Photoshop Elements: Improve Digital Images

Center for Instructional Technology

http://cit.jmu.edu/training

About Photoshop Elements

Photoshop Elements is an affordable digital image manipulation program made by Adobe. It is the "little brother" of Adobe Photoshop, a professional level program used by image editors all over the world. Photoshop is generally considered to be at the top of the heap when it comes to image editing, but also comes with a learning curve that can make it difficult for the casual user to really use it effectively, not to mention its $699 retail price. Photoshop Elements started as a way of making digital image manipulation affordable (retail price at $99.99). The straightforward interface of Photoshop Elements, moreover, often makes commonly used tasks easier to access than the full version of Photoshop.

Digital Image Basics

This close-up shows the pixels that make up this image.

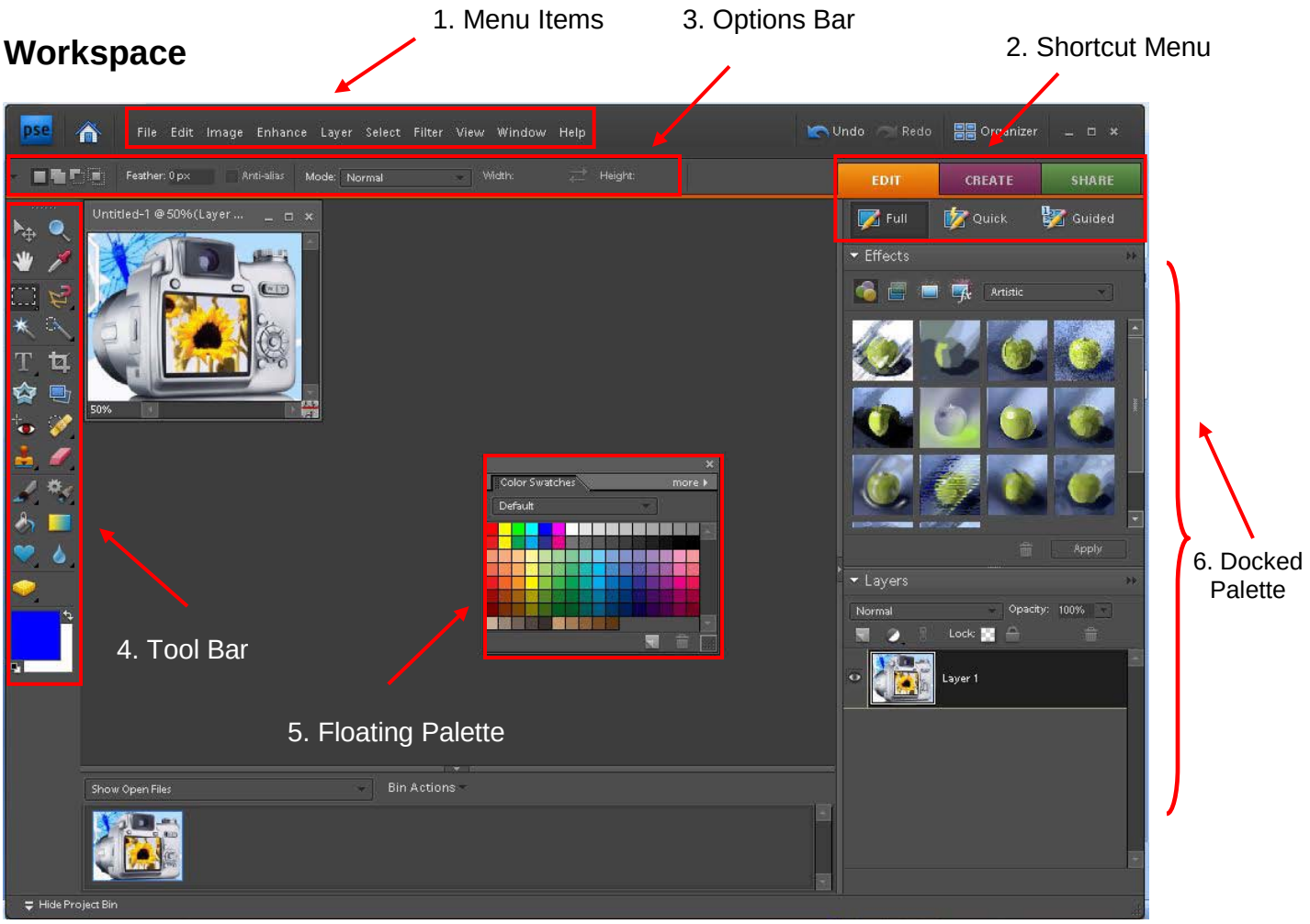
Before we can learn how to manipulate digital images, we first need to understand what they are. Every digital image is just a grid of tiny blocks of color called **pixels**. These pixels are the only unit of measurement that a computer can understand. Any other unit of measurement has to be translated to exactly how many pixels are in a single unit. This is called **resolution**. Most of the time we talk about resolution in terms of pixels per inch or ppi (dots per inch or dpi can be used interchangeably). Resolution is a concept that is often mistaken for a measure of quality in digital photography. While low resolutions can limit quality, it is by no means the only measure. Also, resolution is really only applicable to printed images. All images seen on screen are considered to be 72 ppi. For printing, 300 pixels per inch is considered the standard for achieving photographic quality.

