick Selection tool and the enhanced Refine Edges feature.

- Lesson 10 covers the new Auto Align Layer feature for aligning two similar, but offset layers.

- Lesson 11 introduces Smart Filters, for applying non-destructive filter effects to images.

- Lesson 12 features the Zoomify command for tiling and panning large files in a web browser, as well as the Clone Source palette feature for cloning selections from a second image.

- Lesson 13 covers enhancements to Adobe Bridge and features in Photoshop CS3 Extended—a version of Photoshop with additional functionality for the professional, scientific, and technical communities.

We recommend that, at an absolute minimum, you teach Lessons 1 through 5. The majority of the most basic Adobe Photoshop features and the Photoshop work environment are covered in these lessons. However, completing all the lessons through Lesson 10 would make a far superior introduction. Before beginning a lesson, encourage students to browse through it, read any sidebars, and watch any movies suggested in the text.

Quick Time movies are indicated by the filmstrip icon, and are located in the Movies folder on the *Adobe Photoshop CS3 Classroom in a Book* CD.

Managing student projects

One way to simplify file storage and retrieval in classroom situations is to ask students to create a folder on their hard disks, name it [*Student's*, for the student's name] Lessons, and then copy each project folder into the main Lessons folder. Having students keep all their working files in their own Lessons folder makes it easy for you to clean up files when a class is over.

Additional resources

Instructors and users of Adobe Photoshop rely on a variety of resources to supplement their knowledge of the program. You may find the following resources useful to explore. Photoshop Help The Help installed with Photoshop contains a complete descriptions of all features, including topics not covered in the User Guide. It also contains links to movies that showcase new CS3 features, and techniques for using the software.

Adobe Photoshop CS3 User Guide

This guide, a subset of Help, contains feature descriptions. It's useful for learning about areas of the program

that are outside the scope of the *Classroom in a Book*. Printed copies of Adobe Photoshop CS3 documentation area available for purchase from www.adobe.com/go/buy_books. Application DVD The Adobe Photoshop CS3 application DVD contains the Adobe Technical Info folder, PDF versions of the User Guide and Quick Reference Card, tryout versions of products by Adobe and other manufacturers, and the Adobe Photoshop CS3 Software Development Kit for experienced programmers.

Adobe CS3 Video Workshop DVD

Included in the product box, this DVD provides 250 instructional movies on Photoshop CS3 and other products across the Adobe Creative Suite 3 lineup. Adobe Web site The U.S. Adobe Web site at www.adobe.com contains a variety of Photoshop training and support resources, including the Adobe Studio Expert Center for Photoshop.

Many step-by-step tutorials, galleries, and other resources are available at the Adobe Web site, and the User-to-User Forums are a great place for students to learn from more experienced users. Adobe Design Center provides hundreds of tutorials from experts and authors in the community, as well as thoughtful articles about design and technology.

Go to:

www.adobe.com/designcenter/. Adobe Certified Expert (ACE) program

This program is designed to validate an expert skill level of Adobe Photoshop CS3. Careful testing of candidates ensures that each ACE has demonstrated expert product knowledge of the current release of Adobe Photoshop, resulting in increased marketability and an added credential. Training for the ACE program is available through Adobe Authorized Learning Providers (AALP) and self-study.

For more information about this program, send an e-mail to certification@adobe.com or visit the Adobe Web site at: <http://www.adobe.com>.

Note that several resources mentioned here are available directly from the Help menu in Photoshop, such as online

Lesson 1: Getting to Know the Work Area

The first lesson presents an introduction to the Adobe Photoshop CS3 software. Using the basic commands, tools, and palettes, your students will learn general techniques for understanding where they are, how to get information about the image in front of them, and how to select the tools or enter the values needed to change the image.

Goals for this lesson

How much time you should schedule for this lesson depends on whether all your students already have any knowledge of Photoshop, and on their computer skills in general. The overall objective for Lesson 1 is to make them sufficiently familiar with the user interface that they can locate the controls they need to do the procedures in the rest of the lessons. In general, they should be able to identify:

- They should be able to find and name the key areas of the interface, including the toolbar, palettes (in general), image windows, and the tool options bar.
- They should also be able to open not only the main menus and submenus across the top of the work area (File, Edit, and so forth) but also context menus and palette menus. Subordinate to this goal is gaining a familiarity with the different means of getting information about Photoshop.

By learning how to help themselves, they gain confidence and independence. The lesson describes three ways to do this:

- A second method is to take advantage of the tooltips to identify tools, buttons, and other controls.
- A third method is to use Photoshop CS3 Help. It is important to emphasize that Help not only contains all the information in the printed User Guide, but it also includes many other topics that are useful even to novice users.

Finding tools in the work area

You may want to introduce students to the Photoshop environment by providing a general tour of the screen. This helps orient the students and provides a review of

the names of the elements on the screen. For example, you may point out the title bar and remind the students that it indicates which publication is currently active. Then point out the menu bar, the rulers, the page icons, the palettes, and the toolbox.

Students may already be used to keyboard shortcuts as a simple alternative to using the mouse. Photoshop and other Adobe products are designed to allow keys to be used simultaneously with the mouse.

A common working technique used by many Photoshop professionals is to keep one hand on the mouse, and the other hand over the keyboard to switch tools and modes. You may want to demonstrate how this method allows the mouse pointer to remain directly over the part of the image that's being edited, since you're not always having to move the pointer back and forth between the image and the toolbox or menus. You don't have to encourage students to work this way in the beginning. They probably won't be ready to use the shortcuts until they have a good understanding of when they'll want to use each tool.

Selecting and using a tool from the toolbox

It may be useful to point out that the View > Actual Pixels command (same as double-clicking the Zoom tool) displays one image pixel for each monitor pixel, which also means that this magnification will display an image at exactly the same size as it will appear in a Web browser. But because monitors can be set to different resolutions, the real size of an image when viewing in Actual Pixels (or a Web browser) will vary depending on the monitor in use.

Many users are unaware that the monitor resolution can be changed. You may want to demonstrate this, showing how increasing the resolution makes more room for palettes and images on screen, but with the tradeoff of making everything smaller.

Finally, you may want to demonstrate how to see a single image at two magnifications simultaneously, by choosing View > New View and setting a different

magnification for each window. This is handy for making detailed changes while zoomed in, while also viewing the full image in another window to see the changes in context.

- Scrolling an image using the Zoom tool. You can also scroll using the keyboard. In addition to scrolling up and down using the Page Up and Page Down keys, respectively, the Home and End keys scroll to the top left and bottom right corners, respectively, and Shift+Page Up and Shift+Page Down scroll left and right, respectively.

Photoshop is one of those rare programs that lets you scroll and zoom while you are in most dialog boxes. This feature is very helpful when applying filters or other adjustments from a dialog box. You can demonstrate this now, or just keep this in mind when teaching lessons about dialog-box based filters, effects, and corrections.

- Using the Info bar. Some of the status bar options are useful in certain situations.

You might demonstrate how clicking the black arrow opens the pop-up menu, and then discuss the following three options on that menu:

- The Current Tool option is useful to display when the toolbox is hidden.
- The Efficiency option can help gauge whether or not you have enough RAM to run Photoshop efficiently, when working with images that are typical for you. Anything less than 100% indicates that you may need more RAM (or on Mac OS Classic, you may simply need to assign more RAM to Photoshop).
- The Document Profile option is useful when you're working in a color-managed workflow, because you'll know exactly what color profile each image uses.

Using the tool options bar and other palettes

Students should understand that the tool options bar is not the same as the toolbar (or button bar) found in products such as Microsoft Office. In Photoshop, the controls that appear on the tool options bar change depending on the selected tool, whereas controls on a (Microsoft Office) toolbar do not. Similarly, the tool

options bar cannot be customized because it always represents options for the current tool. Take care to refer to the tool options bar by its complete name and not as a “toolbar” or “button bar” yourself.

Using palettes and palette menus

You may want to point out the two reasons why the Tab keyboard shortcut is so useful. Hiding and showing all palettes instantly allows quick evaluation of images without the distraction of palettes, and when working on a small screen it more easily allows use of the entire screen for image editing.

Also show students how easy it is to collapse palettes to icons, and then expand the palettes again with a click. In this lesson, students will look at customizing a workspace. And in Lesson 12, they will define a custom workspace in Photoshop that shows and hides specific palettes, based on the type of task they are performing. You do not need to go into this feature in-depth now, to avoid the risk of information overload in the first lesson.

Using a context menu

Demonstrate how context menus change depending on the content under the pointer. Right-click (Windows) or Control-click (Mac OS) over the following examples:

- Different layers
- A selection
- Text with an insertion point
- In any list palette

If your students use graphics tablets, encourage them to program their stylus button to display context menus.

Using Photoshop Help

Students may not be aware that the online Help for Photoshop and other Adobe products include information not available in the printed User Guide, such as detailed descriptions of filters and important guidelines for using them. It's fast to search for a term in the online Help, and many topics include links to movies that demonstrate the feature.

Using Adobe online services

Students may inquire about privacy concerns related to the Adobe Online service. You can reassure them that

no personal or configuration-related information is sent from their computer, except that which is explicitly typed in by the user as part of the voluntary online registration process.

Review questions

The following questions are not in the student's *Classroom in a Book*.

- 1 What do you do if you can't find a tool that you know exists?
- 2 How can you find out the keyboard shortcut for a tool without opening the User Guide or Photoshop Help?
- 3 How can you instantly hide or show all palettes?
- 4 What's the quickest way to type in a specific zoom percentage?
- 5 What magnification is the best representation of an image's size on a Web page?
- 6 What do you do if you can't find a palette that you know exists?
- 7 What is the difference between a palette and an image window?

