



Resizing images – WHY IT MATTERS & HOW TO DO IT!

Arabella S. Dane

For the NGC 2018 Fall Board Meeting
Photography Workshop

National Garden Clubs, Inc.



PHOTO CONTEST
Open June 1st - August 15th, 2018
for NGC Board Members only
Winning photos to be shown at Fall Board Meeting at the FSSC Photo Workshop



Please send in your photo entry using the link below & sign up for the NGC Flower Show Committee's Photography Workshop Sept 27th. Join us to learn helpful photography tips. Come to enjoy and discuss the winning entries.

Contest Theme: "Water is the driving force of all nature"

Leonardo da Vinci



Entries will be accepted between June 1- August 15, 2018 using the electronic link provided. The entries will be juried.

Winning photos will be projected and discussed at the FSSC Photo Workshop on September 27, 2018

For more information:

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Discussion during the FSSC Photo Workshop will include:

- How might photography help promote the mission of NGC when included in NGC Flower Shows
- What makes a winner - Comments on the winning contest entries
- How to enter a photo contest
- How to resize an image
- What the terminology means

To enter this contest:

Login at this link

[http://
cgburke.com/ngc/](http://cgburke.com/ngc/)

Rules: You may enter 1 image. It must be your own photo.

Fees: There is no charge to enter.

Image Preparation Guidelines:

All images must be submitted electronically and the winning images will be displayed and discussed at the Orlando Fall Board meeting's FSSC Photography Workshop

Image Resolution: Each image must have a minimum resolution of 300 pixels per inch.

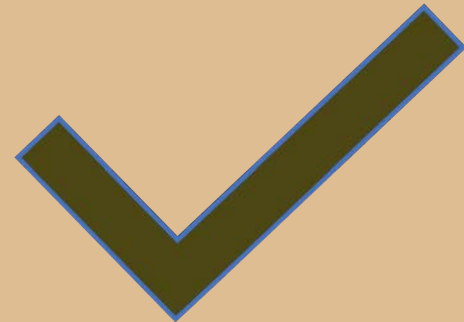
Image Dimension for optimum display :

If the image is in landscape format, it should be 1024 pixels x 768. If it is portrait format, the image should be 768 pixels high, and the width will default to an appropriate proportional number of pixels.

File size: Minimum size: 1 Megabyte
Maximum size: 5 Megabytes

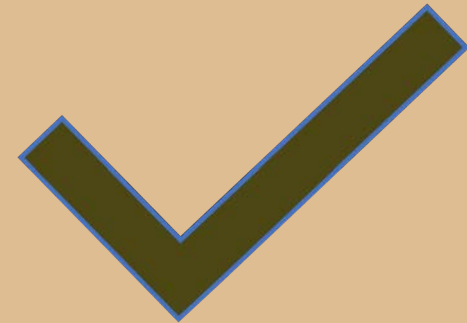
A contest may require certain file size because:

- **The jury needs to evaluate images of a manageable size on their laptops or on TV screens**
- **The winning printed photos will be displayed on staging of specific dimensions**
- **The winning entries must have enough resolution to print well in publications**



Why do we select certain sizes for our pictures:

- Computer screens generally have a 4:3 ratio and projected images work well at this ratio
- Often the requested size is 1024 pixels w x 768 pixels h with a resolution of 72 or 300 ppi for a landscape format image and
- 768 pixels h for a portrait format image





What are the usual requirements for LANDSCAPE FORMAT

- 4:3 ratio
- The width of the image has 1024 pixels & the height has 768 pixels but this doesn't tell us how many pixels there are per inch
- If 72ppi is specified then there will be 72 pixels in each inch.
- If 300 ppi is specified then there will be 300 pixels in each inch.
- The larger the image is printed the farther apart the pixels will be



What are the usual requirements for PORTRAIT FORMAT?

- For portrait format : The Height will be 768 pixels And the width will self select to whatever is needed to keep the same proportions
- Again, this doesn't tell us how many pixels of information there will be per inch unless that is specified.
- 72 ppi means there will be 72 pixels per inch and they will be farther apart the larger the image is printed
- 300 ppi means there will be 300 pixels per inch – they will be closer together
- The dpi/ppi ratio is called RESOLUTION the more pixels per inch the more detail there will be in your image

RESOLUTION is the data an image holds within its number of dots per inch/pixels per inch

300 pixels per inch is needed for an image that will be printed larger than a thumbnail. 72 pixels per inch is enough for viewing on a computer screen or for sending to Facebook

72 dpi



300 dpi



What is a good file size for a photograph for the INTERNET?

- For a 5 x7 print 1024 x768 pixels minimum at 72 dpi
- For an 8 x 10 print 1536 x 1024 pixels minimum at 72 dpi
- For a 16 x 20 print 1600 x 1200 pixels minimum at 72 dpi

What is a good file size for a photograph that will be PRINTED?

- For a 5 x7 print 1500 x 2100 pixels minimum at 300 ppi
- For an 8 x 10 print 2400 x 3000 pixels minimum at 300 ppi
- For a 11 x 14 print 3300 x 4200 pixels minimum at 300 ppi

From Dummies.com

But that is only part of the problem

- The image resolution needs to be adequate to maintain the required image size.
- Pixels have to be the same size and the same quantity as the dots on a computer screen to appear correctly. Too few pixels and the image looks pixelated.
- You reduce the size of the image, making it smaller, and it will look better, as the pixels will seem closer but you cannot increase the number of pixels successfully.