In order to use resolution effectively you need to do a little math. The chart below can be used for reference.

Megapixels	Image Dimensions	Total Pixels	Display at 72 dpi	Display at 300 dpi
.3	640 x 480	307,200	8 in x 6.6 in	2.1 x 1.6
1.8	1600 x 1200	1,920,000	22.2 in x 16.6 in	5.3 in x 4 in
4.2	2400 x 1800	4,320,000	33.3 in x 25 in	8 in x 6 in
7.5	3200 x 2400	7, 680,000	44. in x 33.3 in	10.6 in x 8 in

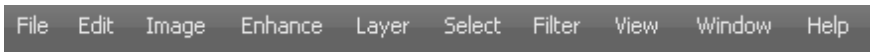
We will use Photoshop Elements (PSE) to manipulate these pixels. In most cases, we will want to try and avoid having PSE add pixels to the image as this will decrease the visual quality of the image (though sometimes this is unavoidable). Having PSE subtract pixels is usually not very harmful to the visual quality, as long as this doesn't cause the image to stretch.

Workspace



If you haven't already, open Photoshop Elements. You will find yourself faced with the work area pictured above. There are six main components that we will look at today.

1. **Menu Items**



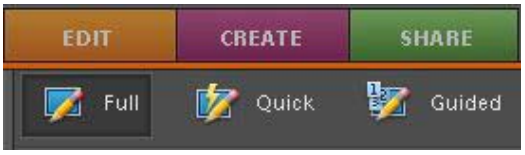
The Menu Items are commands that either affect selected areas of your image or activate hidden tools. We will not go through every menu command in this workshop, but you are encouraged to go through the menu commands and experiment with the options.

Take particular note that many of the commands have a keyboard shortcut that will enact that menu option immediately. For example, Ctrl+S is relates to the Save function, meaning that holding down the Ctrl key on your keyboard and simultaneously pressing the S key will save your document. Menu Items of interest:

- *File/Open* - You'll note that many menu commands are not available until you use this command to open an image.
- *File/New* - You can also create an empty canvas to compose a new image from scratch. Try something about 500 x 500 pixels if you want to experiment.
- *Window* - If you can not find a palette, there is a list of all of them under this menu. A check mark means it's already visible on the screen, so clicking it again will make it disappear.

- *Enhance* - The Enhance menu contains a number of tools for making digital photos look better. This is a big advantage over the maze of menus necessary to complete the same tasks in the full version of Photoshop. We will be looking closely at some of these menu items via hands-on activities.
- *Edit/Preferences* - You can reset most of the defaults here, so if you find yourself changing a particular option over and over again, this can help. Unlike most areas of Photoshop (where we encourage experimentation), if you don't understand what a preference does, it may be best to leave it alone. However, a re-install will likely fix any mishaps.
- *Edit/Undo* - Everyone makes mistakes. Undo makes it as if your mistakes never happened.

2. **Shortcut Menu**



The Shortcut Menu contains shortcuts to commonly used items that can be found in the Menu Items. Most of the time, the workshop will refer to the menu item to complete a command, but if the command exists in the shortcut bar, please feel free to use that as well. Also, if you don't know what a shortcut button does, just hold your mouse over the button for a second and a tag will appear telling you the name of the button.