Review answers

- 1 The tool you want may be hidden in a pop-up list. Look in the toolbox for a related tool with a small black triangle. That triangle symbol indicates that holding down the mouse button on that tool opens a list of hidden tools at that location.
- 2 Hold the pointer over the tool until the tooltip appears containing the keyboard shortcut for that tool.
- 3 Press the Tab key (when you're not editing text).
- 4 Type it into the Navigator palette.
- 5 Actual Pixels.
- 6 Choose the Window menu and look for the palette name. If the palette is already open and in front of the other palettes in its palette group, a checkmark appears in front of the palette name on the Window menu. If you don't see a checkmark, click the palette name. The palette will open in the front of its palette group.
- 7 A palette contains a set of related controls that you select and use to work on your file. You can have many palettes open, group them, hide them, and separate them, among other things. The image window displays the image file. You can have multiple image windows open simultaneously, displaying different image files. If you close an image window, you close that file.

Lesson 2: Basic Photo Corrections

Lesson 2 might have been titled “Photoshop 101” because it gives the students experience with the most basic and commonly used features—the sine qua non of digital photo editing. Even rank beginners are eager to learn such practicalities as how to straighten images that have been scanned in at a crooked angle, crop them, and fix the colors to compensate for a problem with the exposure. Lesson 2 also introduces two important concepts: resolution issues and adjustment layers. In addition to the lessons in this book, encourage students to do additional study about scanning, tonal correction, and color correction. This chapter merely scratches the surface of image correction—a skill set that is very deep, extremely valuable, and involves concepts well beyond the scope of both this book and the Photoshop documentation. Many books on correction and retouching are available from Peachpit Press.

Scheduling this lesson

Lesson 2 and Lesson 7 contain closely related subject matter. In Lesson 2, students use the Dodge and Sponge tools to make color changes to a limited area of the image. Lesson 7 is entirely devoted to making similar kinds of changes, but using different tools.

If your class sessions are long enough, you could group these two lessons into a single session. If you do so, the students will have to cope with a few very simple but less familiar techniques, such as making a selection (covered in depth in Lesson 4) and working in an image with two layers (covered in Lesson 5). However, the use of these techniques in Lesson 7 is so elementary that it should not present a serious problem.

Organizing an efficient sequence of tasks

The steps listed here are the most efficient sequence of retouching steps, so they should usually be done in the order presented. For example, tone correction should be done before color correction because correcting tones can have the side effect of correcting a color cast, reducing the amount of color adjustment needed.

Adjusting your process for intended uses

Students should be clear on the concept that the specific

settings applied at many of these stages will differ depending on the final output. For example, the best resolution and sharpening values for print and web are much different. In addition, settings that are best for one medium are often detrimental in another. If a student knows that an image will be used in more than one medium, the student should maintain a full-resolution master image, and from it, derive versions of the image that are optimized for print, web, or other uses.

Resolution and image size

The topic introduces the issue of resolution, which is a concept that students will grapple with many times in the future. At this point, dealing with this issue may seem less rewarding to your students than changing the tulips from muddy maroon to clear red, for example, or other tasks that have more sizzle and pop to them. You may need to emphasize resolution in your class discussions so that students start thinking about it.

Supplementing the resolution topics

One way to get students to think about resolution is to demonstrate opening two images at two different resolutions, cutting and pasting a selection from one to the other, and pointing out the mismatch. Another way to focus students’ attention on resolution is to discuss its implications. For example, you might ask students to describe the issues and tradeoffs involved in some scenarios, such as the following:

- What’s wrong with adjusting the image resolution after you correct and retouch it?
- What’s the problem with just leaving an image at maximum resolution?
- Somebody sends you a family photograph in email that takes a long time to download. When you open the image in your browser, you can see only one small area of the picture so that you have to scroll to get an idea of the whole shot. What should the sender have done to avoid these annoyances?
- What’s so terrible about making the file as efficient as possible and then scaling it up to the size you want?
- How do you increase resolution? Or can you?

Straightening and cropping an image

Students may want to know how to crop without locking proportions. To do that, simply delete the dimensions in the tool options bar.

Manually adjusting the tonal range

Beginners will often adjust tones by going straight to the Image > Adjustments > Brightness/Contrast commands, probably because the command names sound like familiar TV controls. However, it's best to discourage use of Brightness/Contrast for most situations.

The Levels and Curves commands can make an image lighter or darker while preserving the lightest highlights and darkest shadows. Because of the way Brightness/Contrast works, it's far more likely to delete useful tonal information, especially in highlights and shadows. Students may ask what the Brightness/Contrast command is for. Because it performs linear changes on an image's tones, it can be very useful when working with nonimage channels such as masks. But it isn't very useful when handling photographic images. In other words, beginners are not likely to need to use the Brightness/Contrast command.

Removing a color cast

A 24-bit monitor is needed to see a color cast. For best results, that monitor should also be calibrated; otherwise it may not be clear whether the cast is in the monitor or in the image.

For students with earlier versions of Photoshop, you can discuss with them how the Auto Color feature makes it unnecessary to create an adjustment layer and tinker with the Color Balance by hand. It is still possible to use those techniques in Photoshop CS3, but it's not necessary unless the situation is special or you are trying to create unusual effects.

Replacing colors in an image

Be sure students understand that they should complete general tone and color corrections before they perform specific color corrections such as the Replace Color command or using the Color Replacement tool.

Adjusting lightness with the Dodge tool

When using the Dodge, Burn, or Sponge tools, the key to believable results is subtlety. Suggest to your students that they use these tools at low Pressure/Exposure settings and build up their effects gradually.

Adjusting saturation with the Sponge tool

Caution students about saturating a color past the point that the output medium can handle. This can easily happen on print jobs, since most colors will exceed the CMYK gamut long before they appear oversaturated on a monitor. You can show students how to watch out for over-saturation by using the Proof Colors and Gamut Warning commands on the View menu.

Applying the Unsharp Mask filter

You might suggest that the Threshold value should be increased for surfaces that would become too grainy if sharpened at a Threshold value of 0. For example, it's common to set the Threshold to a value of 8 or higher for skin areas.

Saving the image for four-color printing

You might make the following points about converting to CMYK:

- The way Photoshop converts to CMYK depends on the CMYK Working Space set in Edit > Color Settings. For example, if the Settings chosen at the top of the Color Settings dialog box are U.S. Prepress Defaults, the CMYK Working Space is U.S. Web Coated (SWOP). When working on a job for press, students should always confirm with their printer which CMYK working space is the best match with the printer's equipment.
- The appearance of an image after converting to CMYK is often disappointing. Overall saturation is usually lower and some colors may shift. Reassure students that Photoshop is simply being honest about what colors can actually be achieved in the CMYK gamut (assuming that all Color Settings are set correctly).
- The Byte Order setting in the TIFF Options dialog box isn't usually critical because most professional graphics programs (such as Adobe products) read both Mac and IBM PC byte orders.

Supplementing the lesson

You may want to demonstrate the difference between using the Levels command and using a Levels adjustment layer (a concept not introduced until later lessons, so you'll want to assess the readiness of your class to absorb this added information). If you decide that your students can handle this already, start your demonstration with two copies of the same image. On the first image, use the Levels command to apply three dramatic changes, clicking OK after each change. Do the same thing with the second image, but using the Levels adjustment layer. Then compare the histograms of the two images. The histogram of the image edited with the adjustment layer should show that far more tonal levels were preserved. Before converting the final, corrected RGB image to CMYK, tell your students to choose File > Save As, and save a copy of their work using a different filename.

Later, you can have them use this saved file as the basis of a supplementary exercise for Lesson 7; see "On your own: Painting with the art history brush" of these Instructor Notes.

Review questions

The following questions are not in the student's *Classroom in a Book*.

- 1 In the Replace Color dialog box, how do you select the color to be replaced?
- 2 How can you lighten a small area of an image?
- 3 What is a color cast, and what's the fastest, surest way to remove it from an image?
- 4 Why do some images need to be converted to CMYK?

Review answers

- 1 Click the eyedropper on the color you want to change.
- 2 Use the Dodge tool.
- 3 A color cast is an imbalance in the color of an image, which might be caused by anything from problems with the camera exposure settings to the deterioration of the original photograph scanned in to create the image file. The simplest way to remove the color cast is to choose Image > Adjustments > Auto Color. The Auto Color command automatically reads and corrects the color balance in the image.
- 4 An image must be converted to CMYK to be able to print properly on a CMYK printing press.

Lesson 3: Retouching and Repairing

This lesson is a logical follow-on to Lesson 2, in that it teaches students how to continue their correction of images—this time, by addressing image flaws. Retouching is so basic an image editing task that Photoshop incorporates a sequence of menu commands for it in the Help menu (How To Fix And Enhance Photos).

Where correction follows a logical order, retouching is more subjective. But like many art projects, it can be overdone. Help students learn how to look closely at before images, to see what needs correcting, and at the results, to make sure that the image has been improved enough—but not so much that it no longer looks realistic.

Like correction, repairing images is a vast subject touched on only briefly here, that involves concepts well beyond the scope of both this book and the Photoshop documentation. Many books on correction and retouching are available from Peachpit Press.

This lesson also introduces students to the History palette, a valuable tool in undoing and stepping backwards in their work. You may want to have students practice zooming in closely on an image, to spot transitional areas of color, as well as similar-colored selections, which can be made up of many colors.

Goals for this lesson

At the end of this session, your students should be able to describe the strengths and limitations of the various retouching strategies, and know which tools to use for specific repairs.

Repairing areas with the Clone Stamp tool

Encourage students to work in short strokes with the smallest brush size that makes sense. If the brush size is too large or the strokes are too long, areas of the image will start to visibly repeat, and the image will no longer look natural. You may want to suggest that students bring in their own images to work on and use as they experiment with these new tools.

Taking a snapshot

Point out that when you use the History palette in this way, it is no longer being used as a simple list of undo steps. Instead, the past is being used as a resource for painting. It can enable you combine two versions of an image into a single image that represents the best of both worlds. Make sure students understand that history states aren't saved with the document. You can suggest that if students want to keep different versions across sessions, they should set up an image's states as separate layers or documents instead.

To supplement the information in this section of the book, you can tell students about the New Document command in the History palette menu. This is even faster than using the Save As command or other multi-step methods of creating new documents. Point out that they can use this feature by selecting any available history state or snapshot and then choosing the New Document command. Then, they can go forward to the latest History palette step of the original document and continue working, secure in the knowledge that they can always go back to the new file they created if they want to start over at that point.

