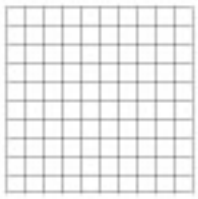
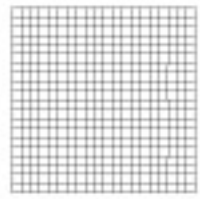
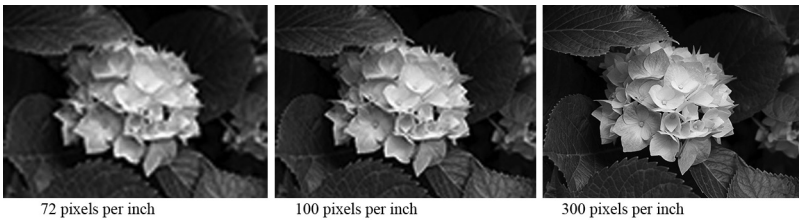
Image Prep for "Calls for Art", Web Sites, Printers, etc.

Resolution:





Every image taken by a camera (or scanned by a scanner) has pixels. Think of pixels as squares on graph paper.
One sheet of graph paper could have 10 squares per inch. Another piece of graph paper could have 300 squares in every inch. If you were to color in each square to create a picture, and then stood back and compared the two images, the tiny squares (300 squares in every inch) would give you a clearer, sharper, better image.
The picture drawn with 10 squares in each inch would give you a choppier image with jagged edges. This is what is happening with "resolution" in all digital images.



72 pixels per inch 100 pixels per inch 300 pixels per inch

Color:

Years ago, at the beginning of digital imaging, a single pixel could either be black or white. As technology progressed, that single pixel could have a specific color assigned to it from the 256 palette of web safe colors ("index colors"). Now days, that pixel can have a full red / green / blue color formula attached to it (RGB color format). The RGB color format is sometimes called "Millions of Colors" because the red / green / blue color formula for each individual pixel seems limitless. The amount of memory escalates with the more information attached to each pixel. A pixel with a single color attached to it ("Index Color" palette of 256 colors) with carry 1/3 of the memory of a pixel with RGB color.

- "Grayscale" = the individual pixels have no color formula, only shades of gray, black and white (low memory used)
- "Index" = each individual pixel has a specific color assigned to it from a limited palette of 256 colors (medium memory used)
- "Millions of Colors" / "Raw" = each individual pixel has the full range of color from a Red/Greed/Blue formula (high memory used)

Digital Cameras:

Digital cameras have different "megapixel" abilities depending on their cost and age. This refers to the amount of memory each image will have when the camera takes a picture. Older cameras have fewer megapixel ability. Newer cameras have more megapixel ability.

The cameras have settings:

- "Basic" / "Index Color" = low resolution, limited color, less memory needed
- "Fine" / "Raw" = high resolution images, full RGB color formula for each pixel, more memory needed
- "Normal" = the inbetween setting.

Where is your image going to go? The Web, your home printer, a commercial printer?

- Web Images = 72 pixels per inch
- Home Printer = 100-200 pixels per inch works just fine
- Commercial Printing Press (postcards, brochures, etc.) = 300 pixels per inch for color, 800 pixels per inch for black and white / grayscale

File formats:

JPEG, GIF, PNG = formats intended for the web that save images with limited / compressed color information (lower memory for faster travel across the Internet)
PSD, TIFF, RAW = these file formats save all the color and resolution quality. JPEG can also be high quality.

CMYK Color Mode: There is one more color mode that is used when preparing images for a printing press. "CMYK" refers to 'cyan, magenta, yellow and black'. These are the ink cartridges in home color printers. They are the same colors used by commercial printing presses. When preparing images for a printing press (postcards, brochures), the printer will want your file to be in CMYK color. It is possible to change an image to CMYK in Photoshop. (Photoshop's Image Menu / Mode / CMYK)

Shooting and Preparting Your Photos:

Shoot the photos of your art in as large of file as possible. Use the "Millions of Colors" / "Raw" / "Fine" setting.

Generally, a 'call' prospectus will require an image to be 300 dpi with 1800 pixels on the longest side. ("DPI" = dots per inch / "PPI" = pixels per inch) To do the math, 300 pixels per inch with 1800 pixels max. means the image will be 6 inches on the longest side.