3. **Options Bar**

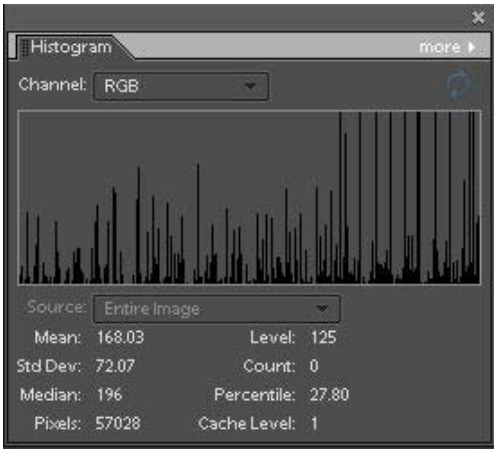
The Options bar will look different depending on what tool you have selected in the **Tool Bar**. The vast majority of the options for any tool will be found here, and we will cover the most important ones. Feel free to experiment in order to learn the rest.

4. **Tool Bar**

Tools found here are used by clicking on the tool to select it, and the clicking and dragging on the canvas to actually use the tool. They are most frequently used to improve digital images. Any tool with a triangle in the lower right corner will reveal variations on that tool if you click and hold or right click on it. When the mouse cursor is hovered over a tool, a tag will appear to show you the name of the tool. Most of the tags can also link to the explanation of the tool. These tools will be explained in details in the "**Exploring the Tools**" section.

5. **Floating Palettes**

Palettes are where you will find all manner of information and options for changing how different elements of your image interact with each other. You can also find tools that are enacted as a whole on an image instead of by clicking and dragging directly on the image. Palettes can be moved anywhere on the screen or closed all together. By default, some are floating and some are docked.



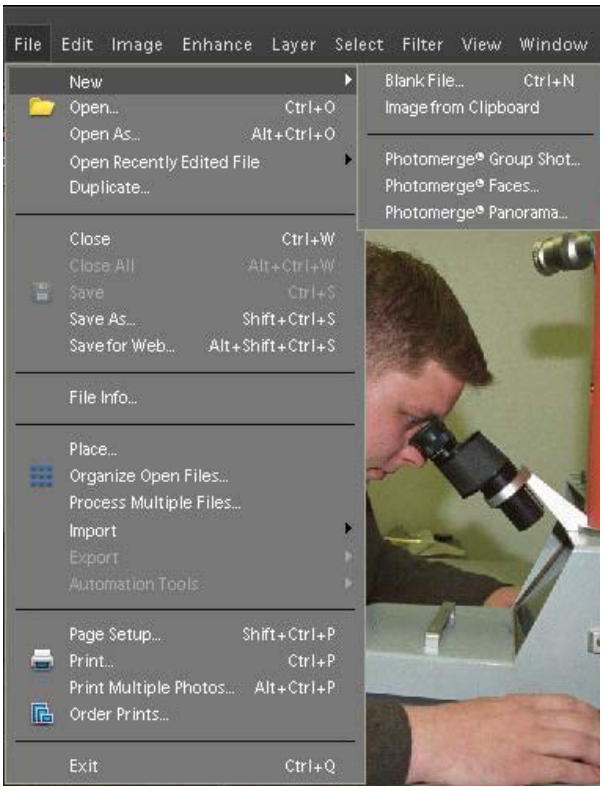
6. **Docked Palettes**

Docked Palettes are the same as Floating Palettes, but have been put up in the palette dock to de-clutter the screen. By default, Elements opens the **Effects** and **Layers** palettes at the docking station. All of the palettes can be opened under **Window** menu. You can also click and drag on the name of the palette to pull it out of the dock and turn it into a Floating Palette. Of the ones that are docked, the most useful are:

- *Effects* - Special effects that can be applied to an image. When used, they can make an image look like a sketch, or being seen through rippled glass. Effects generally are applied to a whole image.
- *Layers* - One of the most powerful features of both Photoshop and Photoshop Elements, the Layers palette allows you to control the order and interactions between layers. We will discuss layers at length in the **Layers** section.

File Menu Options

Before we take a look at each tool in the tool bar, we'll need some space to experiment with the tools. So let's open up a new blank image and get familiar with the File menu options.