Note: The New Document command is also available in the context menu when you right-click (Windows) or Control-click (Mac OS) a history state.

Retouching on a separate layer

You may want to have students practice retouching portraits to match skin tones as accurately as possible. Refer to the techniques and tips in Lesson 1 for zooming in and out of an image.

Using the Healing Brush on a duplicate layer

In these projects, students will always leave the Sampled option selected as the Source (in the tool options bar). However, you might ask them to speculate about the Pattern option. Then you can invite them to experiment with that option, selecting a pattern in the Pattern popup, and applying the pattern to an image with the Healing Brush tool or Patch tool. This applies

the pattern according to the properties of the selected retouching tool. Be sure to tell your students to discard their experimental changes before continuing with the lesson.

Supplemental information: Comparing the retouching tools

Usually, students have little trouble understanding how the Clone Stamp tool and Pattern Stamp tool work after they get some hands-on experience with these tools. However, even after students become competent in using the Healing Brush tool or Patch tool, they may have difficulty explaining how the tool does what it does. If this lack of understanding makes some of your students uneasy, you might explain to them that the Healing Brush and Patch tools have to do with reading the texture and color information separately. Thus, Photoshop collects texture information about the area selected to be the resource for the retouching (such as the unblemished areas around the rock climber or the unwrinkled areas of the chef's face) and combines it with information about color it collects from the area designated to be retouched to create unique results. If the students don't care why the tools work, there's no need to require them to understand or explain it. As long as they can use the tools comfortably, that's fine.

Supplemental information: Best practices

You may want to encourage students to think about these issues before they begin making adjustments. They should:

- Work with a monitor that's calibrated and profiled. For critical image editing, this is absolutely essential. Otherwise, the image on the monitor will look different when printed.
- Be judicious in correcting images. Any color or tonal adjustment to an image discards some image information.
- For critical work and maximum preservation of image data, it's best to work with images with 16 bits per channel (16_bit image) rather than 8 bits per channel (8_bit image). Data is discarded in making tonal and color adjustments. The loss of image information is more critical in an 8_bit image than a 16_bit image. Generally, 16_bit images have a larger file size than 8_bit images.

- Work on a copy of the image file, not the original.
- Remove any flaws such as dust spots, blemishes, and scratches from the image before making color and tonal adjustments.
- Use adjustment layers to adjust the tonal range and color balance of an image rather than applying an adjustment directly to the image layer itself. Adjustment layers allow going back and making successive tonal adjustments without discarding data from the image layer. Keep in mind that using adjustment layers adds to the file size of the image and demands more RAM from your computer.
- Consider using tools like the Info or Histogram palette in Expanded view, to provide invaluable feedback on adjustments.
- Make a selection or use a mask (Lesson 6) to confine color and tonal adjustments to part of an image. Or set up a document with image components on different layers (Lesson 10). Color and tonal adjustments are applied to only one layer at a time and affect only the image components on the targeted layer.

Review questions

The following questions are not in the student's *Classroom in a Book*.

1. How do you sample a selection with the repair tools? The Clone Stamp or Healing Brush tool allow sampling sources in the current document or any open document in Photoshop. To set the sampling point, select the Clone Stamp tool and Alt-click (Windows) or Option-click (Mac OS) in any open document window. You can set up to five different sampling sources at a time in the Clone Source palette. To set another sampling point, click a different Clone Source button in the Clone Source palette.
 (In Photoshop Extended, you can clone video or animation and set sampling points in the current frame you're painting or sample sources in a different frame, even if the frame is in a different video layer or in a different open document. To clone video or animation frames, use the Animation palette, select the timeline animation option and move the current-time indicator to the frame with the source you want to sample.)
- 2 What's the difference between the Healing Brush tool and the Spot Healing Brush tool?
- 3 Does it matter whether repairs are done in RGB or CMYK mode?

Review answers

1 Click the eyedropper on the color you want to change.

2 The Spot Healing Brush works similarly to the Healing Brush: it paints with sampled pixels from an image or pattern and matches the texture, lighting, transparency, and shading of the sampled pixels to the pixels being healed. Unlike the Healing Brush, the Spot Healing Brush doesn't require you to specify a sample spot. The Spot Healing Brush automatically samples from around the retouched area..

3 RGB mode has a larger color gamut than CMYK, so editing in RGB color mode allows preserving more colors. However, you should edit an image in its final color mode. That is, if the image will be printed, work in CMYK mode. If the image will be used online, edit in RGB mode. If the image will be repurposed—for example, posted online and then printed—work in the larger gamut RGB mode.

Lesson 4: Working with Selections

Selecting is a critical skill necessary for precise control over corrections and effects. This lesson introduces students to a more in-depth understanding of selection tools, options, and techniques. Emphasize to your students the importance of mastering selection skills. Students can avoid a great deal of editing rework and produce higher-quality results just by knowing the best way to select an area and how to adjust and fine-tune a selection.

Goals for this lesson

At the end of this session, your students should be able to describe the strengths and limitations of the various selection tools, to demonstrate how to transform a selection, and to accurately distinguish between the pixels within a selection and the selection itself.

The techniques for selecting are fairly easy in themselves. However, the concepts of selecting, selection borders, and selected areas leads to more complicated ideas and processes, such as masking, alpha channels, and so forth. It is imperative that your students be completely comfortable with their mastery of selection procedures before they move on to more advanced lessons. The next level of advancement for this topic comes in Lesson 6, when students work with masks.

About selecting and selection tools

The Single Row Marquee and Single Column Marquee tools are useful for correcting special cases, such as wiping out film scratches and scanner artifacts.

Selecting with the Magic Wand tool

For a complete understanding of the magic wand, have the students observe how the selection changes when they:

- Change the Tolerance value in the options bar.
- Leave the Tolerance value unchanged, but click pixels of different values

Moving a selected area

You may want to ensure that your students understand the difference between moving a selection and moving

pixels, because it's easy for beginners to confuse the two. Several transformation commands appear in the menus, but they all require you to think ahead. Suggest to the students that in most cases they might want to try the Free Transform command first, for several reasons. It can perform any transformation (so you don't have to think about which command to choose), and it can transform interactively, which means it's the most fun and intuitive way to transform.

The other transformation commands are most useful when a precise transformation is required, such as an exact horizontal flip. Be alert for potential confusion about the transformation command in the Select menu: Transform Selection, should your students discover it.

The difference between this command and the transformation commands on the Edit menu is that the Edit commands transform the pixels in the selection. In contrast, Transform Selection (in the Select menu) is the command to choose when you want to transform the selection border without altering the pixels. You may want to demonstrate this difference. They both come in handy, but using the wrong one can be frustrating.

You might emphasize the importance of deselecting. In Photoshop, you can't deselect an area just by clicking a spot outside the selection or by selecting a different tool, as you can do in many other applications, from wordprocessors to Web browsers.

This may seem to your students like a disadvantage at first—because it seems to add an extra step. You might explain its benefits are central to the advanced uses of Photoshop. The advantage of making a selection is that you can then apply a change to the selected area, often by using another tool. How ridiculously counterproductive would it be if selecting a new tool caused the area to be deselected?

You might remind your class that the “extra step” is also a safeguard. Intricate selections can time-consuming.

Because you must actively deselect, you cannot accidentally deselect something that you have painstakingly selected.

Using the Magic Wand with selection tools

This is a good section in which to point out the flexibility of Photoshop when making selections. Some students may find selecting to be a tedious and stressful operation if they feel they have to get it absolutely right the first time. If you observe this, reassure the students by telling them that it isn't necessary to achieve a perfect selection right away. Point out that as Photoshop users become experienced, they'll perform a selection in multiple passes. On the first pass, an approximate selection is good enough. On subsequent passes it's simply a matter of using any combination of selection tools and techniques (such as the ones in this topic) to fine-tune a selection until it's perfect.

Moving and duplicating simultaneously

You might brainstorm with your students about other uses of this technique in combination with using the Shift key to constrain movement, such as when creating web buttons or other repeating patterns.

Cropping an image and erasing within a selection

You may want to point out how the Crop tool can be customized in the tool options bar for precise crops.

Quick Selection

New in CS3, the Quick Selection tool makes quick, accurate selection of an irregularly shaped object without having to manually trace the object's edges. You may want to suggest students try using the tool to paint other selections, and then apply the Photoshop automatic edge enhancement for greater selection accuracy.

Refine Edges

Encourage students to try out other Refine Edges option with a selection, to see the usefulness of different matte colors and backgrounds.

Isolating and saving selections

Point out to students that it's a good work habit to rename selections meaningfully. It helps them easily find their work, and keep their work organized.

Review questions

The following questions are not in the student's *Classroom in a Book*.

- 1 Which selection tools can draw straight lines?
- 2 What's the fastest way to make a semi-circular selection?
- 3 How do you move a selection with the keyboard?
- 4 If you make a selection and you missed an area, what's the fastest way to correct it?
- 5 How do you switch from the Magic Wand tool to the Magic Wand Plus tool or the Magic Wand Minus tool?

Review answers

- 1 The Polygon Lasso tool, or the Lasso tool when you hold down Alt/Option.
- 2 With the Elliptical Marquee tool, hold down Shift and draw a circle. Then with the Rectangular Marquee tool, hold down Alt/Option and draw a rectangle over half of the circle to subtract it from the original circular selection.
- 3 Nudge a selection by pressing the arrow keys.
- 4 Just press Shift and use any selection tool to add the missing area.
- 5 You must use keyboard shortcuts to select these tools because there is no pop-out list on the toolbox for the Magic Wand tool. To add to a selection with the Magic Wand Plus tool, hold down Shift and click the Magic Wand tool on the area you want to add. To subtract, hold sdown Alt (Windows) or Option (Mac OS) and click.

Lesson 5: Layer Basics

Layering is one of the key features of Photoshop. Using layers, students can take full advantage of the digital nature of Photoshop to create complex images with sophisticated visual richness.

Beginners often see Photoshop as a simple digital version of a painting canvas or photograph, but this view does not do justice to the potential of the Photoshop application or the opportunities it provides the user.

