Class #2: Resolution, Resizing, and Rotating Images

- Resolution
- Reasons to resize photos
- Resizing to post on the web
- Resizing for sending via email
- Resizing for printing
- Rotating images
- Homework

Resizing is step two in the editing process—right after cropping. If you want to crop your photo, you should crop it before you resize your image, as cropping will make your image smaller. Resizing definitely isn't the most exciting part of photo editing but proper resizing is vital if our photos are to look their best.

RESOLUTION

One of the keys to having your photos look their best is understanding resolution. Resolution refers to the level of detail to the digital information in your photo file. The higher you set resolution on your photo, the bigger and clearer (non-pixelated and non grainy) you can print it. Resolution is usually expressed as ppi (pixels per linear inch.)

When you take a digital photo, your camera makes an image file that contains a certain number of pixels, depending on the file quality at which your camera is set. Higher quality files contain more pixels. The more pixels per inch (ppi) that a photo has, the better and more detailed the quality. This is good to keep in mind when taking a digital picture. Most cameras can be set for a particular image quality. If you think you might want to print your photos larger than 4 x 6 inches, you will probably want to set your camera to take your photos with a higher image quality, one that will record more digital information. Consult your camera's manual for more information on setting the image quality.

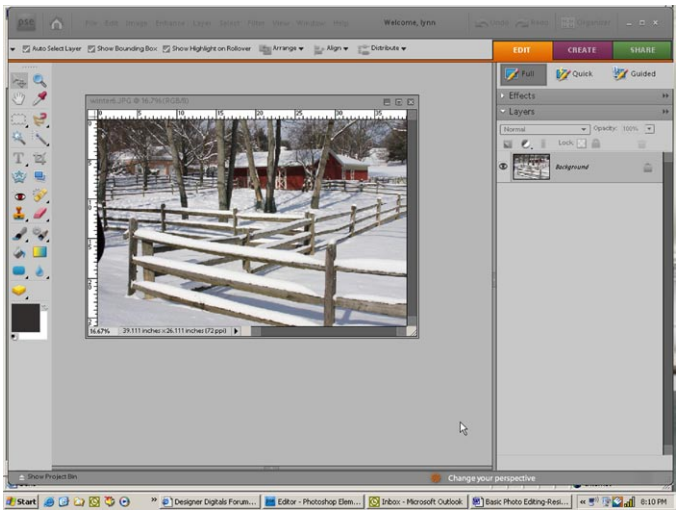
REASONS TO RESIZE PHOTOS

There are a variety of reasons for paying attention to a photo's resolution, including:

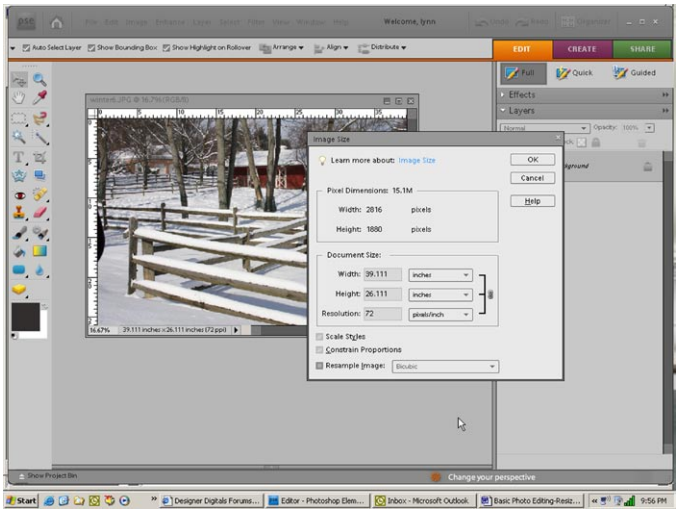
- posting on the web,
- sending the photo via email, and
- printing the photo.

I'll explain resizing for each of these purposes as we proceed.

RESIZING TO POST ON THE WEB



1. Download and open the photo the photo I have supplied by following this link: workphoto.jpg. Right-click on the photo and select "save image as" to download it to your computer. Remember where you've saved it so that you can open it in Photoshop. Duplicate it as you learned in class #1. On the top menubar choose >View >Rulers. This will make ruled inches visible along the top and side of your photo. (See image below.) Check to see the size of the photo. In this example, my photo is approximately 27 inches by 40 inches. Wow, that's big! I took this photo with my camera set to a very high image quality, so the file is quite large.



2. Select >Image >Resize >Image Size to bring up the "Image Size" box, which we saw in our cropping class. This shows that the resolution of our photo is 72 ppi which would be a very low quality if not for the fact that we've got 27" x 40" of information here. (See image below.) The default setting for most cameras produces an image that is large in physical

dimension, put low in ppi—usually 72 ppi. 72ppi is the highest resolution the web will support.