Click on the File menu and choose New/Blank File... (The three dots "…" following *Blank File* means that the command will be followed by a pop-up dialog box where you can choose options from additional settings. This applies to all the menu commands in PSE.)

Follow the direction above and click OK. This will give you a nicely sized white area (Canvas) for you to experiment with the tools. Some tools are made for opening photos though (They are grayed out in the background screenshot since no file is opening), so let's open up a photo.

Click on the File menu and choose Open... and find the research.jpg file on your desktop. Double click on it to open it. This time you may find more options active in File menu than when there were no files already open in the work space.

Exploring the Tools

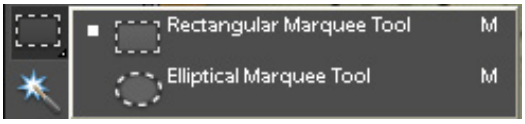
The **Move Tool** is used to move elements from one area to another. This is mostly used in conjunction with the selection tool. You can also drag items from one image to another. Try selecting an area with one of the selection tools in research.jpg, and then use the move tool drag that selection to the empty white canvas. Holding down the Ctrl key always shortcuts to the tool.

Note: When you hover over a tool, a tool tag will appear right below the selected tool. The keyboard shortcut of the tool ("V" in this case) and a link will lead you to the help tips for the particular tool.

Click on your image using the **Zoom Tool** to zoom in one level. This tool doesn't alter the image. It just enables how close or far away we are to or from the image. Hold down the Alt key while clicking to zoom will enable you to back out from the image. There are also several zoom presets under the View Menu.

The **Hand Tool** is basically an alternative to the scroll bars. If your image is bigger than your window, you can use the hand tool to move around instead of the scroll bars. To see it in action, zoom in using the Zoom Tool first.

The **Eyedropper Tool** takes whatever pixel is clicked on, measures the color there, and makes that color the foreground color (See **Color Chips** later in the tutorial).



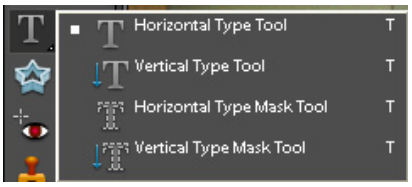
The **Marquee Tools** are used to create selections. Do this by clicking and dragging. Selections are a way of telling PSE that you want to act only on one particular area of the image. Outside the selection, commands are ignored and tools are ineffective. The default shape is the rectangle. Click and hold in the toolbar to find circular (elliptical) shapes. Selected pixels can be erased from the image by pressing the Backspace key on your keyboard.

The **Lasso Tool** allows you to create free form selections in any shape. Just click and drag your shape, but make sure it is a closed shape (double-click to automatically close your shape). Click and hold in the toolbar to find the **Polygonal Lasso Tool**, which lets you create shapes by single-clicking points, or the **Magnetic Lasso Tool**, which allows you to create more defined selections. Selection lines are drawn in between your shapes. Make sure you have at least three sides.

The **Magic Wand Tool** makes selections using math. When you click on a pixel with this tool, PSE looks at the all the surrounding pixels to see if they are roughly the same color. If they are, then PSE selects those pixels and compares all of its surrounding pixels to see if they are the same color (roughly) as the original pixel. The result is that areas that would

be extremely difficult to select otherwise are easily selected if they are roughly the same color. You can adjust how roughly the tool makes its decisions by changing the tolerance which is found in the options bar. 0 will select only that pixel and 255 will select every pixel in the image.

The **Quick Selection Tool** will create selections in a more natural way than the other tools. Click and drag to create an area of selection. This tool is much more effective for selecting elements in photos than the other selection tools. Use the **Selection Brush Tool** to make brush-like selections in an image. In the Options Bar you can adjust the size and shape of your selection just as you can with other brush tools. Pay special attention to the hardness option. Bringing the hardness of your selection down can make cut outs look far more realistic.



The **Type Tools** are used to add text to the image. Just choose the tool and click to create a text area. Font, size, color and more can be altered once again using the Options Bar. Clicking and holding in the toolbar reveals the ability to have vertical text as well as the ability to create selections in the shape of text.

The **Crop Tool** is used to discard excess image areas. Click and drag to frame the part of the image you want to keep. Use the little square handles to resize. Click the check mark in the Options Bar to discard everything outside the crop. You can also press Return on the keyboard. Esc will cancel the crop.