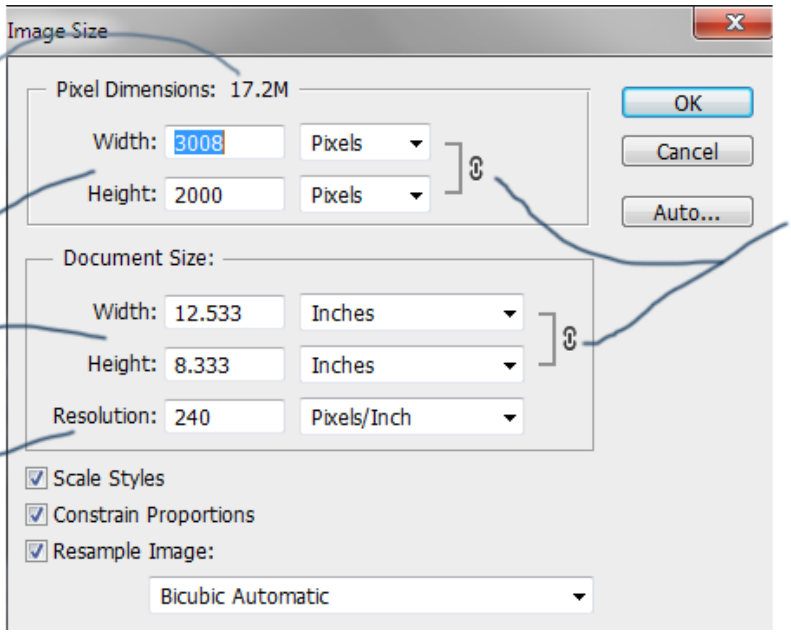
How to prepare your image in Photoshop / Elements (or similar - menus vary, but the concepts are the same).
Click on the File Menu / Open and open your photo.
Next, click on the Image Menu / Image Size and let's look at the information there: (generic example below)

This is a "RAW" photo taken directly from the camera card. You can see the megapixel quality of this partiuclar camera.

Here are the pixel counts for this image

Here are the inches for this image

Here is the resolution (pixels per inch) of this image

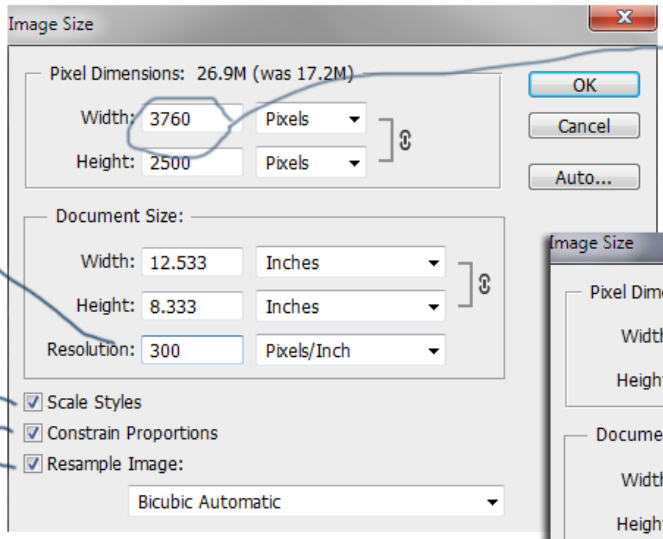


Please notice this "linked" or "locked" indicator. This is telling us that if we want to resize this image, the proportions are linked. If one dimension is changed, the other will adjust automatically.

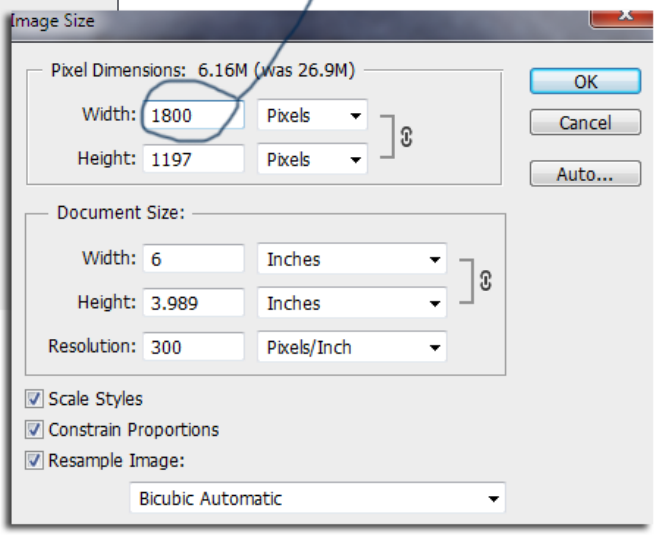
This is the crop tool. If you would like to eliminate unwanted extra space around your image before you begin, turn on this tool, drag a box around what you want to KEEP (you will be able to adjust the box), then hit your 'enter' key on your keyboard, and Voila!

How to change the pixel count of your image:

Step One:
On the lower left, all three boxes are checked, and the "Resolution" has been changed to 300 pixels per inch.



