## Excellent Free, Online Photo Editing Resources
- http://www.photoshop.com—must sign up for an account
- http://www.picnik.com—works best if you sign up for an account, but isn't required.

## How many pixels do I need to print photos?

When determining how many pixels you need, it all boils down to how you will be using the photo and what size it will be printed. Here's a handy chart to guide you when determining how many pixels you will need for printing standard size photos on an ink jet printer or through an online printing service.

**5 MP = 2592 x 1944 pixels**
  High Quality: 10 x 13 inches
  Acceptable Quality: 13 x 19 inches
**4 MP = 2272 x 1704 pixels**
  High Quality: 9 x 12 inches
  Acceptable Quality: 12 x 16 inches
**3 MP = 2048 x 1536 pixels**
  High Quality: 8 x 10 inches
  Acceptable Quality: 10 x 13 inches
**2 MP = 1600 x 1200 pixels**
  High Quality: 4 x 6 inches, 5 x 7 inches
  Acceptable Quality: 8 x 10 inches
**Less than 2 MP**
  Only suitable for on-screen viewing or wallet-size prints.

**Greater than 5 megapixels**
When you get beyond five megapixels, chances are you are a professional photographer using high-end equipment, and you should already have a handle on the concepts of image size and resolution.

**Megapixel Madness**
Digital camera manufacturers would like all customers to believe that higher megapixels is always better, but as you can see from the chart above, unless you have a large format ink jet printer, anything over 3 megapixels is more than most people will ever need.

However, there are times when higher megapixels can come in handy. Higher megapixels can give amateur photographers the freedom to crop more aggressively when they can't get as close to a subject as they would like. But the trade-off to higher megapixels is larger files that will require more space in your camera memory and more disk storage space on your computer. I feel the cost of additional storage is more than worthwhile, especially for those times when you capture that priceless photo and may want to print it in a large format for framing. Remember, you can always use an online printing service if your printer can't handle large format.

# How many pixels do I need for sharing photos online?

When posting photos online, you do not need nearly as many pixels as you do for printing. This also goes for images that will only be viewed on-screen such as in a slide show or presentation.

Having too many pixels makes it difficult to view photos on a monitor and it makes the file size much larger—something you need to avoid when posting photos on the Web or sending them by email. Remember, not everyone has a high speed Internet connection or a large monitor, so sizing photos down before sharing them is the courteous thing to do. The recipient can always ask for a larger file if they wish to print it—this is always better then sending large files without asking first.

When putting your photos on the Web or sending them by email, the smaller you can get them, the better. There are three things you can do to make your pictures smaller for sharing online:
1. Crop
2. Change pixel dimensions
3. Use compression.

In most cases, you will want to do all three of these things.

Since PPI and DPI are only relevant to print size and quality, when dealing with digital photos for the Web, you need only look at pixel dimensions. Most computers today have a monitor resolution of 1024x768 pixels, so your images should be sized no larger than this for on-screen viewing. Older computers have a lower monitor resolution, usually 800x600, so keep that in mind as well. The smaller the pixel dimensions of an image, the smaller the file size will be.
   • When sharing photos online, 800 by 600 pixels is a good average size to go with.
   • If you wish to reduce file size even further, reduce your images down to 640 by 480 or even 320 by 240.
   • If you're sure your recipients or Web site visitors won't mind waiting a little longer, you may want to go as large as 1024 by 768, but anything larger than that is going to be too large to see in the majority of computer monitors without scrolling.

**Important Note:** When re-sizing photos, be sure to select the option to constrain proportions (see more on next page). Otherwise, you photos may become distorted.

File compression is another way to make your photos smaller for online use. Most cameras and scanners save in the JPEG format and this format utilizes file compression to keep file size down. Always use the JPEG format for photographic images you will be sharing online. It is a standard file format that any computer can read. JPEG compression can be applied at various levels, with image quality and file size having an inverse relationship. The higher the compression, the smaller the file, and the less quality it will have.

It's also important to remember that once you open your images in a photo editing software, the file size may increase significantly. All the more reason to ensure you don't have images larger than you need.

# How do I reduce the size of photos for online use?

Before going to your intended size, you first want to crop your image to remove any unnecessary portions of the picture. After cropping, you can change the overall pixel dimensions to go even smaller.