Although the picture on the left looks ok when small, its low resolution doesn't have enough pixels to show the detail when larger

Low resolution looks ok when small



But gets very pixelated when made larger





Paul Signac

So what are pixels? They are
your color data!

- MUCH LIKE IN A POINTIIST'S PAINTING where your eye is blending adjacent dots of paint,
- Pixels are little squares of color information processed through your camera's memory chip. The more pixels in your image the larger the file and the more detail in your image. Depending on your camera, each pixel can store a minimum of 256 bits of information in each of these red blue and green squares. There are more green pixels than the other two colors. When you look at your photo you see an image, but in actuality, you are looking at zillions of tiny dots of color data in pixels that appear merge and become a picture.

A Pointillist painting & Pixels in a photograph

<https://web.stanford.edu/class/cs101/image-1-introduction.html>



A Sunday Afternoon on the Island of La Grande Jatte by Georges Seurat



Resizing images

How you do it In
Lightroom

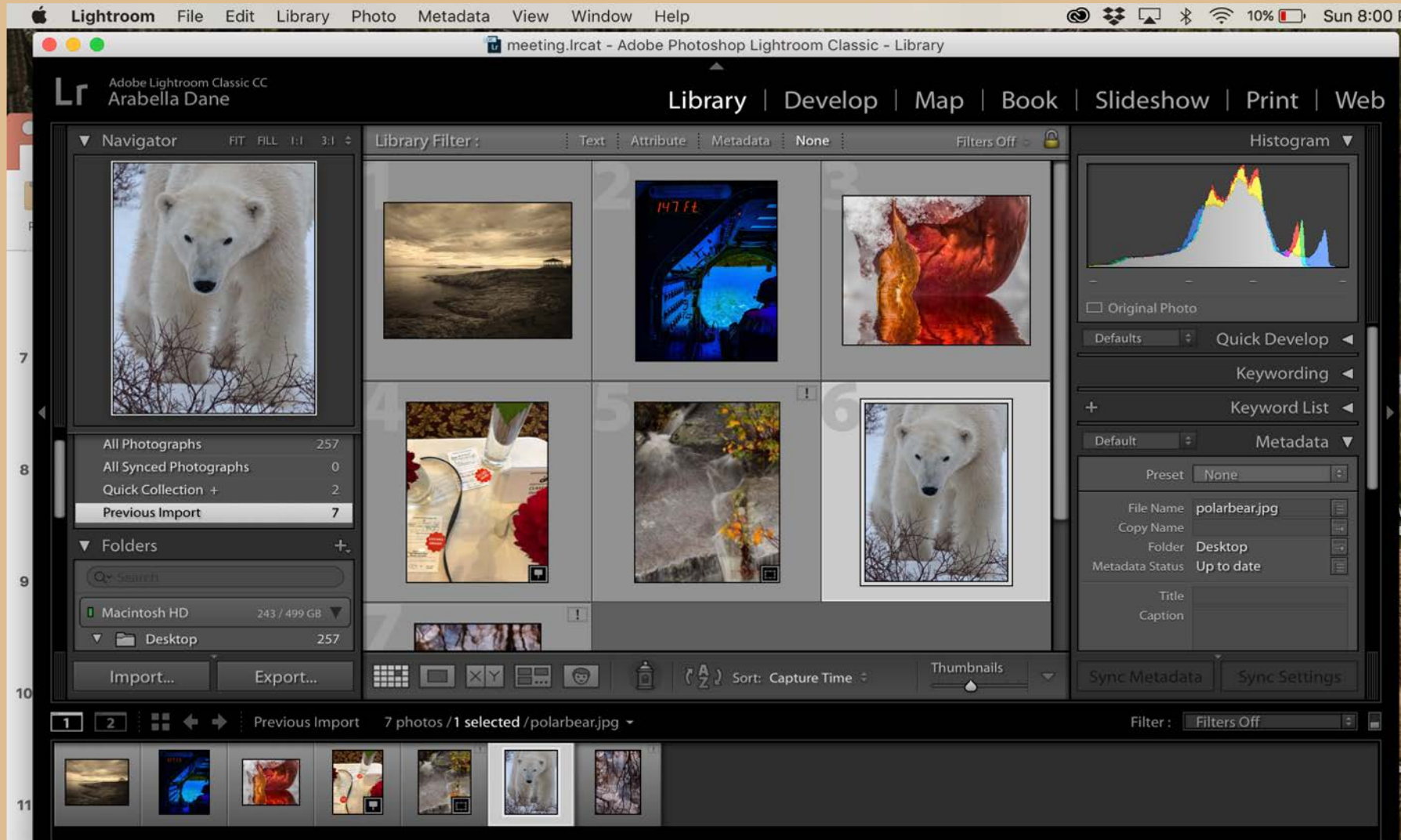
Preview

Photoshop

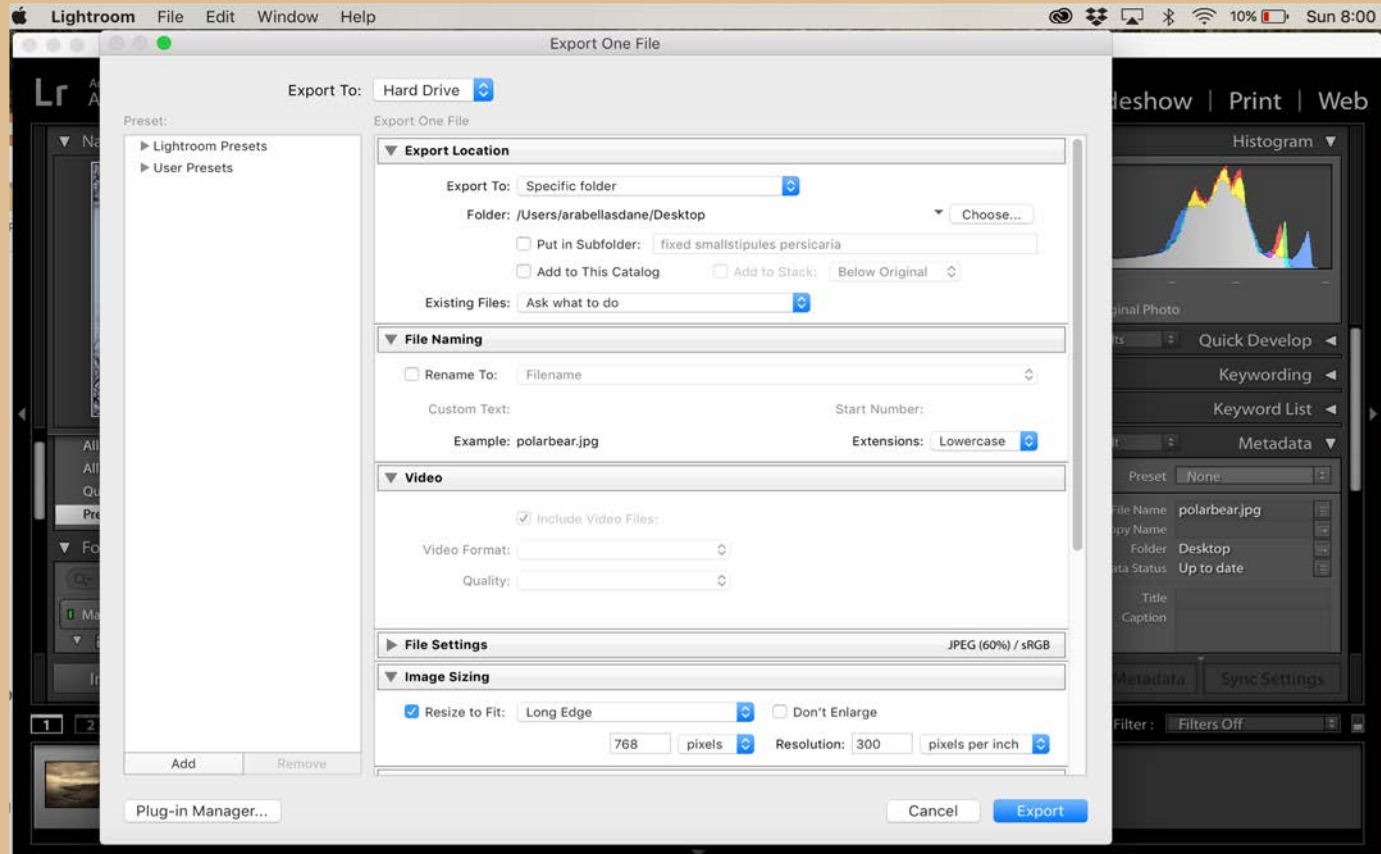
Photoshop Elements



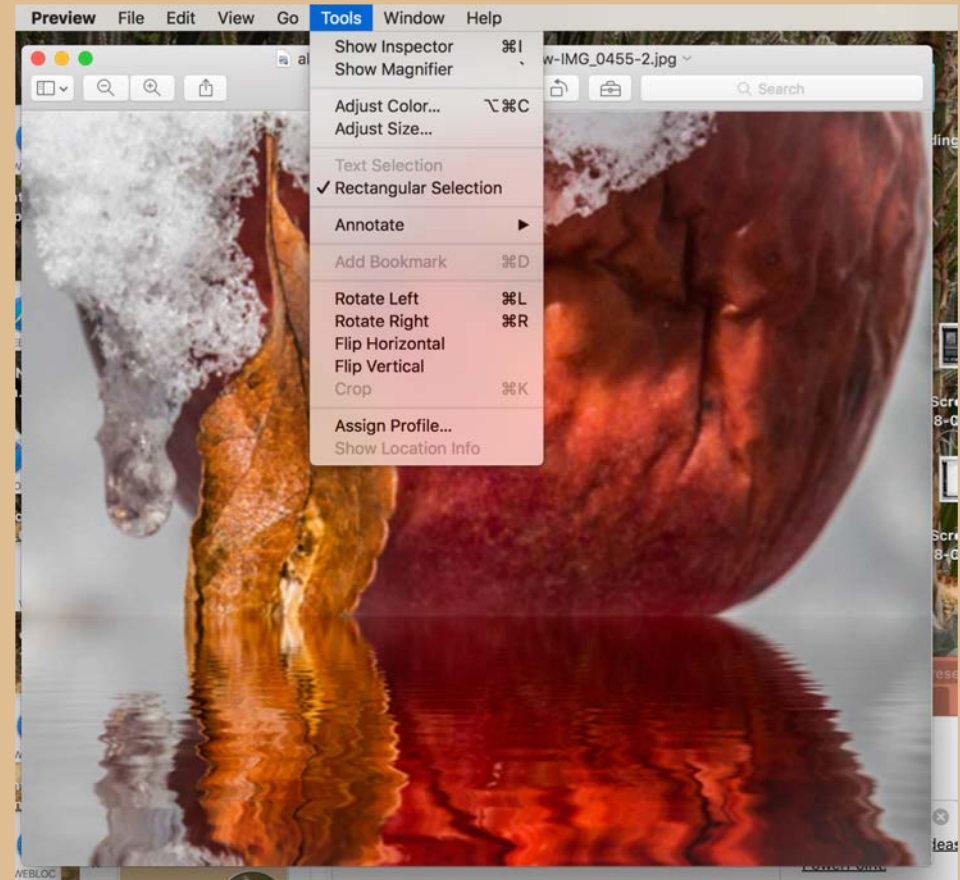
IN LIGHTROOM import your image & edit it