The **Cookie Cutter Tool** let's you cut out parts of your image in a particular shape. The shape can be changed in the Options Bar.

The **Straighten Tool** is used to straighten a skewed image that is resulted from digital capture or scanning in an inappropriate angle. It has to be used with appropriate selection of the tool options, though.

The **Red Eye Removal Tool** allows you to select an area in the picture where there is a red eye, and PSE will automatically remove the red eye from the picture.

The **Healing Brush** & **Spot Healing Brush** tools fix large and small areas of imperfections when you drag over them. For example, you can remove objects from a uniform background, such as an object in a field of grass or a speckle on a scanned old picture.

The **Clone Tool** is one of the more fun tools in PSE. It behaves like a brush, but instead of painting the foreground color it paints pixels from elsewhere in the image. Try out this tool on research.jpg. Set your source area by holding the Alt key and single-clicking on the person's hand. Then, elsewhere in the Image, just click and drag to paint. You will see that the balloon appears where you are painting. The clone tool is very effective in erasing things on human skin such as blemishes. Just set your source point to elsewhere on that person's skin and paint over the offending area. The **Pattern Stamp Tool** works the same way, except with a pre-defined pattern.

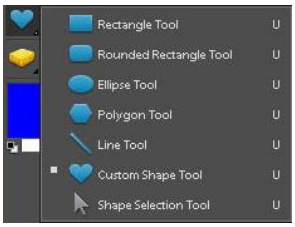
The **Eraser Tool** will clear out pixels unless they are on the bottom layer. In that case they are replaced with the background color. The **Background Eraser Tool** will only erase areas in the background. The **Magic Eraser Tool** works similar to the Magic Wand Tool, in that it makes selections to erase based roughly on color.

The **Brush Tool** works just the way you would expect. Click and drag on your image to paint the foreground color. The size and shape of your brush can be adjusted in the Options Bar. Be sure to explore some of the presets (the dropdown found just to the left of size in the options bar) as there are some pretty neat brushes that include elements of randomness and color alterations. The **Pencil Tool** is just a specialized, 1 pixel width tool that operates the same as the Brush Tool. The **Impressionist Brush Tool** adds a swirl to brush strokes, and the **Color Replacement Tool** aids in replacing specific colors in an image.

The Smart Brush Tools apply tonal and color adjustments to specific areas of the photo. The **Smart Brush Tool** makes a selection based on color and texture similarity. The **Detail Smart Brush Tool** lets you create an adjustment to specific areas of the photo. Both tools create adjustment layers.

The **Paint Bucket Tool** works the same way as the magic wand, except that instead of selecting that area, it re-colors the area using your foreground color. You can find information on changing your foreground color in the **Color Chips** section of the tutorial.

The **Gradient Tool** is used to apply a gradual change from one color to another. The application can often be more interesting in areas of flat color. Most of the time, you will want to use the **Gradient Tool** in conjunction with the selection tools. Just click and drag to fill your selection with a gradient. By default, the gradient is just foreground to background color and that's the recommended way to use it. You can create your own gradients by using the Options Bar.



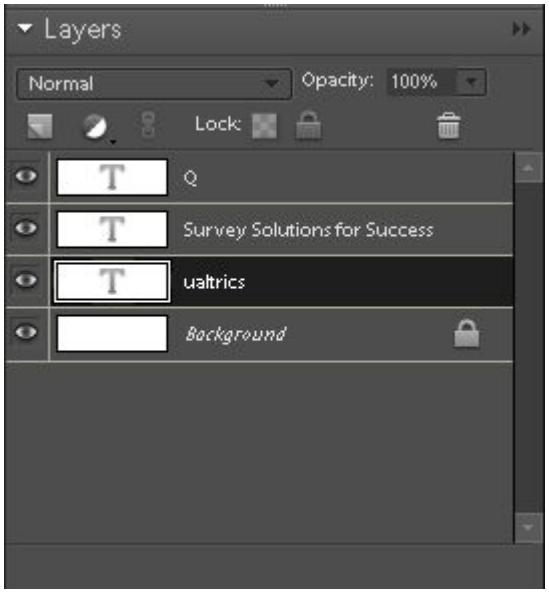
The **Shape Tools** let's you create shapes on your image, everything from squares and circles to word balloons and animal shapes. Click and drag to make the shape. Look in the Shape drop-down in the Options Bar to change your shape.