All photo editing software will have a command for changing the pixel dimensions of an image. Look for a command called "Image Size," "Resize," or "Resample." When you use this command you will be presented with a dialog box for entering the exact pixels you wish to use. Other options you may find in the dialog are:

- Resample—You need this on when sizing down. This enables the software to change the pixel dimensions.
- Constrain proportions or keep aspect ratio—You want this option enabled  because it prevents the image from being stretched and distorted. When this option is enabled, you only need to enter one value—height or width—and the other value will adjust automatically.

**Never, ever resize and overwrite your original file!**

After sizing the image, be sure to do a Save As so you don't overwrite your original, high resolution file. You'll want to save as a JPEG file.

- When choosing the compression level, keep quality in the medium to high range.
- You want to shoot for a file size of 30 to 100 KB per image. Go small if you will be putting several files on the same page or sending them in one email.
- Try not to exceed 100 KB per Web page for the total of all images.

This may sound like a time consuming process, especially if you have a lot of photos to share, but fortunately most of today's software has made it easy to size and compress a batch of photos very quickly. Most image management and some photo editing software has an "email photos" command that will resize and compress the images for you. In fact, Windows XP and Windows Vista both have this functionality built-in. Some software can even resize, compress, and generate complete photo galleries for posting on the Web. And there are specialized tools for both of these tasks—many of them free software.

**Note:** This page provides suggestions for taking good photographs that you can submit to a local newspaper. The reality is that you may not always be able to plan events around the schedule of the newspaper. There also will be times when newspapers have to change their coverage plans because of breaking news (car accidents, fires, etc). In these cases, there are things you can do to increase the likelihood that you can take photos the newspaper will be happy to use.

| | Photo Tips |
|---|---|
| 1. | If you're using a film camera, it's best to use one with an external flash. Most built-in flashes are not powerful enough to light larger spaces. If you get more than eight feet away it's likely your photos will be dark. If all you have is a small auto-focus camera with a built in flash, concentrate on taking close-up photos. Remember that using a zoom lens increases the light requirements of the camera. The tighter you zoon, the more light you need. Therefore, it's often best to leave the camera set on a wider setting and just move closer to your subject(s). |
| 2. | Film selection is critical. Today's higher speed color films are very good, so always select a 200 or 400 ASA/ISO film. The higher the number the more light sensitive it is, so if you have to shoot in a darker room select a 400 speed film. **Remember, you still should use a flash.** |
| 3. | If you're using a digital camera (or getting ready to purchase one), it should be a model with at least 2 megapixels of resolution, but 3 or more is best. This will ensure there is enough detail to print quality photos. If you have the option, you should also use an external flash with a digital camera, but many do not offer this feature. Therefore, remember what was said about using the zoom lens found on most digital cameras today. The closer you zoom, the more light you need. Therefore, in lower light situations get as close as possible. Digital cameras will shoot in very low light without a flash, but that doesn't mean the photos will be usable. Depending upon the light, the shutter just stays open longer and longer, and with anything slower that $1/30^{th}$ of a second you will get motion blur because you just can't hold the camera still. Practice taking digital photos in the rooms where you will hold events so you know what you can and can't do with your digital camera. This way you'll be more likely to get usable photos. |
| 4. | Shoot both horizontal and vertical photos. Papers need both to do their page layout, and having both formats will give them more flexibility. Shoot your vertical photos so the camera flash is always on the top. |
| 5. | Concentrate your efforts on one or two people, using close-ups instead of overall shots. You get fewer people in the photos, but again its an issue of where and how big the photo gets used. Try to capture photos with action and expression. Accomplishing this goes back to activity planning. If you've planned an event with this need in mind, it will be easier to capture the photo. |
| 6. | Don't try to run the activity or event and also take photos. Get someone to take photos (perhaps a volunteer) who can become familiar with the camera. If you're always using a first-time photographer, your photo quality will suffer. This might be a good job for a high school student who is in the photo club or works on the school newspaper or yearbook. |
| 7. | When photographing an event with a digital camera, take a lot of photos. People–especially children–tend to notice when their photos are being taken so they're always looking at the camera. You're more likely to get good photos when the subjects get used to your presence and start ignoring you. With a film camera, take photos for a few minutes with no film in the camera, then put film in. You're photos will be more natural and of better composition. |
| 8. | Never, ever, have your subjects in front of a window (night time is OK if the shades are drawn). You won't be happy with the results, so it's just better to avoid this situation. This is an important issue when you set up your room for an activity or performer. If you want the newspaper photographer to get good photos, don't make him/her shoot toward a bright window. |