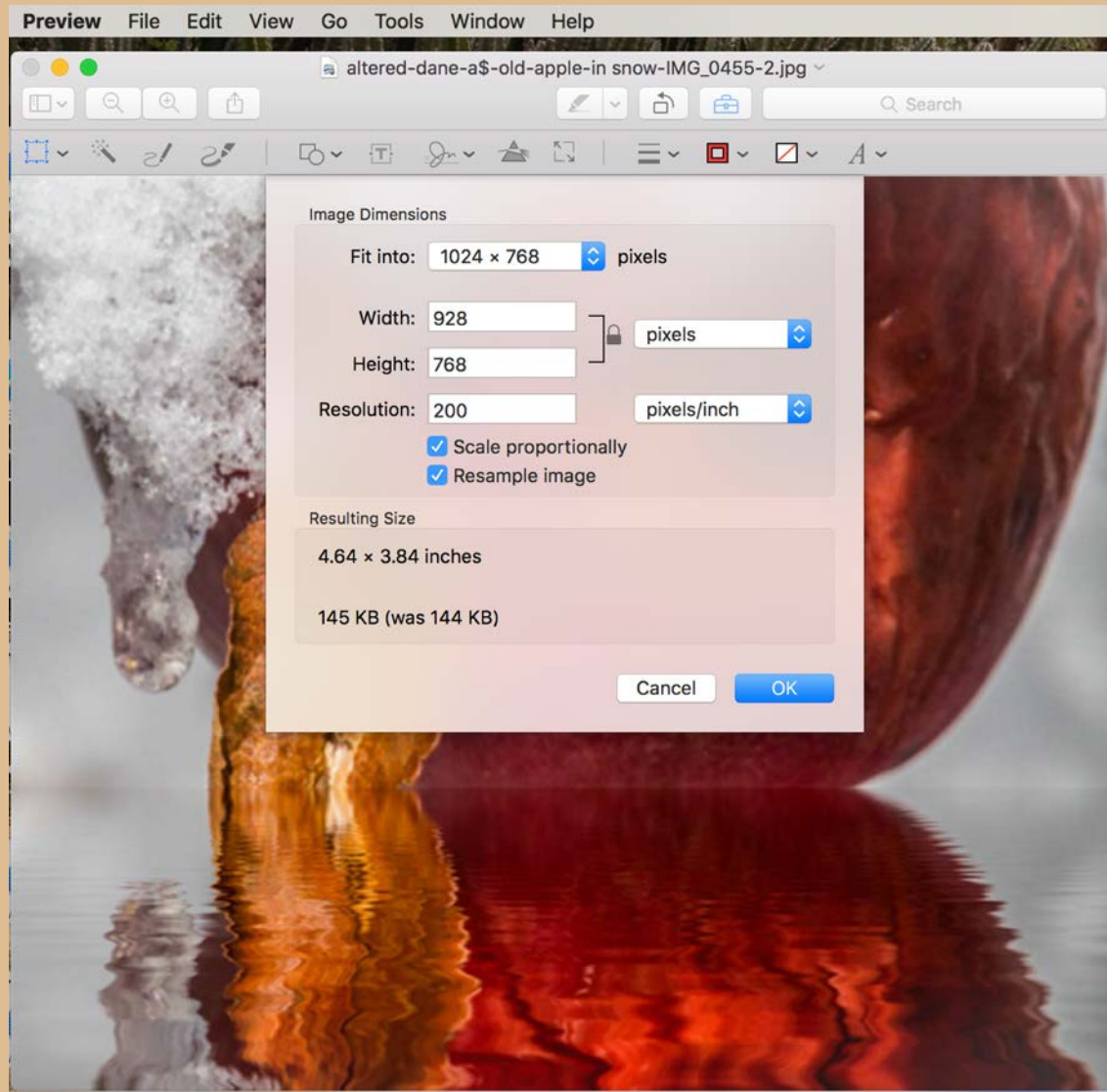
IN LIGHTROOM – then export it in the size you need at the resolution you need



Resizing images IN PREVIEW – Open image in Preview and then select the TOOLS option