The **Blur Tool** will blur all the pixels below it. This is a good tool for softening seams when trying to combine two images. The **Sharpen Tool** will increase the contrast of the area clicked on. Do not try to use sharpen and blur as opposites. Also, this is a tool that is best used subtly. The **Smudge Tool** is used as if your photograph is a chalk drawing, and you just use your finger to push some of the chalk over. It is also effective for fixing seams from combined images.

The **Sponge Tool** will pull the color and "life" out of a photograph. This a good tool for fixing areas that seem a little too intense. The **Dodge Tool** will lighten the area you click on; it is used similarly to the Sponge Tool, but slightly different. The **Burn Tool** is a tool that will darken an area and really bring out the shadows. The Burn Tool will help a scene look more dark and sinister, especially applied to the eyes of a person or animal.

The **Color Chips** are used to determine your foreground and background color. In the picture to the left, the foreground is white and the background is maroon. Don't place too much significance on those names. Just know that some tools use foreground and others use background. To change you color, just click on the chip and use the resulting color picker to choose your color. The double-headed arrow can be used to swap the two. The little black/white at the left corner allows you to reset the color chips to the default setting.

Layers

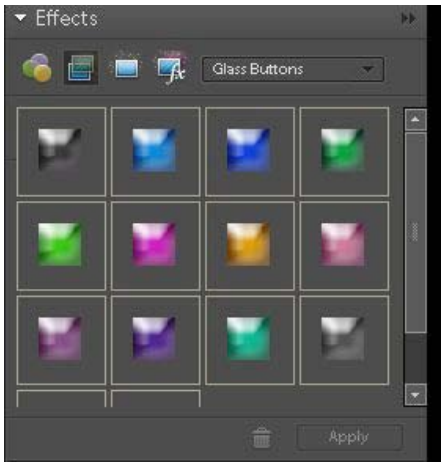


Before we go any further, we need to discuss one of the most powerful features of Photoshop Elements. Layers give us the ability to combine different elements in a safe way, so that edits to any one element don't affect the other elements. Layers work similarly to overhead projectors. If you remember overhead projectors, you'll remember the clear sheets that you or your teacher used to draw on the overhead projector. Imagine laying two of those sheets on top of each other on the projector. On the screen, you would see a combination of both images, but in reality each image is separate and can be moved, altered or edited without affecting the other. This is the same way that layers work in Photoshop Elements.

You will use the **Layers Palette** to control how the different layers interact with each other.

Some tools automatically create new layers for themselves (shape and text being prime examples), but others do not. Generally, it is recommended to keep every discrete element of an image in its own layer. Also, take note that each layer can have its own set of properties including how visible it is (called opacity).

Layer Styles



As mentioned earlier, each layer can have it own set of properties. Along with that, each layer can have its own set of special effects called **Layer Styles**. At this point, it should come as no surprise that Layer Styles are controlled by a palette that by default is found in the dock.

There are many categories of Layer Styles all found in the dropdown menu. Think of Layer Styles as special effects that are added to your currently selected layer. These effects are dynamic as well, meaning that if your layer changes, your effect adjusts to match the layer. This is extremely useful on text, so that if you fix a typo, you don't have to reapply your glass button, for example.

Saving Your Images

Most of the images you will get from a digital camera will be in the .jpg format. This is because it yields the best picture for the smallest file size. However it is not the highest quality file format available. Most professional photographers use the .tiff format for photographs, as it can be entirely lossless, while .jpg includes some compression, and therefore some pixel data is lost. Also, it is important that if you do a large amount of touchup work that you keep a copy in the .PSD format as well. Otherwise, you will have to start over from the beginning to make even the smallest of changes.

Additional Resources:

Photoshop Elements Help in the Software
http://help.adobe.com/en_US/PhotoshopElements/7.0_Win/

Photoshop Elements Online Support:
http://www.adobe.com/support/photoshopelements/

Online Books Available Through JMU Libraries

By clicking the links below on campus or with the JMU VPN client set up off campus, you will be able to view these electronic books in full text about Adobe Photoshop Elements 7.

- Photoshop Elements 7 for Windows: Visual Quickstart Guide
- Photoshop Elements 7: The Missing Manual, 1st Edition