A Quick Lesson in Digital Photography

*(Assembled for reference purposes for submitting photos
for the NEOCR calendar. Not for redistribution.)*

1. **Some background about digital file types**

   Photos are **Raster** images made up of pixels**.** Most acceptable raster formats are **JPEG** or **JPG** (joint photographic experts group), **TIF** (tagged image file), **or PNG** (portable network graphics).

   TIF and **PNG** images are **lossless** formats; they do not lose pixels when you save the file in photo-editing programs.

   JPEG images are **lossy** formats; images compress and lose pixels every time you save them in a photo-editing program.

   PNGs are smaller than TIFs, but are preferred over JPEGs since PNGs use lossless compression and have smoother edges than JPEGs. **CaféPress.com** recommends uploading **PNG** files for products printed or produced from their Web site.

   Most cameras generate **RAW** (equivalent of a digital negative; 2x-3x bigger than JPEGs) or **JPEG** images. RAW files are extremely high-end large files, used by professional photographers.

   For purposes of the calendar, CaféPress, newsletter articles, or our Web site, **JPEG** files are fine. Don't send BMP (bitmap) files. I can convert JPEG files to PNG as needed.

   It is recommended that you set your camera to capture photos at the highest resolution JPEG available, one step below RAW images.

2. **Quality**

   Normally, the acceptable professional print quality of raster images range between **250-300 dots per inch** or **DPI**. *Note that for printed material, photos can be scaled down, but should not be scaled up more than 10%.*

   While 300 DPI is optimal, **CaféPress accepts 200 DPI images**.

   Digital cameras generate **photos in pixels per inch** or **PPI**. Traditional 35 mm photo film can be developed and saved on a CD by your local merchant, also in PPI format.

   So how do we translate PPI into DPI?

3. **Doing the math…**

   PPI divided by DPI equals the resized image inches dimensions. Below is a relative chart showing a resized image at varying DPI. Divide each width and height PPI dimension by the desired DPI to determine the size in inches of your scaled photo.
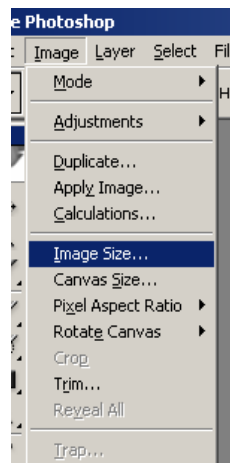
   Rule of thumb: Divide your photo's PPI dimensions by 300 DPI, and you have a great photo for printing at the resulting size. Divide by 250 DPI, and you have an acceptable photo for printing. Divide by 200 DPI and you have a passable photo, *depending on size*, for use on CaféPress. 72 DPI images are acceptable for screen or web quality.

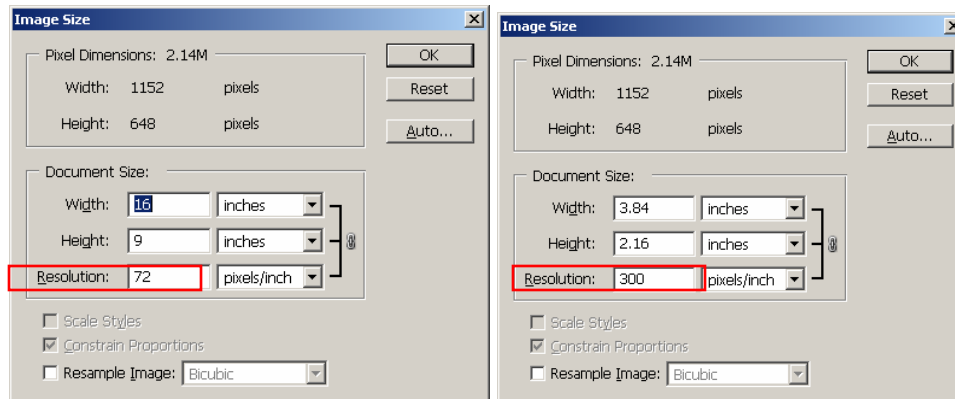| Example 1	Width	Height
Photo in Editing Program – Original Pixels per inch:	1152 PPI	648 PPI
At 72 DPI (screen quality)	16"	9"
At 150 DPI	7.68"	4.32"
At 200 DPI (CaféPress)	5.76"	3.24"
At 250 DPI (print quality)	4.608"	2.592"
At 300 DPI (print quality)	3.84"	2.16"

Example 2	Width	Height
Photo in Editing Program – Original Pixels per inch:	3648 PPI	736 PPI
At 72 DPI (screen quality)	50.667"	38"
At 150 DPI	24.32"	18.24"
At 200 DPI (CaféPress)	18.24"	13.68"
At 250 DPI (print quality)	14.592"	10.944"
At 314 DPI (print quality) original size on my camera	11.618"	8.713"

4. **How to resize your image in a photo-editing program such as Adobe Photoshop®**

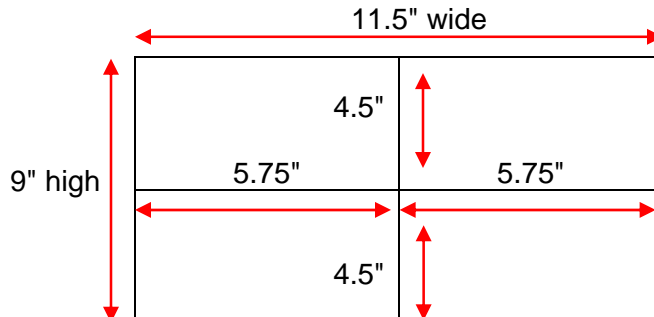   a. Open your image in the photo-editing software. Then choose **Image > Image Size**.

b. Uncheck **Resample Image.** Type in the desired **Resolution** (e.g. 300 DPI), and Photoshop will resize the image accordingly. Select **OK** when finished.

c. Re-save your photo with the new dimensions or select **File > Save As**.

5. **Preferred CaféPress Calendar Image Sizes**

   a. **Full-page Landscape:** 11.5" wide by 9" high at 200 DPI.

   b. **Half-page Vertical:** 5.5" wide by 11.5" high at 200 DPI. (Wider images can be cropped. Two half-page vertical images fill a page.)

   c. **Quarter-page Horizontal:** 5.75" wide by 4.5" high at 200 DPI.
      (Four quarter-page images **OR** two quarter-page and one half-page vertical fill a page.)

   d. Subjects, set indoor or outdoor, should be posed, without people in the shot, and with a simple background or nature setting. Photos should be sharp and in focus. Dark or shadowy photos can always be adjusted once I have them.

6. Submit photos to: webmaster@NEOCR.org. Put "Collie Photos" or something similar in the subject line so that your email does not get accidentally trashed. ☺

Great reference: *Getting a Digital Photo Ready for Print: dpi and ppi – Digital Photography*

http://www.suite101.com/article.cfm/digital_photography_and_editing/98350/1