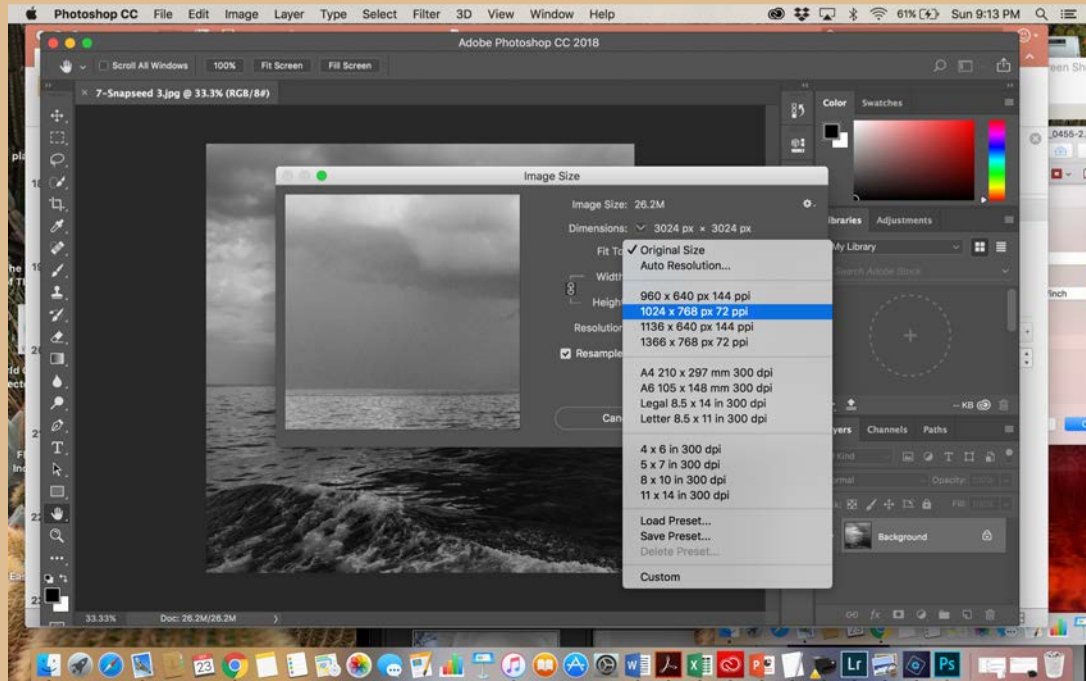
IN PREVIEW – DEFINE YOUR SIZE - and NOTICE it shows you your FILE SIZE TOO



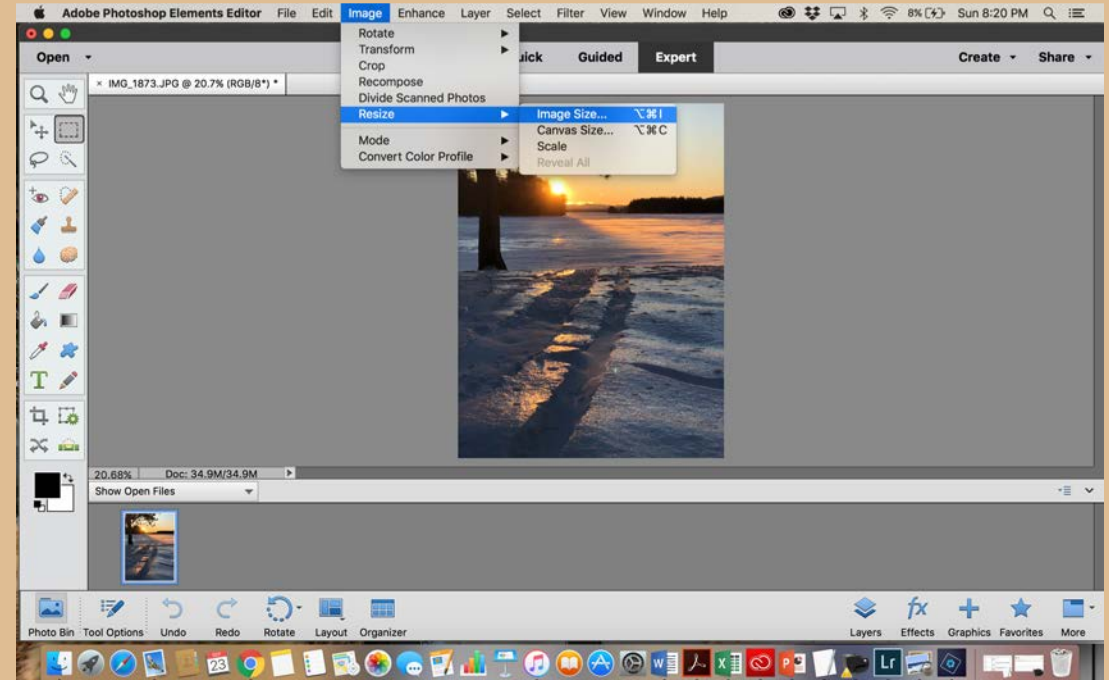
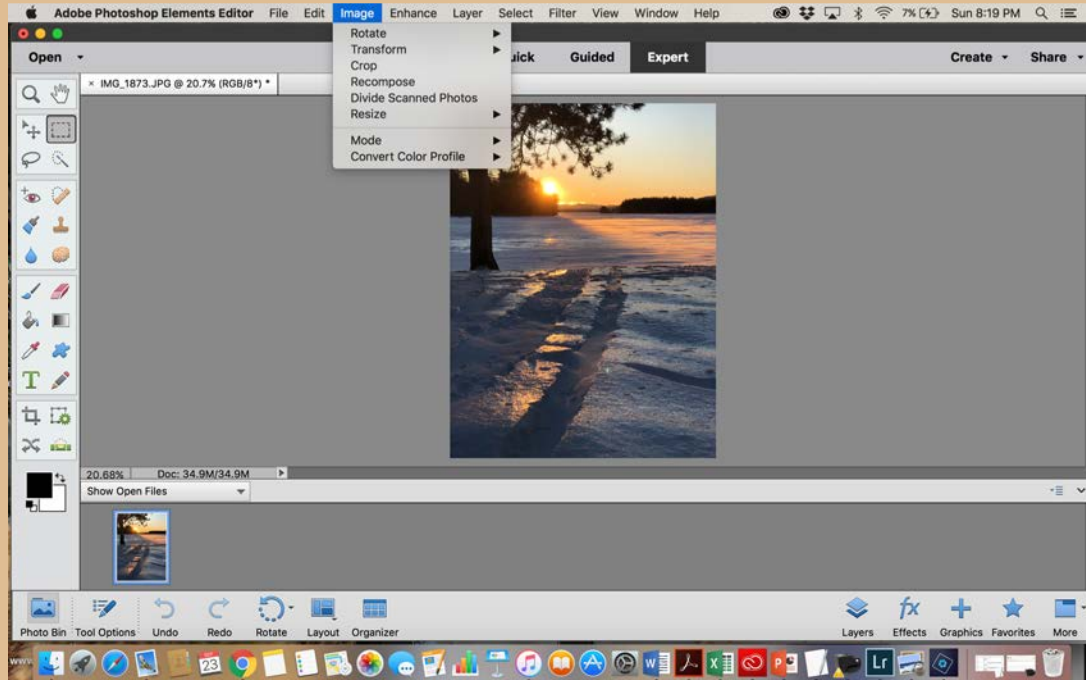
In Photoshop – select Image option