Goals and objectives for this lesson

Your goal in this lesson is to move your students from treating the screen as a single sheet (either blank or containing an image) to thinking of it in terms of a structured document with parts (layers) that can be edited independently. Successful students will understand that thinking in terms of layers gives them the flexibility to change their mind at any time, adapt work at the last minute to incorporate client-requested changes, leverage files to create alternate versions of an image within the same file, and to do other things that would be a great deal more trouble on a real paint canvas or in a darkroom.

As subordinate objectives for this lesson, aim to make students able to correctly explain the following concepts and to describe their importance or relationships to other aspects of the lesson:

- Basic types of layers: background, image, text
- Transparency (transparent pixels)
- Opacity (semi-transparency of pixels)
- Stacking orders of layers
- Layer sets
- Visible layers and hidden layers
- Active (selected) layers and inactive layers

Getting Started

Now that the students have completed a few lessons, many of them probably feel confident enough to start up Photoshop without even reading the “Getting Started” topic. This might be a good time to reinforce the idea of restoring default preferences at the beginning of each lesson.

Renaming a layer and copying a layer

Here is one of the key benefits of layers. By keeping the photo, shell, letter, and paper texture images each on its own layer, they can be reused in other documents very easily and never have to be tediously extracted from a busy background.

Selecting and removing some pixels from a layer

One common stumbling block for the novice Photoshop user is forgetting that a layer must be active (selected) in order to be changed.

Sometimes students who are used to working in applications such as Adobe Illustrator or Adobe InDesign think that they can just click an item they know is on a separate layer to make that layer active. For example a student might assume the clicking the shell or the paper texture background of the lesson image file might switch the active layer to the one containing that subject matter.

The good news is that because a selection border is independent of the pixels shown inside it, users can apply a selection to another layer just by clicking the layer name in the Layers palette.

Related exercises or demonstrations

If appropriate, you can demonstrate the importance of knowing which layer is active or have the students experiment with this. For example, try making changes on a layer of a multilayer image and then using the layer visibility icons to view the changes.

One easy and dramatic way to do this is to make a duplicate layer of a single-layer image file by dragging the original layer onto the New Layer icon at the bottom of the Layers palette. Then, in the Layers palette, select the lower layer so that it is the active layer. Select any color from the Swatches palette and then use the Paintbrush tool and drag it around the image. Because the active (lower) layer is hidden behind the duplicate layer, the display in the image window appears unchanged. However, when you click the eye icon for the upper layer to hide it, the paint strokes you made early are now revealed on the lower layer.

You can set up another demonstration by selecting half an image and choosing Layer > New > Layer via Cut so that you have half the original image on one layer and half on another. Then create a selection border that overlaps the boundary between the two halves. When you make changes (such as to move, transform paint, burn, or dodge) to or within the selection, ask your students to explain why you get the results you do.

Changing the opacity and the mode of a layer

If the concept of blending mode isn't clear to the students, you might want to explain that blending mode determines how layers combine, while opacity determines how much layers combine.

It's a good idea to break out the different levels of opacity and blending modes here. You might want to ensure that students understand that both opacity and blending mode are options not just for layers, but for layer effects and painting tools, too. Because of all the combinations, it can be confusing to determine exactly how to apply or edit an image. Suggest that students apply blending modes and opacity in the following sequence:

- Blending mode by layer
- Opacity by layer
- Blending mode by effect
- Opacity by effect
- Blending mode by tool
- Opacity by tool

The reasons for this suggested order are:

- Blending mode has more of a fundamental effect on appearance, so it should be adjusted earlier.
- Opacity is a good tool for lowering the intensity of an existing effect, so it's good to adjust later.
- Layer blending mode/opacity and styles can be changed at any time, so they should be adjusted first so that you can change your mind.

Adding a gradient layer

This lesson introduces students to the use of the buttons or icons at the bottom of a palette. You might remind students that these are convenient shortcuts for commands available elsewhere in the user interface: on menus (such as File or Edit), context menus, and palette menus. However, many of the palette buttons include extra functionality, such as the ability of the

New Layer button to duplicate a layer that you drag onto it.

It's a good idea to make sure that students understand the difference between Foreground to Transparent and Foreground to White.

Applying a layer style

You may want to do a quick demonstration to point out the advantages of layer styles over traditional filters.

Make a copy of an image. On the first image, apply a layer style (such as Drop Shadow), and on the second image, apply the same effect with a traditional filter. Show how the layer style is easily editable while the traditional filter is not.

Point out that many of the long, complicated recipes for special effects covered in older Photoshop books are no longer necessary because you can now apply an instant and editable layer style to achieve the same effect. Students should develop an attitude of looking for the most efficient way to do things.

Caution students that the single-key shortcuts in Photoshop (such as V for Move tool, C for Crop tool) don't work when you're entering text because they enter characters in that mode. Make sure they learn how to exit text editing mode so that they can safely switch to other tools. For example, Ctrl+Enter (Windows) or Command+Return (Mac OS) will apply changes and exit text mode, while Esc will cancel changes and exit text mode.

Flattening and saving files

When preparing files for use in a page layout program, it's best to use flattened copies of files because they take up less space and are more widely compatible with other applications.

Students must understand that once a file is flattened, there is no way to unflatten a file. That is as impossible as unbaking a cake into its original ingredients. This is why all users should archive an unflattened (layered) original of their work, in case something needs to be changed. You may want to point out that there is an Always Maximize Compatibility For Photoshop (PSD)

Files preference under Edit > Preferences > File Handling. If this is selected, Photoshop always saves a flattened version with the file. However, it's usually recommended that this be turned off, because it makes a file take up more disk space.

Using layer comps

The example given in the lesson is fairly simple, but you can challenge students to think of other ways that this would be a time-saving or practical advantage. There's more use of layer comps in Lesson 10, for the creation of a package prototype. Again, the example is just a simple one, but it makes the concept easy to grasp, and the students should have little trouble imagining other scenarios in which this would prove useful.

Supplementing the lesson

If your students are eager to learn more about layers, you might invite them to explore the options at the top of the Layers palette (the blending mode pop-up menu, Opacity, Fill, and Lock options).

See also “Related exercises or demonstrations” and “Applying a layer style” in these Lesson 5 Instructor Notes.

Review questions

The following questions are not in the student's *Classroom in a Book*.

- 1 What's the easiest way to change the appearance of a layer?
- 2 How can you change the way in which layers combine visually?
- 3 How can you make a layer partially transparent?
- 4 How can you remove pixels of a specific color range?
- 5 Suppose you have a selection border perfectly drawn around an area of the image you want to work on, but discover that the wrong layer is active. What do you do now?
- 6 Give an example of how you might exploit the fact that selection borders in Photoshop are independent of the pixels within them?

Review answers

- 1 Apply a layer style, which can include any number of effects, and is reversible at any time.
- 2 Apply a blending mode.
- 3 Change the opacity of a layer.
- 4 Use the Magic Eraser tool.
- 5 Easy—you just find the name of the layer you really want in the Layers palette and click it to make it active. The selection border now applies to the pixels on that layer, so you can continue with your work.
- 6 Answers will vary, but one example might be for cutting identical “holes” in multiple upper layers to reveal that shape in a lower layer. Another example will be evident later, when they do Lesson 12: to repeat a shape by applying filters or other properties in another part of the image without reproducing the original selection contents. Students may suggest many ways to use the independent selection border, some of which we may not have thought of ourselves. You might make note of their suggestions, and then revisit this question at the end of Lesson 6 and ask them if they can do all these same things using alpha channels.

Lesson 6: Masks and Channels

Masks are a powerful way to control both where and how much an effect changes an image. This lesson guides students through the various levels of the extensive Photoshop masking features. Students start with the easy-to-use Quick Mask. Then they learn about the relationship between selections, masks, and channels.

This lesson builds on Lesson 4, “Working with Selections,” so make sure that your students are competent in that area before launching into Lesson 6. The next levels of advancement for this skill area will follow in Lessons 8, 9, and 10, which build on both Lessons 4 and 6.

Working with masks and channels

To a beginner, the differences among selections, Quick Mask mode, channels, and layer masks can be very confusing. You might explain it in terms of the following key differences:

- Quick Mask mode is fundamentally a selection marquee that’s shown in a different form. Both are temporary because they disappear as soon as the current selection is changed.
- An alpha channel (a channel used for selection) is like a Quick Mask that can be saved with the document, but it doesn’t apply to any layer until you load it as a selection.
- Make a distinction between alpha channels and the channels that make up the printable image (for example, the Red, Green, and Blue channels in an RGB image). You apply alpha channels to image channels.
- A layer mask is an alpha channel that’s tied to a specific layer. Layer masks aren’t covered in this lesson, but you’ll want to keep this distinction in mind when layer masks appear later in the book.

Creating a quick mask

Quick Mask mode is great for students because it’s much more forgiving than drawing a selection marquee. In Quick Mask mode, there is never any danger of accidentally “dropping” a carefully drawn selection.

Extracting the paper texture

Caution students that they should always use the Extract feature on a copy of an image, because areas affected by the Extract feature are not simply hidden, but completely removed from the file. This lesson features a simple extraction. Encourage students to try out the feature on a more complicated organic selection, such as images containing hair, grass, or leaves.

Students may find the Highlighter tool easier to use if they understand that what they are doing is helping Photoshop recognize the edges of the object that they want to isolate.

Applying effects using a gradient mask

It’s important for students to understand that this is not just an exercise about using a gradient to fade an effect. The real point of this is that you can use shades of gray in a channel or mask to control the intensity of an effect anywhere in an image. Darker parts of a channel will apply an effect more intensely. You may want to demonstrate another common example of this—using a feathered circular mask to create a vignetting effect.

Colorizing with an adjustment layer

In this procedure, students make a clipping group of the Hue/Saturation adjustment and paper texture. In the next procedure, “Grouping and clipping layers,” they copy this clipping. Grouped layers cannot be clipped; only individual layers can be.

Supplementing this lesson

One of the concepts that might benefit from additional emphasis is the idea of loading a selection. Although students rarely have difficulty following the directions for doing this, some of them forget how it was done with equal ease.

Review questions

The following questions are not in the student's *Classroom in a Book*.