3. To resize a photo to post on the web, we don't need to worry about retaining the high quality of the image that we would need if we were printing the photo. We simply need to make the photo's physical dimensions smaller while retaining a resolution of 72 ppi.

4. With the "Image Size" box open, be sure that "Resample Image," at the bottom of the box, **IS** checked. Enter "6 inches" for the width and "4 inches" for the height. Click OK. You will see that the photo is now 4" x 6" and the resolution has remained at 72 ppi, the proper resolution for posting on the web.

5. If you wanted to save this resized photo, you would save it according to the directions given in our first class.

6. Since we want to play with the photo some more, let's return to the original photo by going to the top menubar and selecting >Edit >Undo Image Size. You should now have your original photo back.

RESIZING FOR SENDING VIA EMAIL

You may, at some time, have tried to attach a digital photo or two to an email and found that they were much too large to attach. If the purpose of sending the photo is for the recipient to see the photo on their screen (and not to print it), you would resize exactly the same way you did in the previous instructions for posting to the web. That process reduced the size of the photo from 15.1mb (megabytes) to 365kb (kilobytes), which is a much more manageable size to send as an attachment.

RESIZING FOR PRINTING

If we want to resize our photos for printing, and we want good quality prints, we need to pay attention to the resolution and dimensions in the photo file. We need to take the image as it comes from our camera, usually 72 ppi, and make it the physical size we want while obtaining a resolution with enough detail to produce a good quality print. What we want to do is decrease the physical size of the image without losing any quality. There is a tradeoff—or conversion—to be made when you resize: as photo dimensions decrease, resolution can increase with no loss of quality. Let's do it using the photo I supplied.

1. To obtain a good quality print of this photo, you need to increase resolution. Select >Image >Resize >Image Size. Be sure the "Resample Image" box is **NOT** checked. When "Resample Image" is turned off, we can type in the desired resolution, and the program will automatically adjust the width and height of our photo at the same proportion. As the physical size of the photo decreases, the resolution increases, and the quality remains. The image will now have the same number of pixels as the original file, but they will be packed together into a smaller dimensions, so the detail of the printed photo will be of high quality.

2. With the "Image Size" box open and "Resample Image" turned off, type in "150" in the resolution field. The width and height fields will be reduced accordingly. If you type different numbers in the resolution box, you will see the physical size of the photo change to different sizes. There is some discussion about the ideal resolution for prints. In his book, *Photoshop Elements for Digital Photographers*, Scott Kelby suggests that, with a digital photo taken at high quality, 150 ppi is sufficient to print a photo of up to 6 x 9 inches. Others insist that a resolution of 300 ppi is necessary for a good quality print of any size.

3. Now let's resize this photo—with a resolution of 300 ppi—to fit some exact dimensions. Let's say to fit a 5" x 7" frame.

4. With the "Image Size" box open, be sure "Resample Image" is **NOT** checked. Type in "300" as the resolution and click OK. The physical size of your photo should now be reduced to 9.3 in by 6.2 inches and have a resolution of 300 ppi—a good quality for printing. But we want our finished printed photo to be 5" by 7."

5. With the "Image Size" box open, **CHECK** "Resample Image." Enter "5 inches" for the height of the photo. The width changes proportionately, to a size of 7.489 inches. Click OK. You're almost there! But why didn't it become a 5 x 7 photo? Because the original file, recorded in your camera was not taken with an aspect ratio of 5 to 7 photo! Not all the standard photo sizes (4" x 6", 5" x 7", 8" x 10") are the same ratio. To make a photo that is exactly 5" x 7" to fit the mythical frame, you will need to do a bit of cropping. But that's all right, you know how to do that!

6. Click on the crop tool. Choose a 5 x 7 aspect ratio and click the "green checkmark." Congratulations! Now you have a photo with a resolution of 300 ppi and a size of 5" by 7" all ready to print and fit your frame!

saving your new file

(These are the same directions as in the first lesson, repeated here for your convenience!)

Now it's time to save this file. I like to save the resized file with the same name as the original with a descriptor added, such as winterfenceresize or something similar.