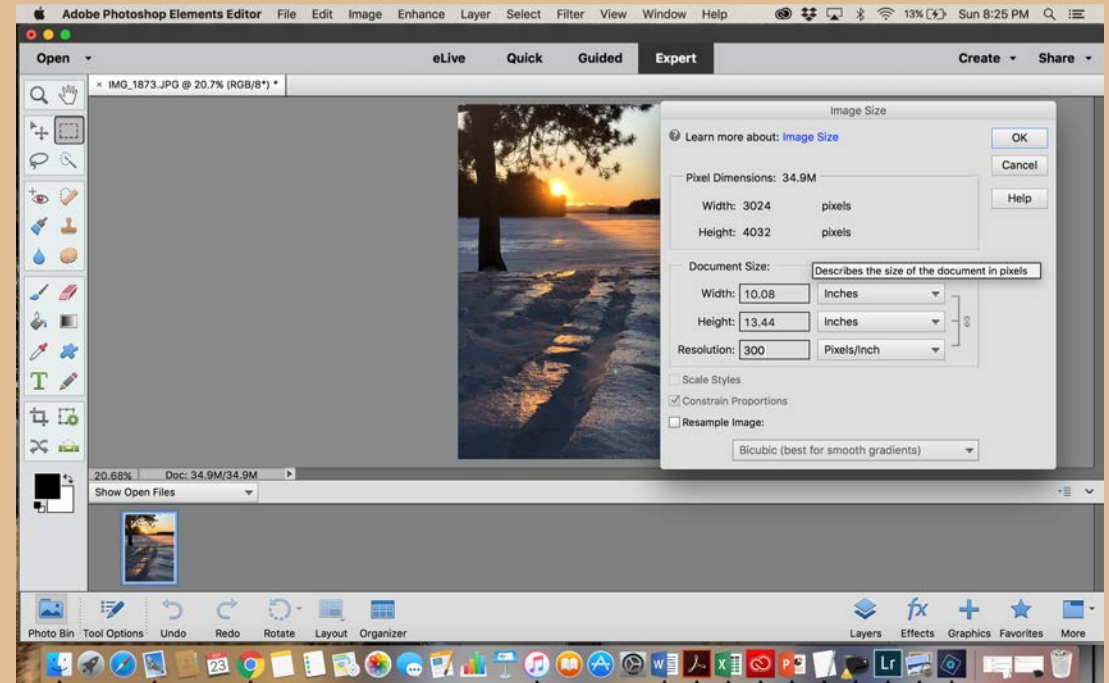
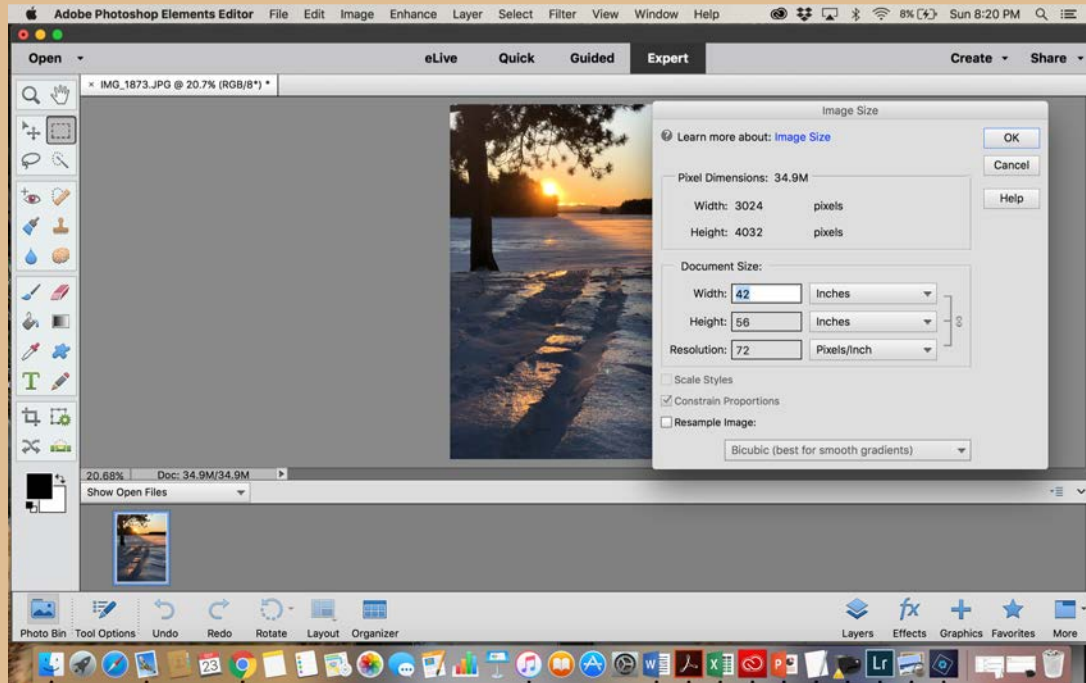
In Photoshop – explore the current size & then make your choices