- 1 How does painting with black, white, and gray in a channel affect an image?
- 2 How does the Extract feature recognize an edge?
- 3 How do you apply a saved mask to an image or layer?

Review answers

- 1 Black areas completely protect an image from changes. White areas are completely subject to change. In gray areas, lighter areas are more subject to change than darker areas.
- 2 Extract recognizes an edge by finding where the contrast is highest within the area you highlighted.
- 3 Choose Select > Load Selection, and then select the mask (alpha channel) you want to use.

Lesson 7: Photo Retouching

The use of digital photography is growing phenomenally among creative professionals as well as hobbyists, and Photoshop has many, many features that streamline the handling and routine processing of digital photographs. From correcting red-eye to adjusting Camera Raw settings, this lesson covers a span of beginner to advanced digital image-editing techniques. Be prepared for this lesson to generate a lot of interest among your students.

Goals and objectives for this lesson

Your goal in this lesson is to give your students a well-rounded understanding of how they can perform many routine corrections to digital photographs. This lesson is aimed at the advanced hobbyist and/or professional photographer who wants to use Photoshop to clean up images captured by digital cameras.

Most of the topics and techniques have to do with basic image clean up—eliminating red-eye and adjusting the white point and other settings of Camera Raw images, but it also includes some more advanced techniques, such as the Lens Correction and Vanishing Point filters. For more practice with the Vanishing Point filter, see Lessons 10 and 13.

Getting started

This lesson builds on the techniques that were covered in Lessons 2 and 3, and as such, you may want to consider teaching it on the heels of those lessons, and then proceeding to Lessons 4 through 6.

Processing camera raw files

Camera raw is a digital image file format that is fast growing in popularity because it gives photographers control over image data that previously was determined by the camera. Many digital cameras support the Camera Raw format, which allows photographers to adjust white point, tonal range, contrast, and many other settings directly in Photoshop. Emphasize to your students that Camera Raw is a flexible, powerful file format and that once they understand how to use the Camera Raw dialog box, they'll have greater artistic control over their

images while still being able to preserve the original raw files. Note that the Camera Raw dialog can be accessed from within Bridge or Photoshop. The same features and functionality are in both.

The filmstrip that appears on the left side of the dialog box when students open the three mission images will not be there when only one image is open in the dialog. Reassure students about the yellow caution triangle that appears in the upper right corner of the images in Bridge. The warning disappears after a few seconds; it's nothing to be alarmed about. It simply appears while the settings are being applied to the camera raw image files.

Reducing noise

The noise in the portrait of the mother and son might be difficult for some students to see. Be sure to have them zoom into the sky, where it is more noticeable.

Defining a grid

Defining a grid in the Vanishing Point dialog box using the Create Plane tool is like stretching a rubber band. As the students start to click, they wrap the band around the side of the house in the image. A blue outline indicates a valid plane. Red indicates an invalid plane—Vanishing Point cannot tear off a perpendicular plane from an invalid plane. Students may simply press Backspace (Windows) or Delete (Mac OS) to delete the last node if the outline appears red. Or, after drawing, drag a corner node to adjust the plane. It will turn blue as soon as it becomes valid. To help with node placement, tell students to press and hold the X key to zoom into the preview image as they place the nodes.

Supplementing this lesson

Using other lesson Start files as a starting point (or your own examples), discuss with students how they would go about retouching and reproducing flaws, color imbalances, artifacts, and other anomalies in their images. You may want them to name the various tools they could use, and how, as well as other Photoshop features they would use to accomplish their goals. Try to develop as many scenarios, and get students to suggest likely correction strategies, as possible.

Review questions

The following questions are not in the student's *Classroom in a Book*.

- 1 Why encourage students to edit photos in camera raw format, rather than in JPEG?
- 2 What is white balance and when/how should you edit it?
- 3 What is the Vanishing Point filter and when would you use it?
- 4 Suppose you are assigned to create a wallpaper-like pattern using your company logo. If you had to use one of the tools you learned about in this lesson, which one would you use?

Review answers

1 Students are encouraged to begin editing photos in camera raw format because that format stores unprocessed picture data from a digital camera's image sensor and doesn't do any image processing. Thus, the file is like a photo negative: you can use Photoshop to set the white balance, tonal range, contrast, color saturation, and sharpening. You can also return to the file—as you would a negative—and change settings for other output. In contrast, the JPEG file format loses image quality each time the file is edited and saved.

2 White balance sets the color balance of the image to reflect the lighting conditions under which the photo was taken. It comprises temperature, which determines the “coolness” or “warmness” of the image, and tint, which compensates for magenta or green color casts in the image. It is the first setting you should adjust in the Camera Raw dialog, which initially displays the white balance at the time of exposure. You can choose from predefined settings, or specify custom Temperature and Tint values.

3 The Vanishing Point filter lets you define a perspective plane in an image so that you can then paint, clone, and transform images according to that perspective. You can even create multiple planes that are related to one another, and paint, clone, and transform across these planes through an image.

4 The Clone Stamp tool would be a good bet. However, there are more efficient ways to do this, using other tools.

Lesson 8: Typographic Design

Many designers don't realize that the typographic tools in Photoshop are extremely robust and sophisticated. Among the type features are support for OpenType, extensive character and paragraph formatting capabilities, and support for a wide variety of effects and transformations (such as positioning text on a path and warping text). This lesson covers an extensive array of type features in Photoshop.

Goals and objectives for this lesson

Students who have used Photoshop over the years may be used to working on images in Photoshop, but switching to Illustrator to work on the type for their composition.

This lesson is designed to show them that they don't need to switch applications to create great-looking type in image compositions. The project involves creating type for a mock-up of a label for a new product (a new brand of olive oil). If students ask why this work isn't done in Illustrator, explain that the work could be done in that application, but the idea is for designers who primarily use Photoshop to learn that they can do the same work in the application with which they're most familiar and comfortable, without switching.

Scheduling this lesson

This lesson stands on its own quite well. It doesn't have to be taught in lesson order, but students would do well to first complete Lesson 5, "Layer Basics," and Lesson 6, "Masks and Channels," before tackling this topic. Those lessons provide a solid foundation for the material covered in this lesson.

Adding point type

Students must press Enter (Windows) or Return (Mac OS) after entering the point size in the type options bar to make the setting stick (step 1). Pressing Tab or simply clicking on another option, such as the Font Family pop-up menu, will cause the size to revert to the previous value. Students may be frustrated if they don't press Enter or Return and can't get the size value to stick. Also, make sure your students understand and

remember to click the Commit Any Current Edits button (step 2). If they don't, they remain in text-edit mode. This means that the type layer name on their screen won't match the name in the book, which can be confusing to students. Also, they might have difficulty continuing with the exercise and performing other operations, such as applying layer effects.

A common mistake among new Photoshop users is to not commit changes, and then try to enter more type on a new layer, but find the new type is on the same layer. Show them that in addition to clicking the Commit Any Current Edits button to exit text edit mode, students can press the Enter key on their numeric keypad; press Ctrl-Enter (Windows) or Command-Return (Mac OS); select any other tool in the toolbox (besides the Type tool); or click in the Layers, Channels, Paths, Actions, History, or Styles palette.

Making a clipping mask and applying a drop shadow

Students may also complain (in this exercise or others) that pressing Shift and dragging doesn't affect the drag operation—that is, it doesn't constrain movement. The effect can be subtle. They might see it better by dragging more slowly, or by dragging and then pressing Shift after they start, to see the difference. In any case, all positioning of type in this label is approximate. Text elements don't have to be perfectly centered or positioned. Students can eyeball it.

Creating a design element from type

This lesson doesn't explain much about the Anti-aliasing menu, but it's a topic that you may want to explore further with your students. Anti-aliasing lets you produce smooth-edged type by partially filling the edge pixels. This causes the edges of the type to blend more smoothly into the background. The choices are:

- None, which applies no anti-aliasing,
- Sharp, which makes type appear the most sharp,
- Crisp, which makes type appear somewhat smoother,

- Strong, which makes type appear heavier, and
- Smooth, which makes type appear smoother.

Sharp is a common choice for print design, and does a good job of reducing unwanted “jaggy” edges. If you’d like, have your students zoom in to the type and toggle through the various anti-aliasing settings to see the difference. Be sure to have them zoom back out to see the effect at normal size (double click the Zoom tool to see at 100%).

Adding paragraph type from a sticky note

Depending on the typeface that students choose and the exact dimensions of their text box, they may not need to compensate for gaps in the second-to-last line of the paragraph. Conversely, they may need to finesse spacing elsewhere in the paragraph. This is a good opportunity for students to play and explore the paragraph type controls as they desire.

OpenType in Photoshop

This sidebar requires jumping into Adobe Illustrator to preview OpenType glyphs. Make sure that your students’ computers are all equipped with Illustrator CS3 (or CS2 or CS) before performing the tasks described. Alternatively, if you don’t have the software, simply play the QuickTime movie for students. The movie comes on the *Classroom in a Book* CD, in the Movies folder.

Warping with Smart Objects

Dragging the warp grid may be tricky for some students. The exercise instructs students to drag guides onto the image window to assist them, but if they click the wrong handle or an off-center part of a line, the desired contour warp will easily be distorted or difficult to achieve. Tell students not to worry. They can use Control/Command-Z to undo a drag, and their warp doesn’t have to be completely accurate or perfect.

Supplementing the lesson

If you have a copy of Adobe Illustrator CS3 (or CS2 or CS) available, which is necessary to complete the Extra Credit at the end of this lesson, consider demonstrating for students how Illustrator creates type compared with how Photoshop does. Point out some of the type controls in Illustrator, such as the OpenType submenu

and Glyphs palette. Photoshop now features robust typographical capabilities that make it easy for students to create impressive type. If you can, bring in examples of well-set type, compared with ordinary type. Discuss with students typographical features that make type appear finished—for example, adjustments to tracking, leading, kerning, and baseline shift.

Review questions

The following questions are not in the student’s *Classroom in a Book*.

- 1 What is the function of the Commit Any Current Edits button?
- 2 How do you create vertical type in Photoshop?
- 3 What is OpenType and how is OpenType supported in Photoshop?
- 4 What is a true fraction and how do you create it?
- 5 What is a glyph?

