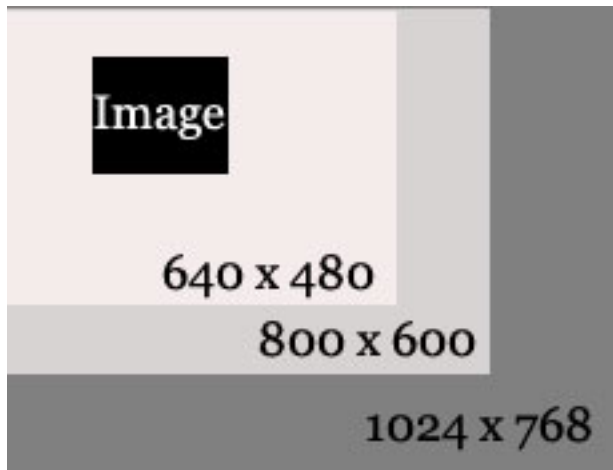
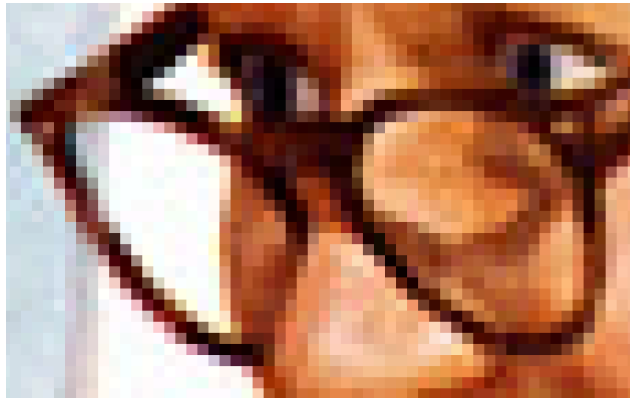


## Resolution

### ***Image Pixels:***

1. Any image on a computer screen is composed of pixels. Pixels are squares of light that are fixed in size and do not overlap.
2. PPI (Pixels Per Inch) indicates the number of pixels per inch that compose an image on screen.



### ***Monitor Resolution***

1. Defines the number of pixels available to display images on a computer screen in width and height.
2. When Monitor Resolution increases, an image appears to shrink in relationship to the viewable area.

### ***DPI and Print Resolution:***

1. Printed images are composed of dots of ink.
2. Dots are circles of ink on paper that may or may not be consistent in size and often overlap each other.
3. DPI (Dots Per Inch) indicate the number of dots per inch that compose an image on a physical surface (paper).
4. PPI and DPI are often misunderstood as being interchangeable. They are related but represent different visual effects. PPI determines an image's relative size on screen, while DPI determines image quality on the printed page. On screen, an image can be 72 PPI and still look good. Printed, an image requires more information.

## Scanning

Scanning is accomplished with the use of three computer components working together: a scanner, scanning software (in this case one provided by Epson), and an image editing software (in this case Photoshop).

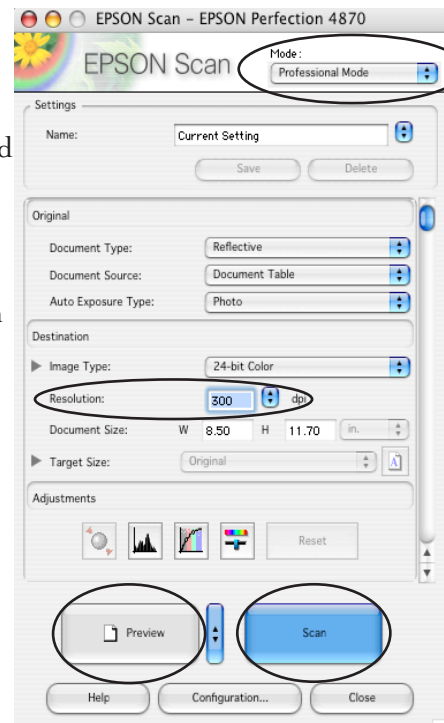
### ***To scan in an image or object in the Computer Center (Mac):***

1. Place the object to be scanned face down in the scanner.
2. Launch Photoshop by clicking on the Photoshop icon on the Dock.
3. Select **File > Import > Epson**
4. Select **Professional Mode** from the drop-down box in the upper right corner, otherwise it will scan in Full Automatic mode and you won't have the ability to customize your settings.
5. Before you scan the final version, we recommend you check the resolution.
6. Click the large **Preview** button and drag the dotted lines around the selection area you want to scan in the Preview Window.
7. Click the Scan button. Once the picture has been scanned, Adobe Photoshop will automatically launch and open your scanned image.
8. Edit and save your image in Photoshop. Saving as a .psd files is generally best.

Note: you may need to save your scanned file to the network space Scratch on Calawah then move to another computer to continue editing in Photoshop.

### ***At what resolution should I scan?***


A good rule of thumb is to set the scan resolution at double what your final image's resolution will be.



<b><i>Image type</i></b>	<b><i>final resolution</i></b>	<b><i>scan resolution</i></b>
web image	72	150
image for print	300	600

Small images: If you are going to be enlarging a small image the higher your resolution the better the enlarged image will look. Experiment to get the best results!

## Rotating & Cropping Images

1. Using the Crop tool,  roughly define the area to be cropped.
2. Move the cursor outside of any corner of the crop area until it turns into a curved double-sided arrow.
3. Click and drag until the image edge is parallel to the crop line.
4. Move the Crop 'handles' (in the center of each side) to further adjust the crop area.
5. Double-click inside the area to be cropped (not the absolute middle) or click the check mark in the options toolbar to complete cropping. (Hit esc on the keyboard if you decide not to crop.)
6. Images can be cropped to specific dimensions (e.g. 300 px X 200 px) by setting the width and height in the options toolbar for the crop tool.

### ***Rotating a Layer***

1. Select the layer to be rotated.
2. Choose **Edit > Transform > Rotate**.
3. A bounding box should appear around the image in that layer. Move the cursor to a corner (it should turn into a curved, double-sided arrow) and drag to rotate the layer.
4. To apply the transformation, hit Return, or double-click inside the bounding box.

### ***Rotate the Entire Canvas***

1. Choose **Image > Rotate Canvas...**
2. Select Rotate Direction and Angle. There is also an option to Flip Horizontal or Vertical.

## Saving for Web

Photoshop has a built in tool for generating images for the web, namely .jpg, .gif and png files. These file types are viewable by all web browsers and considered 'universal' file formats for images.

1. Select File > Save for Web and Devices...
2. Select the 4-Up Tab along the top so you can compare different quality options with the original.

Note: Most photos look best saved as a .jpg. For line drawings and images with little color depth, saving as a .gif is usually best.

3. The photo in the top left square is your original, uncompressed image.
4. Click on the photo at the top right pane and change the presets for that picture. Presets are located as a drop-down menu in the upper right.
5. Click on the photo at the bottom left and try other options. Note the quality of the image versus the file size
6. Once you've decided on the best option for your image, select that version by clicking its pane and click Save.
7. Name the file and click Save. This creates a separate file from your Photoshop file with a .jpg or .gif extension.