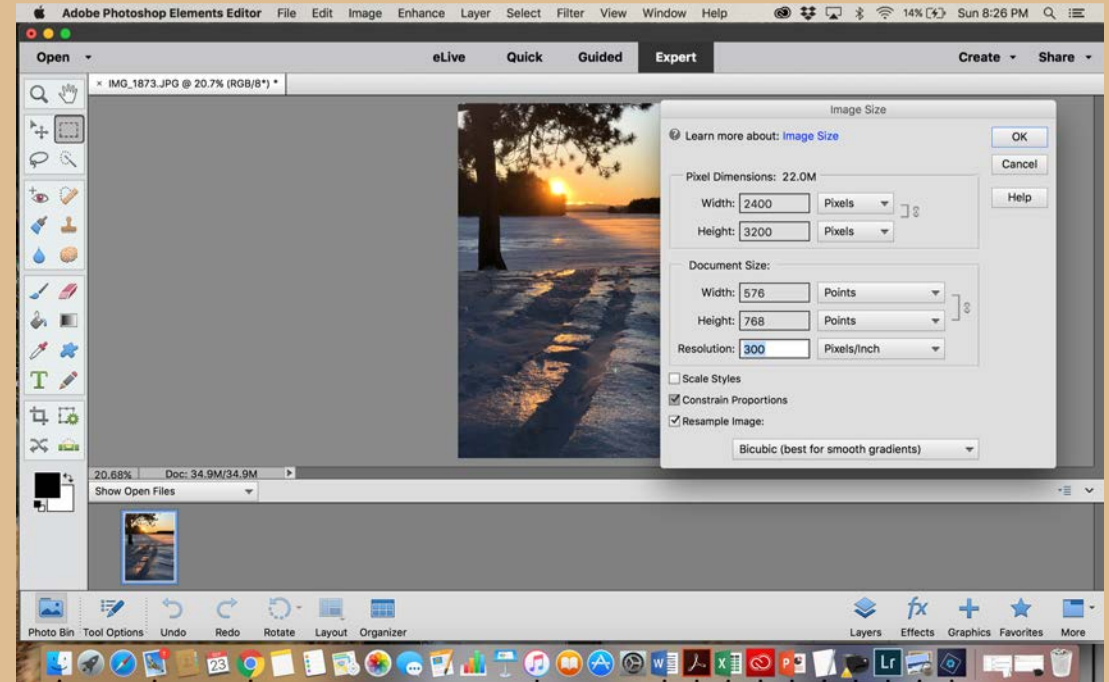
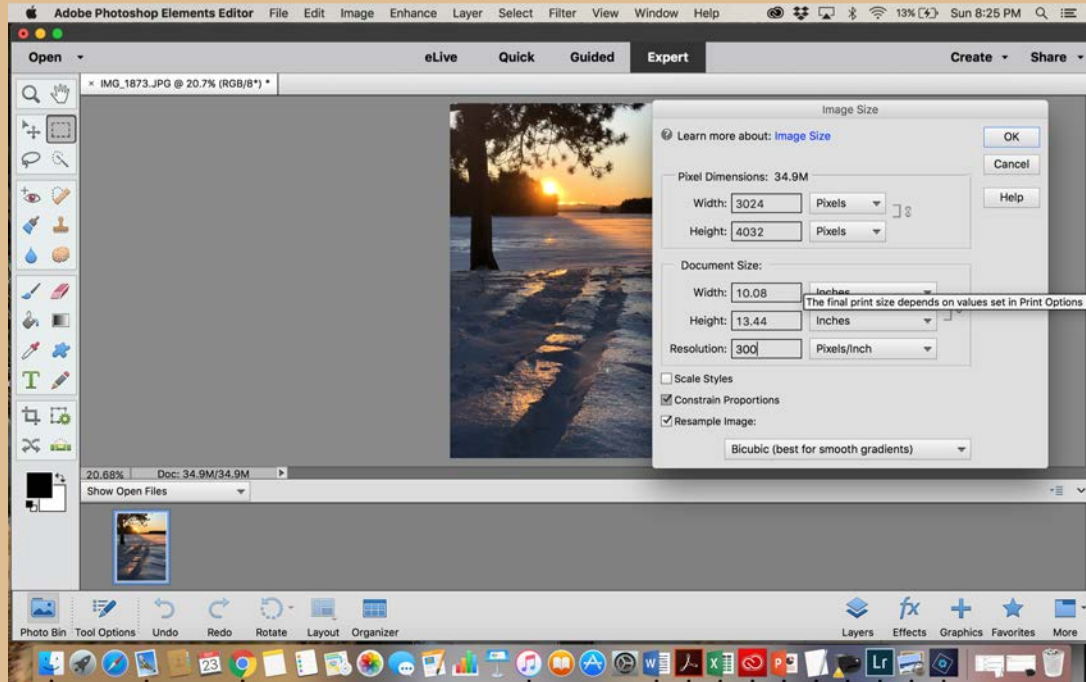
PHOTOSHOP ELEMENTS - I find Photoshop Elements to be the hardest to use. But here are the directions