Review answers

- 1 Clicking the Commit Any Current Edits button takes you out of text-edit mode so that you can perform such operations as applying layer effects and styles.
- 2 Select the Vertical Type tool, hidden under the Horizontal type tool, and click and type in an image window.
- 3 OpenType is a cross-platform font file format developed jointly by Adobe and Microsoft. It supports widely expanded character sets and layout features, such as swashes, ligatures, and fractions. You can access Open-Type features and characters by choosing OpenType from the Character palette’s pop-up menu, and then choosing from the available options.
- 4 A true fraction displays the numerator as a superscript, the denominator as subscript and replaces the slash with a fraction bar. PostScript and TrueType fonts have true fractions in their character set: ¼, ½ and ¾. You can also make custom fractions using a OpenType font. Simply type fractions as usual—for example, 1-slash-2—and then select the characters, and from the Character palette menu, choose OpenType > Fractions. Photoshop applies the true fraction.
- 5 A glyph is a specific form of a character, such as an upper- or lowercase letter.

Lesson 9: Vector Drawing Techniques

This lesson introduces students to vector paths as a way to create smooth lines and as an alternative method of selection. Students will learn how to use vector paths to create complete drawings and to control transparency.

Students will also be introduced to easy ways to create vector shapes, such as with shape tools and custom shapes. At first glance, the Pen tool and paths may seem peripheral to Photoshop, since they are vector tools in an image-editing program. This lesson shows the value of the Pen tool as a way to make selections that are more precise and easier to adjust than with other selection tools.

Students will find that the Pen tool is the best tool to use for drawing the following types of selections:

- Simple shapes (except regular polygons, which are best drawn with the shape tools).
 - Synthetic shapes with smooth, regular outlines, such as a coffee mug
 - A complex series of straight lines, like a city skyline
- While all of these shapes could be drawn using other selection tools, they will be much easier to edit and refine if drawn as paths by the Pen tool.

This lesson will probably be quite easy for students who have experience with Adobe Illustrator. For them, all the introductory projects, which involve tracing shapes on the template drawings, will be primarily review.

Goals for this lesson

At the end of their session, the successful student is able to use the Pen tool to draw both straight and curved paths, know how to select and deselect a path, and how to edit it with the path selection tools. The student also understands the difference between vector and raster artwork.

Using paths with artwork

Encourage students to learn the keyboard shortcuts for the Pen tool and path drawing. As pointed out in Lesson 1, keeping one hand over the keyboard for tool switching and the other hand on the mouse can facilitate efficient, uninterrupted drawing. The most important shortcut to learn is the Ctrl (Windows) or Command (Mac OS) key for temporarily switching to the Path Selection or Direct Selection tool.

Point out that because you can freely switch a segment between being curved and straight, there's no need to draw a path perfectly the first time. In fact, some people like to rough out a path by clicking a series of corner points, and then refine the path by adjusting the points and dragging out curves as necessary.

Converting paths to selections

After students finish this procedure, you might review all the ways they have learned in this and earlier lessons to create and store selections:

- As selections drawn with selection tools
- As alpha channel masks created with painting tools
- As paths drawn with the Pen tool

You could have a discussion about when students would want to use each technique and when it might be a good idea to convert a selection from one form to another.

Creating vector objects for the background

Point out that the shapes created with the shape tools can be fully customized. You can even demonstrate how a shape can be used as a starting point for a more complex path, such as by drawing a rectangle and adding a point to it.

Make sure students understand the difference between the Rectangle tool and the Rectangular Marquee tool, so that they don't select the wrong tool by accident.

Supplementary demonstration: shape options

The book itself doesn't explain much about the three buttons (Shape Layers, Paths, and Fill Pixels) that appear on the tool options bar for the Pen tool and the shape tools. You could open up this topic in discussions, which would definitely be of value to your beginning students and improve their understanding of Photoshop.

The crux of the difference between the Shape Layers and Paths options is the difference between drawing a shape and drawing a work path.

The key difference between the Shape Layers option and the Fill Pixels option revolves around the distinction between vector images and rasterized images, so this makes an excellent opportunity to review and deepen your students' knowledge of these distinctions. You can demonstrate this very simply. Before you begin, make sure that the Foreground color is either black or some color other than white.

1 Create a new file (File > New) and use one of the shape tools to draw a couple of shapes in the image: drawing the first one with the Fill Pixels option selected and the second with the Shape Layers option selected.

2 Zoom in but make sure that you can see at least a small area of each of the two shapes. Then select the Eraser tool.

3 Select the layer with the first shape on it and try to erase it. Then select the layer with the second shape and try to erase it. Discuss the results with your class.

In the first case, the eraser will remove the colored pixels. If you've zoomed in sufficiently, the bitmap nature of the shape will be obvious. In the second case, an error message appears, saying that the contents of the layer are not directly editable—that is, they can't be erased because painting and erasing are features of rasterized images, not of vector drawings.

To illustrate the difference between the Shape Layers and Paths options, continue the demonstration, using the same simple drawing.

4 Drag the Paths palette out of the Layers palette group so that students can see both palettes simultaneously.

5 In the Layer palette, select the first layer (the one with the rasterized shape you drew).

6 Make sure that the same shape tool that you use earlier is still selected, and then select the Paths option in

the tool options bar.

7 Draw the shape in the image window, making it a different size than the earlier shapes. (Optional) You can reinforce the difference between the vector items and the bitmap shape by attempting to add an anchor point to each of the three shapes you drew.

8 For each of the two vector items in turn, do the following:

- Select the layer or work path in the appropriate palette (Layers or Paths).
- Use the Direct Selection tool to select the shape.
- Using the Pen tool, click anywhere along the vector path bounding the shape to add a point, and then drag the point to change the shape.

9 Try to do step 8 with the third shape, the one drawn with Fill Pixels selected, and ask your students to explain to you why you can't apply this change to that shape. Now, your entire class should be able to see and accurately discuss the difference between the work path and the layer vector mask, as well as the difference between a shape and a path.

Subtracting shapes from a shape layer

Point out how each path in the Paths palette can actually contain multiple subpaths, and how any number of subpaths are selectable for stroking or filling.

Supplementary discussion

At this point in their learning, students sometimes start to experience some confusion, so that similar functions start to overlap, merge, and intermingle in their minds. You might work with them to make sure they retain clear understandings of the distinctions, interactions, and relationships that may exist between items in the following list:

- Selections
- Alpha channels
- Layer masks
- Work paths
- Vector paths

Review questions

The following questions are not in the student's *Classroom in a Book*.

- 1 How do you deselect a path?
- 2 How do you make sure that a path is saved with a document?
- 3 Which tool can change corner points to curve points and vice versa?
- 4 What are the advantages of using the Pen tool to create a mask? Why not just use the Quick Mask feature, as done earlier in Lesson 6?
- 5 How do you customize the Polygon tool?
- 6 (Use only if you have done and discussed "Supplementary demonstration: shape options," in this lesson's Instructor Notes, with your class.) Why would the Fill Pixels option dimmed (unavailable) when the Pen tool is selected in the toolbox?
- 7 How do you save a work path?
- 8 When do you lose a work path forever? Is there any recourse?

Review answers

- 1 Click in an empty area in the Paths palette.
- 2 In the Paths palette, double-click the path to name it.
- 3 The Convert Point tool.
- 4 You could select the space ship using the Quick Mask method. But by using the Pen tool to create the mask, you create a vector mask that retains its crisp, sharp edges at any zoom level. In the image of the astronaut, the contrast between the space ship and the black sky is an abrupt change, and the ship itself has many long, regular lines, so it makes a good candidate for the Pen tool selection process.
- 5 Use the options in the tool options bar when a shape tool is selected.
- 6 The Fill Pixels option pertains to rasterized (bitmap) images and layers. The Pen tool is a vector tool, and cannot draw or edit rasterized images.
- 7 You can save a work path by double-clicking it in the Paths palette and renaming it. Or, if you apply a work path to a layer (Layer > Add Vector Mask > Current Path), the path is saved as a layer mask and automatically named.
- 8 You lose a work path whenever you start drawing a new work path—that is, start drawing a new path on another layer—without saving the original work path. If you want to get recover a lost work path, you can try using either the Undo command or the History palette to go back to an earlier step.

Lesson 10: Advanced Layering

In Lesson 10, students learn and review advanced methods for adjusting a layer's appearance, combining layers, and controlling the visible areas of layers. They also work with layer comps, introduced in Lesson 5. Other lessons have already presented many of the concepts and techniques in this lesson. For that reason, this chapter makes a good review of the students' class work so far.

Goals for this lesson

By the time students complete this lesson, they should be comfortable working with the Layers command and performing many of the more advanced functions with it, including creating clipping layers and merging layers. They should know how to hide and show layers, create layer comps, and determine whether to flatten their image or merge layers when they're ready to save their file.

Clipping a layer to a shape

Remind students of the fundamental rule that the image to be clipped (masked) must reside above the object that clips it.

Setting up a Vanishing Point grid

This lesson gives students additional practice in using the Vanishing Point filter to add three dimensions to their image. It's helpful to point out to students as they work through these steps that precise alignment of the artwork is important to replicate the results in the final artwork.

Placing imported artwork

You may wonder why the Place PDF dialog box appears when placing Illustrator artwork into Photoshop. Artwork exported from Illustrator is saved in the vector PDF format if the Illustrator preferences for File Handling And Clipboard are set to PDF and the AICB (No Transparency Support). When these preferences are set, placing images from Adobe Illustrator into Photoshop displays the Place PDF dialog box. These preferences import or paste art as a Smart Object, rasterized image, path, or shape layer. When the Illustrator PDF and

AICB (No Transparency Support) preferences are deselected, the artwork is automatically rasterized.

Filtering Smart Objects

You may want to suggest to students that they try out other filters and apply them to the artwork. Filters applied to a Smart Object are nondestructive and can be readjusted at any time. Lesson 11 introduces Smart Filters and compares their nondestructive effects to other filters.