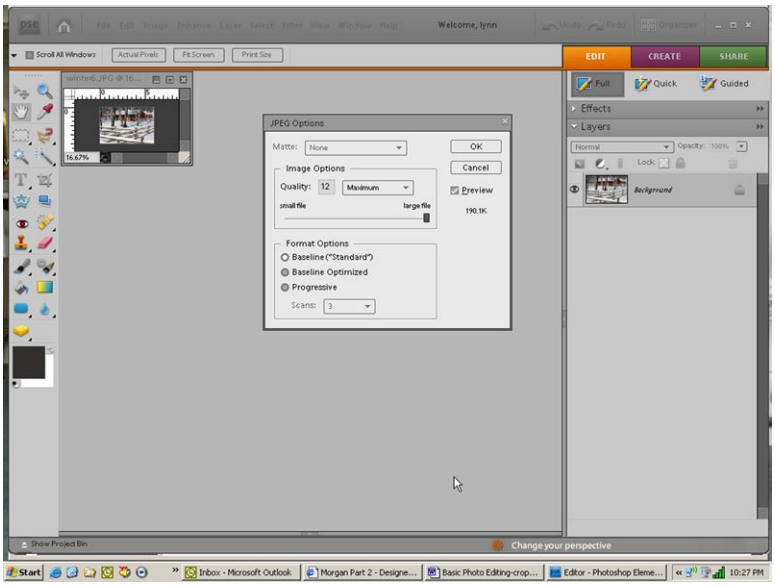
1.Select >File >Save As from the top menubar.

2.In the "Save In" dropdown box, navigate to the folder in which you'd like to save your new cropped photo.

3.In the file name box at the bottom, give your file a name.

4.Choose the file extension ".JPG".

5.A box will pop up with some .JPG options. Choose a quality of "12-Maximum" for excellent printing quality. "Baseline-Standard" should already be chosen as the default at the bottom of the box. Click OK and your file will be saved!



important note: These directions are for photos taken with a digital camera only. If you scan photos, you will choose the resolution of the scan on your scanner before the photo is actually scanned.

All of these directions are for making your photo smaller for printing. In general, it is better not to print a photo larger than the resolution dictates. Some of the experts have devised ways to make it possible to do this and still have a good quality print, but I think that is beyond us right now!

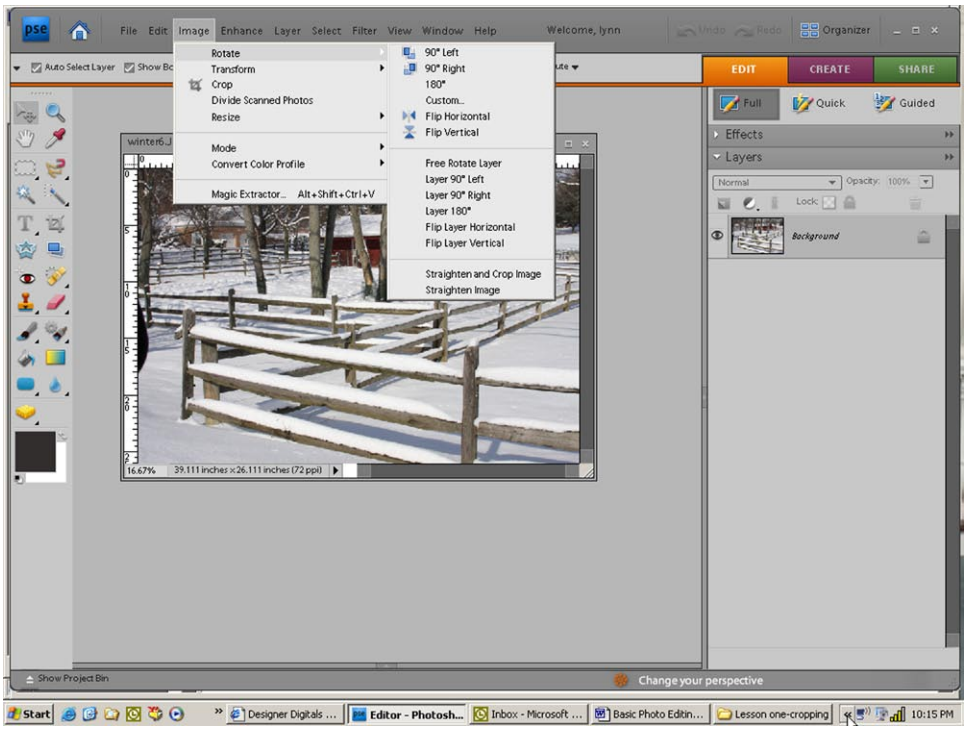
ROTATING IMAGES

Now that we have learned how to resize our photos, let's play with them a little more.