PHOTOSHOP ELEMENTS –



PHOTOSHOP ELEMENTS



Resizing images

File Size vs pixel count





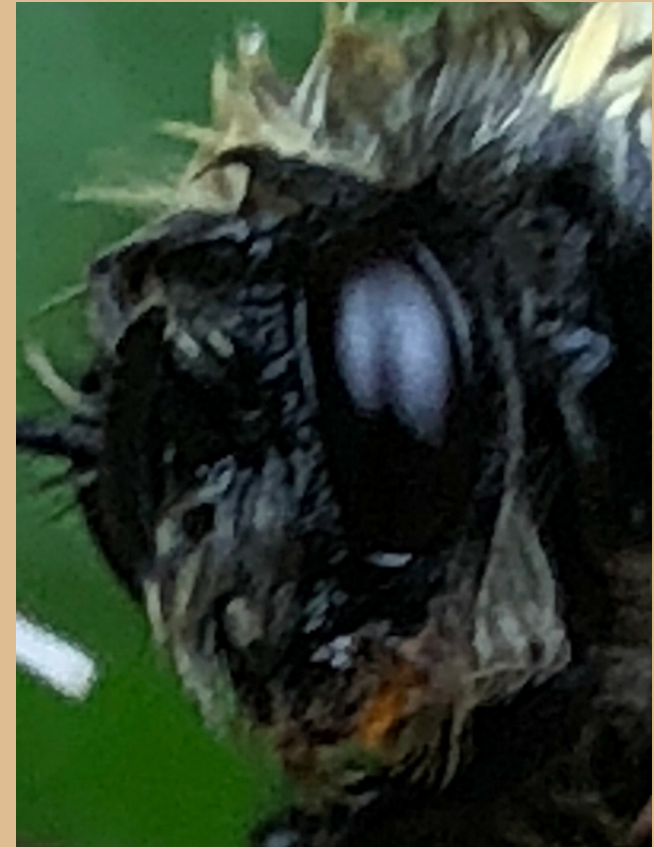
The case of the
wet bumblebee -
original file size 3.4 MB
2301 x 3141 pixels

What does FILE SIZE mean?

There are 1000 KB's in 1 (MB) Megabyte

- Most contests require file sizes between 1.5 MB and 5MB.
- Smaller file sizes lack the pixel count per inch necessary to show enough detail in your image.
- To get the file size multiply the W & H pixels by the specified resolution and bit depth
- Here is a good explanation <http://shutha.org/node/796>
- Here is a calculator <http://jan.ucc.nau.edu/lrm22/pixels2bytes/calculator.htm>

File size 258 KB 576w x 768h pixels



Here is the same image in two file sizes

Image is 1362 pixels w x 1101 pixels h at 72 pixels per inch (ppi)

File size 442 KB a very small file with pixels farther apart so to make the image seem clearer it can only be reproduced in a tiny size



1362 pixels w x 1101pixels h at 300 ppi file

size 1.9 MB (a larger file size with pixels closer together)



Resizing images

Constrain proportion

<https://www.photoshopessentials.com/essentials/resizing-vs-resampling/>



Here is what happens if the proportions are not constrained – your image gets distorted!



Resizing images

Aspect ratio

4:3 – normal for computer screen viewing

16:9 – better for big TV's etc.



- <https://www.aspectratiocalculator.com/4-3.html>
- <https://calculateaspectratio.com/>



**I hope this drop
in the bucket
helps!**

**Thank you for attending
this workshop Arabella
Dane**