Adding an adjustment layer

If you didn't demonstrate the advantages of adjustment layers earlier in your teaching, in Lesson 5 or Lesson 6, you can do it here.

Working with layer comps

Consider discussing with students possible uses of layer comps. This lesson treats them as product prototypes. But they're also useful for showing different versions of a design, works in progress, and editions such as in different languages. You can also compare this use of a snapshot of a state in the Layers palette to a snapshot of a state in the History palette.

Managing layers

Remind students of good work habits: organize their work into layers, groups, and layer sets so that related artwork stays together and it easier to update; and name their layers and groups so they can view the contents easily.

Flattening a layered image

In addition to reducing the file size, a flattened version is more compatible with other programs or with older versions of Photoshop. It's useful to remind students of their options when they've completed work on an image:

Flattening an image merges all layers into a single background, greatly reducing the size of the file. Merging layers lets you choose which layers to flatten; this technique combines all selected or visible layers in

one layer. Stamping combine the benefits of flattening an image while keeping some layers intact; it flattens two or more layers and places the flattened image into a new layer, while leaving other layers intact.

Review questions

The following questions are not in the student's *Classroom in a Book*.

- 1 Why would you use a layer mask instead of an alpha channel?
- 2 Why would you create a layer set?
- 3 So far, how many techniques do you know for distorting images?

Review answers

- 1 You would use a layer mask, rather than an alpha channel if you wanted a sharply defined mask, or one that's easy to edit.
- 2 Layer sets help organize documents with many layers, make it easy to turn a specific range of layers on or off, and easily allow a layer to affect multiple layers.
- 3 The distortion methods used in this and earlier lessons include transforming and warping text and objects. Each of these has its own limitations and advantages and can be used only with specific types of elements.

Lesson 11: Advanced Compositing

In this lesson, students practice colorizing parts of layers or entire layers, and work with filter effects. Students have already had some experience in earlier lessons with items on the upper section of the Filter menu: Extract and Vanishing Point.

This lesson also presents techniques for recording and playing automated actions. This, of course, is not in itself restricted to filters or any other options or features.

Goals for this lesson

This lesson is more about being creative with Photoshop than about strict techniques. Students have a chance to explore some of the more artistic applications of Photoshop as they composite four images.

About gaining mastery of filters

The range of possibilities for using filters goes beyond the scope of this book and even beyond the imagination of any one user because the possibilities are virtually unlimited. Students who are serious about using Photoshop to create special effects will quickly discover two things:

- That any time they invest in reading about Photoshop filters in Help is time well-spent.
- That there is no substitute for just spending time playing around with the filters, experimenting with various combinations and settings to see what they'll do in different images and on various layers.

Be sure that your students understand that Photoshop online Help has a great deal of valuable information about filters, almost none of which is included in the printed *Adobe Photoshop CS3 User Guide*.

Applying Smart Filters

When introducing students to Smart Filters, you can compare them both to Smart Objects and adjustment layers. As with both, Smart Filters are nondestructive: they can be adjusted, turned off and on, and deleted, at anytime. In contrast, regular filters permanently change

an image; one applied, they cannot be removed. Unlike adjustment layers, however, Smart Filters can be applied only to a Smart Object layer, so the layer itself can no longer be edited—just its Smart Filter effects. You may want to suggest to students that they duplicate and hide layers that they want to keep and continue to edit, before applying a Smart Filter to the layer.

Saving selections

Remind students to save selections whenever there is a chance that a difficult or time-consuming selection might need to be reused.

Creating a layer and choosing a blending mode

You can suggest a keyboard shortcut that students can use when they create a new layer: Press Alt (Windows) or Option (Mac OS) while clicking the New Layer button to open a New Layer dialog box. Then draw your students' attention to the options available in this dialog box, including not only a Name option, but options for grouping the layer, designating a color code (not a fill color, as some students assume), assigning a blending mode, and setting opacity.

Applying painting effects

Students can compare the colorized version to the original desaturated version by turning the Paint layer off and on.

Changing the color balance

Again, students can get a before and after view by turning the adjustment layer off and on.

Extra Credit

Borders are best kept on a layer separate from the main image, as in this procedure, so that they can be turned off if necessary.

Supplementing this lesson

Encourage your students to experiment with the different filters on their own. You could say that the real fun of complex images builds on a foundation of multiple layers that include multiple filter effects, multiple

opacity settings, and multiple blending modes.

At the same time, make sure that your students are aware of the following issues about the filters (also listed in online Help, under “Using filters”):

- The last filter chosen appears at the top of the Filter menu.
- Filters are applied to the active, visible layer or to a selected area on that layer.
- The image mode (the command selected on the Image > Mode menu) can be an important issue for two reasons: Filters cannot apply to Bitmap-mode or indexed-color images, and some filters work only on images in RGB mode.
- Some filters are processed entirely in RAM.

Again, remind students that while the printed *Adobe Photoshop CS3 User Guide* devotes very little ink to the subject of filters, Photoshop Help contains a wealth of information.

Review questions

The following questions are not in the student’s *Classroom in a Book*.

- 1 Which blending mode changes the hue of a layer without affecting the tone?
- 2 How can you quickly colorize an entire layer without making any selections?
- 3 Where would you start looking for more information about filters?
- 4 What are some of the differences between filters and blending modes.

Review answers

- 1 The Color mode.
- 2 Just add a Hue/Saturation adjustment layer and click its Colorize option.
- 3 Photoshop Help includes many pages of information about filters that are not found in the printed User Guide.
- 4 Typically, blending modes apply either at the layer level or to painting tool properties. You can apply filters to layers or to selected areas of an image layer.

Lesson 12: Preparing Files for the Web

Up to this point, most of the lessons in this book have been geared toward print output. This lesson is the first oriented specifically toward web work.

Lesson 12 introduces slices, rollovers, and GIF animation, as well as optimizing files for the web. With slices, students learn how to define and link isolated areas of a graphic rather than having the entire image as a hot spot for just one URL. Students also learn how to add rollovers to slices, and add interactive visuals as well as links to other web pages. It's a good idea to finalize a design before creating rollovers for it.

Animating an image can be as simple as moving a layer across the screen or changing layer attributes, and the process of optimizing an animation for the web isn't much different than optimizing a still image. In other words, it's not difficult to transform an image from a static graphic to an eye-catching animation.

Photoshop CS3 has limited web design functions, with the elimination of ImageReady in this product release. With the merger of Adobe and Macromedia—as well as the integration of their product lines and print and web software—users are encouraged to design in Photoshop and then use Adobe Dreamweaver CS3 to add HTML coding, interactivity, and web functionality to their designs.

Scheduling this lesson

Three independent subprojects comprise the lesson. You can schedule all three for one session or break them up into different sessions. The chief focus of the lesson is on setting up slices using Smart Guides, adding animation and interactivity, and optimizing the file. None of the concepts or techniques is difficult.

Getting started

Students may miss seeing the logo animate in the upper left corner when they open their web browser (it animates only once). If they miss the action, instruct them to use their browser controls to refresh or reload the page.

Setting up a Web Design workspace

Encourage students to explore the other workspaces supplied with Photoshop CS3.

Creating slices

Students should be aware that slicing an image does not make it download faster. In reality, a sliced image takes more time to download because each additional piece of a web page requires additional overhead for transmission over the network. Images should be sliced only when necessary for interactivity.

Make sure that students understand what slices are not: selections, shapes, or masks. You might discuss the differences between slices and these other items.

Creating slices based on layers

If the design of a web page is not final, layer-based slices may be the best to use, because they will automatically resize to match the layer on which they are based. If editing a layer changes its size, you won't have to re-do its slice to match.

Creating navigation buttons

This is a good place to have students check out the Slice Options dialog box. Have them select another slice, and in the Slice Options dialog box, leave its Type as Image. Point out the Name, URL, and Target options, and explain how filling in these options here means that they don't have to do it when coding the HTML, especially if the graphics are edited and exported to HTML again.

Creating an animated GIF

From this procedure, students should understand how valuable it is to plan and execute a Photoshop design using layers if animation is an intended use for the graphic. When a graphic represents the end of the animation, it's much easier to start at the end of the animation with the final graphic and work backwards to the beginning, than it is to start at the beginning and try to precisely animate all the elements into their final positions.

Tweening the position and opacity of layers

Tweening is another important animation strategy that students should internalize. They should plan their animations in terms of the points at which major changes happen, animate to those points, and tween between those points to fill in the rest. Using tweening in this way will be much easier than trying to animate every single frame by hand.

The lesson tells the user to choose the Tween command on the Animation palette menu. Students will probably appreciate your pointing out to them that the Tween button on the Animation palette is the easier way to open that dialog box.

At the end of the lesson, you might ask the students to guess why we included four different animations in the lesson. With any luck, they'll pick up on the essential differences between the four projects: animating only on layer visibility, animating based on layer position and layer styles, and animating with two types of masks: layer masks and vector masks.

Exporting HTML and images

Some students may complain that they don't see much difference between the "before" and "after" versions of the various thumbnail images they see in the Save For Web And Devices dialog box. If so, treat that as a good thing. The key information—the file size, and therefore the download time—is not apparent by looking at the images. For that, they have to compare the metadata for each of the images.

Before completing work in the Save For Web And Devices dialog box, you may want to point out the button in the top right of the preview area. Clicking this button reveals a palette menu that changes the display of the selected preview area to simulate different display conditions.

This menu is also available by right-clicking (Windows) or Control-clicking (Mac OS) any of the preview panes. Also notice the Device Central button at the bottom right of the dialog box. This button allows emulating artwork (that doesn't contain slices) for display by various models of mobile devices, such as cell phones and PDAs.

Adding interactivity

Zoomify, new in Photoshop CS3, is useful for publishing high-resolution, large format images to the web. For additional practice with this feature, you may want to suggest that students use images from the Lesson13/Maps folder.

Review questions

The following questions are not in the student's *Classroom in a Book*.

- 1 How do you select a slice?
- 2 Describe five types of slices.
- 3 Why would you want to use a No Image slice?
- 4 What role do layers play in animating an image?
- 5 How do you control the delay between frames?
- 6 How can you make an animation appear smoother?
- 7 How do you decide whether to use GIF or JPEG for a Web graphic?