Step Two:
Look at the "Pixel Dimensions" boxes.
Which one (the width or the height) is the largest?
In this case, the width was the largest.
Change the largest dimension to 1800
(as perscribed by the Call For Art.)



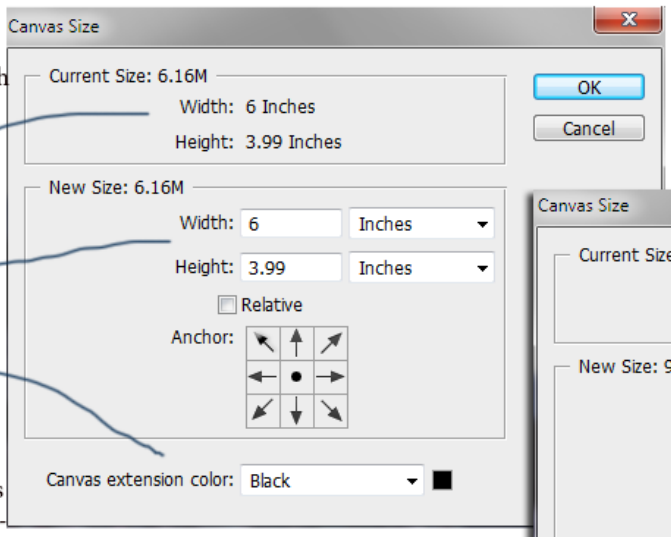
The memory used for the original image was 17.2 Megs. The new memory will be 6.9 Megs.

Does the 'call' ask for the image to be square - with black filling in the two sides? Here is how to do that:

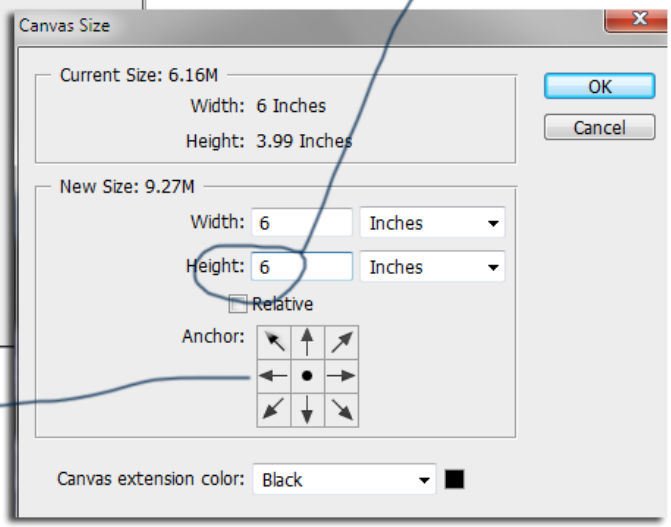
Now open the "Canvas Size" box. (Image Menu / Canvas Size). Take a look at the width and height information. You will see in this example that the width is 6 inches and the height is smaller.

To make this image square with black sides, we will change the height to 6 inches (leave the width as it is - according to the "Call" specifications).

The 'canvas extension color' is black - the background color - as dictated by the "Call" specifications.



The height has now been changed.
The overall image is square with black filling in the extra space.
The image is now ready to be saved.



This box refers to where you want the art to be placed in the new canvas. Just leave this as it is - centered.

Saving Your Image:

You are now ready to save your image according to the perspectus of the 'call'.
Click on the File Menu / Save As...
A box will pop on the screen asking you to name the file, where you want to save it (what directory), file type (choose jpeg for 'calls').
Save your file with the naming convention they have dictated - such as: last name, first name, title of work.
Example: smith.bob.oceanlandscape.jpg

To prepare your art for the Web: Click on the File Menu / Save for Web. This will prepare the file with the color coding needed for the web.

To prepare your art for a commercial printing press: Going back a few steps, use the crop tool to eliminate any unwanted portions of the image.
Click on the Image Menu / Image size.
Set the resolution to 300 pixels per inch. Hit the "OK" button.
Go back to the Image Menu / Image Size box again. Look at the dimensions in inches. Is it large enough for what is needed? If 'yes', then you can leave it as is, or size it smaller. If 'no', then you need to get a better quality photo taken of your work. Photoshop does have the ability to increase / invent more information, but you will not appreciate the quality of what it has invented for you. Be sure your original 'raw' photos are the best top quality possible. Don't ask Photoshop to increase information that it does not have.

It sounds obvious, but pay attention to where your image files are going when you save them. It is smart to keep separate folders of the various image qualities:

- Raw Photos Folder
- 300 dpi Photos Folder
- 1800 pixel count Photos Folder
- Jpeg Web Ready Promotional Photos Folder