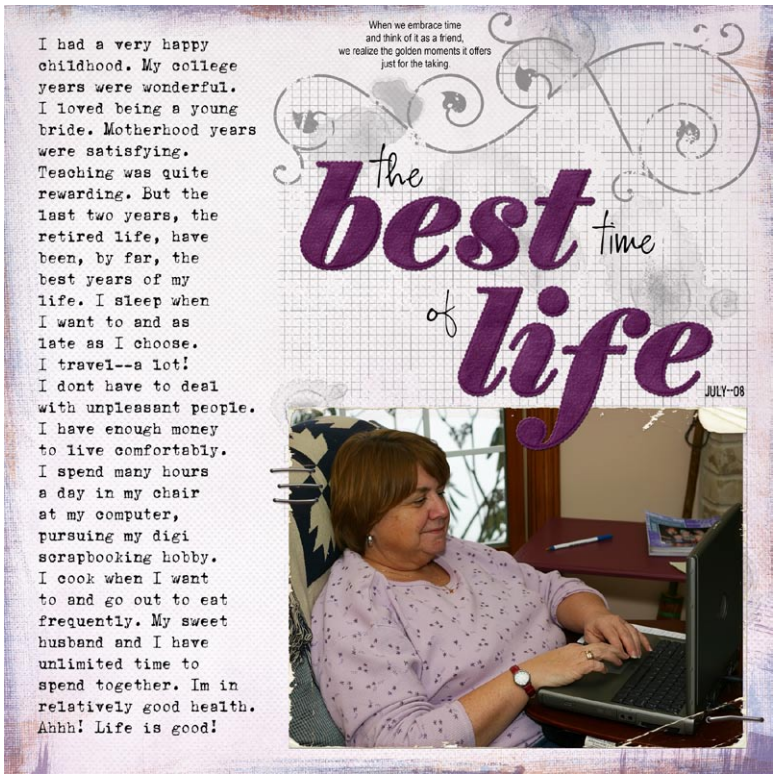
Some of the programs used to upload photos to the computer automatically rotate images, while others do not. That means you may sometimes have a photo that is sideways.

1. Open a photo. This is one time when you don't have to duplicate it, because you want your original file to be standing upright! (If you don't have a sideways photo to flip, just play with any photo, but don't save it when it is flipped.)

2. From the top menubar, select >Image >Rotate and then choose whichever way your photo needs to be rotated to be standing upright, usually 90 degrees clockwise. Be sure you choose this command from the top part of the flyout menu because the bottom part of it is for rotating individual layers—which we aren't doing yet.

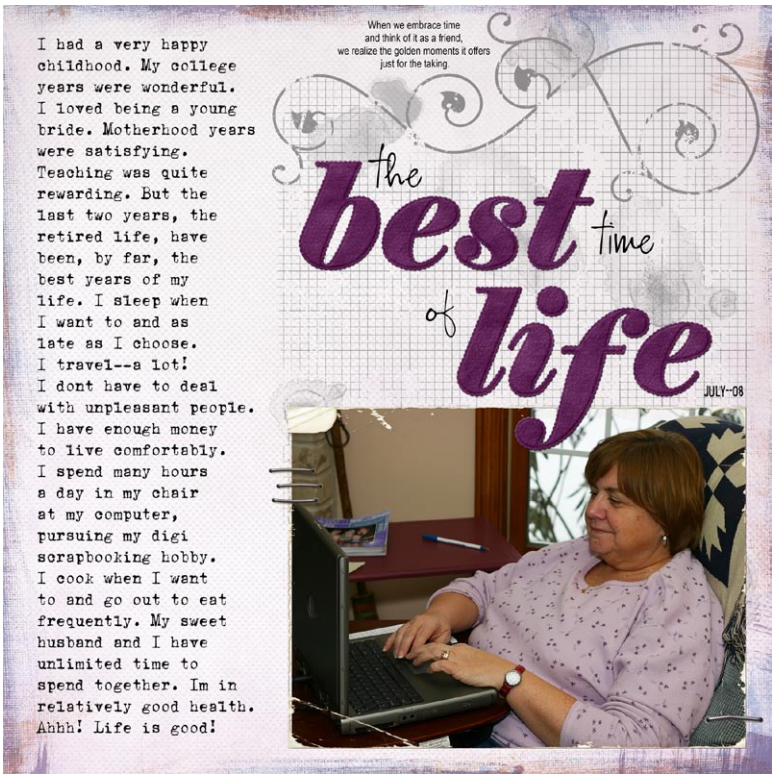


There is another time when you may want to rotate a photo. It's a general rule of scrapbooking that the subject of your photo should be looking into the page rather than out of the page (of course there are some exceptions to this!) So, if you want to scrap a page and put your photo on the right, but your subject is looking to the right, Photoshop Elements can help!



In the top layout shown here, I am looking out of my page.

And then in the bottom layout, I am looking into the layout, a much more "appealing-to-the-eye" arrangement.



To flip your photo, select >Image >Rotate >Flip Horizontal. (Again use the rotate command in the top part of the box; the bottom commands are for when you are using layers.) Your photo will flip around and face the other way!

one caution: This doesn't work well for a photo with letters or numbers in it. I once printed my grandson's football photos with his football number backwards!

HOMEWORK

Your homework for this lesson is to resize your own photos and see what happens! You probably won't want to post this week as photos posted on the web are all at 72 ppi resolution, so we wouldn't see any difference between our before and after!

getting ready for class #3

Next time we'll talk about correcting lighting, so be rounding up your photos that are too dark or too light!