Review answers

- 1 Use the Slice Select tool to select the slices. The Optimize Palette affect selected slices only.
- 2 Five types of slices exist:
 - User slices are created manually with the Slice tool.
 - Layer-based slices are created using the Layer > New Layer Based Slice Command.
 - Auto slices are automatically generated to fill in the gaps between the slices you create.
 - Subslices are a type of auto-slice generated when other slices overlap.
 - No Image slices do not generate an image, but can contain a background color or text.
- 3 A No Image slice is useful for an empty area of a web page. Because it doesn't generate an image, it can reduce a page's download time.
- 4 Layers serve as reference points for frames and for important transitional events in an animation, such as tweening.
- 5 In the Animation palette, click the Frame Delay menu under a frame.
- 6 Use tweening to create additional frames.
- 7 Use GIF for flat-color graphics or graphics that only use a few colors, such as a company logo. Use JPEG for continuous-tone images that have subtle transitions or use many colors, such as full-color photographs.

Lesson 13: Working with Scientific Images

Lesson 13 covers enhanced functions in Adobe Bridge as well as features of Photoshop CS3 Extended. It's possible that not all classrooms will include this version of Photoshop CS3. However, students can partially complete the lesson, up to "Measuring objects and data," and then read through the rest.

This lesson also includes some nice design techniques that can translate to many applications—including highlighting an inset selection within an image and creating dashed lines and custom borders.

Whether students have this Photoshop CS3 Extended version or not, it's a good idea to briefly introduce them to its capabilities—all the features in the standard edition of Photoshop, plus functions for specialized markets, including technical image analysis, film and video work, and three-dimensional design. This lesson shows how to use Photoshop Extended measurement and data analysis tools.

Before beginning the lesson, have students watch the QuickTime movies on Adobe Bridge and Measurement, located in the *Adobe Photoshop CS3 Classroom in a Book* CD Movies folder. To play the movies, double-click the movie file to open it; then click the Play button.

The students won't change the appearance of the original sample files, other than to label them. But they will rename them and add some metadata and keywords to the remaining files.

Adobe Bridge is especially useful to students who work with digital cameras. Bridge takes the sting out of sorting through large numbers of unnamed photographs that do not have descriptive file names, looking for the image you want. For background on good work practices, refer students to the sidebar in Lesson 7, "Pro Photo Workflow."

Goals of this lesson

At the conclusion of this lesson, your students should know how to use Adobe Bridge to find an image they

want to open in Photoshop. They should also be familiar with the other Bridge functions: renaming files, ranking files, rotating images, and previewing images and data associated with those files. They should understand how to use the Measurement feature to measure objects and record data, and compare and analyze the information.

Viewing and editing files in Adobe Bridge

You should make sure your students understand that they do not have to use Bridge to open a file. If your students are not beginning computer users, they will already be familiar with the standard methods of selecting multiple items. Make sure they understand the meaning of the word contiguous.

Using Bridge to organize and search your elements This procedure introduces the process of doing something in batches—that is, applying a change in an automated way to multiple items. You might emphasize that this is more than merely making the same change to multiple items. If they haven't already completed Lesson 11, mention that they can learn how to create their own automated actions in that lesson.

Creating a map border and work area

Point out to students that this technique for highlighting an inset (or an inverse selection) is useful for other designs.

Making a custom border

Students can apply this technique of creating a dashed line—as well as creating a custom border—to other design work.

Measuring objects and data

Discuss with students the difference between the Ruler tool and the Measurement tool.

In Photoshop CS3 Extended, the souped up counterpart of the Ruler tool is the Measurement tool. This tool lets you compute various measurements and record them in the Measurement Log palette.

The Ruler tool in Photoshop calculates the distance between any two points in the workspace. The Measurement feature in Photoshop Extended measures any area defined with the Ruler tool or with a selection tool, including irregular areas selected with the lasso, quick select, or magic wand tools.

The Measurement feature can also compute the height, width, area, and perimeter; or track measurements of one image or multiple images. Measurement data is recorded in the Measurement Log palette, where it can be sorted or exported to a spreadsheet file (Windows only).

Emphasize to students the importance of beginning with a control measurement, against which they can verify the accuracy of other measurements.

Measuring irregular shapes

It may be useful to ask with how they would approach measurement of different shaped areas and objects. Discuss with students strategies for measuring irregular shapes that can't be measured neatly between Point A and B.

Exporting measurements

This Windows only feature allows exporting selected measurements as a CSV (comma separated value) file that can be opened in a spreadsheet application, such as Microsoft® Excel. Once the file is exported, it can be used in the spreadsheet application to perform further calculations on the data.

Measuring in perspective with the Vanishing Point filter

For accurate measurement when using the Vanishing Point filter, students need to position the pointer over the grid. A red border indicates a measurement was made outside of the grid; results won't be accurate. If a red border appears after students completed Step 5, have them redo the measurement starting from Step 3.

Creating a slide show

You might want to compare this technique with that of creating a PDF portfolio at the end of Lesson 7.

Review questions

The following questions are not in the student's *Classroom in a Book*.

- 1 How do you add notes to a document or delete them?
- 2 How does rotating an image file in Adobe Bridge affect the image itself?

Review answers

1 To add notes or audio annotations anywhere on a Photoshop image canvas, select the Notes or Audio Annotations tool in the toolbox, and then click. When you create a note, a resizable window appears for typing text. When you record an audio annotation, you must have a microphone plugged into the audio_in port of your computer. You can also import both kinds of annotations from Photoshop documents saved in PDF or from Acrobat documents saved in PDF or Form Data Format (FDF). To delete the annotations in your document, select either the Notes or the Audio Annotation tool and click Clear All in the tool options bar. All notes and audio annotations are deleted from your document.

2 Two things happen when you rotate an image file in the Adobe Bridge. First, the thumbnail and preview image of the file appear rotated in the Bridge. This represents how the file will appear when you open it in Photoshop. If you open it in another program or place it in a layout without either applying the rotation with the Apply Rotation command or opening the rotated file and saving it in Photoshop, it will not be rotated at this point.

Lesson 14: Producing and Printing Consistent Color

Lesson 14 walks students through a basic color workflow, including printing a proof and printing separations. Commercial printers have widely varying requirements for color management, and many still prefer to work in a more traditional workflow that avoids color management. Students should understand the importance of discussing color with the printer to understand how their particular printer prefers to receive a color job. It's important that students understand the difference between color correction and color management. Color correction fixes bad-looking color. Color management can't do that. The purpose of color management is to create an accurate viewing environment so that you can precisely determine which colors are right and wrong.

Reproducing colors

Because the RGB gamut is much larger than the CMYK gamut, some people assume that all CMYK colors fit within RGB. However, this is not true, because the gamuts are different shapes that do not overlap perfectly. You may want to have students examine the color gamut figure on page 451 and point out the small areas of CMYK that are outside the RGB gamut. Those CMYK colors cannot be reproduced on an RGB monitor.

Specifying color management settings

The Color Settings dialog box can be intimidating, especially for beginners. You might mention that the Color Settings dialog box is convenient because you set it once and don't worry about it again unless there is a major change in your workflow.

Proofing an image

The Missing Profile and Embedded Profile Mismatch dialog boxes can be very confusing. Your class may find it helpful to understand that the warnings fall into two basic categories:

- Leave the document as it is. This means choosing either to use the embedded profile (if it exists) or leaving the document without a profile (if it doesn't exist).
- Adjust the document. If the document is missing a profile, then you can choose to assign one—either the current working space or a different profile. If you're opening a document with a mismatched profile, you can choose to discard the profile, or convert the colors to the current working space.

When a profile mismatch occurs, you can also opt to "Discard the embedded color profile (don't color manage)." That means that Photoshop will neither change the image's color values nor will it embed a profile that records the current viewing environment. This means the image may not look right on screen even if its colors are actually correct. If a commercial printer does not use color management, they may actually recommend this choice so that values in a CMYK image will not be changed. This is valuable if a CMYK image is already tuned for the press—any changes would mess it up. The two most likely rendering intents to use for photographic images are Relative Colorimetric and Perceptual. The more an image contains colors that are outside the destination gamut, the more likely Perceptual might be a good idea. The Preview option in the Customize Proof Condition dialog box is useful when deciding which one to use.

The appearance of an RGB image after converting to a CMYK gamut is often disappointing. Overall saturation is usually lower and some colors may shift. Reassure students that Photoshop is simply being honest about what colors can actually be achieved in the CMYK gamut at SWOP settings (assuming that all Color Settings are set correctly).

It can be useful to do this exercise with two views open. You can have students choose Window > Arrange > New Window for 16Start.tif to open a second window for the image. Leave the first window as is, and use the

second window for Proof Setup. This way, a before/after comparison is possible.

Identifying out-of-gamut colors

It's best to choose a color that is clearly out of gamut so that it can't be confused with any real colors in the image. A good way to do this is to specify a bright color at maximum saturation.

You might mention exactly how Photoshop does the RGB-to-CMYK conversion. It will start from the image's RGB working space and convert to the current CMYK working space. This means that the quality of the conversion depends on proper settings and good profiles.

Adjusting an image and printing a proof

If these steps are done with Proof Setup on, the image can be corrected in the context of the CMYK output gamut.

Saving the image as a separation

Instead of switching back and forth between RGB and CMYK, students may prefer to see the two views simultaneously.

Printing halftone separations

Students should understand that in practical terms, that this procedure only works if you're printing directly from Photoshop, not if you're going to move the image into another program.

Review questions

The following questions are not in the student's *Classroom in a Book*.

- 1 What is a working space?
- 2 Why is it important to choose the proper working spaces in Color Settings?
- 3 How can you preview how an image will appear in final output?
- 4 How can you identify out-of-gamut colors?

Review answers

- 1 A working space is the color gamut within which Photoshop will adjust an image's colors.
- 2 The working spaces should be appropriate for the final output you are targeting.
- 3 Create a custom Proof Setup that uses a profile and settings that represent the final output, then make sure View > Proof Colors is on and set to that setup.
- 4 Turn on View > Gamut Warning.