The Basics: -

Topic: –HOW TO RESIZE AN IMAGE

It is possible to resize an image to make it larger or smaller in PhotoShop & Elements. But this may involve a process called Resampling. Resampling is the process of adding pixels or removing pixels from the original image Pixel Dimensions (*number of actual pixels used to make the image*). It is considered acceptable to Resample Down (make the Pixels Dimensions smaller, fewer pixels) but it is considered less desirable to Resample Up (*add new pixels that do not exist –effectively creating them out of thin air*) and will generally lead to image pixels becoming softer/blurred. PhotoShop/Elements has to make up pixels when you Resample Up. New added pixels are created based on similar pixels from with in the current image, and necessary in order to make the image larger. So don't resample up if possible.

Ready to put your head into real a spin: You may need to play around with this to fully understand it.

To DECREASE the printable size of the image without resorting to Resampling Down.

1. To decrease the print size *(make a smaller print*) without down-sampling choose **Image>Image Resize** (*Photoshop*) **Image>Resize>Image Size** (*Elements*) from the **Image** menu.

2. Make sure that the **Resample Image** option, found at the bottom of the Image Size dialog box, is not selected. If there is a tick in the entry box simply click to remove it. The check box must be empty. Check that the **Constrains Proportions** option is ticked. This option when checked maintains the image aspect ratio.

3. You will notice that the **Pixel Dimension** section has dimmed and is now unavailable to use as a consequence of switching off the resample option. Not one pixel will now be lost.

4. Now under Document Size enter a **smaller** value in either the Width or Height entry box. The other will automatically change as they are linked. Click OK.

5. The actual file size (*number of pixels is unchanged*) remains the same but the **image resolution** has increased. This means that the same number of pixels are now packed into a smaller area at a higher image resolution (*with apparent finer print detail*).

To INCREASE the printable size of the image without resorting to Resampling Up.

1. To increase the print size (*make a larger print*) without up-sampling choose **Image>Image Resize** (*Photoshop*) **Image>Resize>Image Size** (*Elements*) from the **Image** menu.

2. Make sure the **Resample Image** option, found at the bottom of the Image Size dialog box, is not selected. If there is a tick in the entry box simply click to remove it. The check box must be empty. Check the **Constrains Proportions** option is ticked. This option when checked maintains the image aspect ratio.

3. You will notice that the **Pixel Dimension** section has dimmed and is now unavailable for use as a consequence of switching off the resample option. Not one pixel will now be lost.

4. Now under Document Size enter a larger value in either the Width or Height entry box. The other will automatically change as they are linked. Click OK.

5. The actual file size or number of pixels is unchanged but the image resolution has decreased. This means that the same number of pixels are now packed into a larger area but at a **lower resolution**. Be aware for photo realistic printouts keep between 200 -300 ppi resolution.

Resampling Up and Resampling Down by adding or discarding pixels:

If it is ever found necessary to change the actual number of pixels that make up the image (*the Pixel Dimensions*) then you will need to resort to what is called Resampling. As mentioned Resampling Down (*down sampling*) is considered acceptable but Resampling Up (*up sampling*) less so and must be kept to a minimum before damage or image degradation can occur. Upsampling 1.5 or 2 times is considered tolerable and should not cause image pixels to soften. Beyond that amount of Upsampling it is more or less guaranteed to cause image degradation. So keep Up Sampling to a minimum.

Resampling Down means that the number of actual pixels that currently make up the image will be reduced or thrown away. Effectively this simply involves discarding or throwing away pixels. When might you use resampling down. It may be necessary to resample down if the image is going to be used on the web where you want a smaller image dimensional size and file size to download more quickly. However, it's common practice to save a 'master copy', in PhotoShop's PSD file format, that retains the maximum pixel information. You can then use this master file to at anytime to create a variation of file size or use options.

To DECREASE the Image Pixel Dimensions (change number of usable pixels) by Resampling Down – To make the image size and resolution smaller but keep the same printable size.

1. From the **Image** menu select **Image>Image Resize** (*Photoshop*) **Image>Resize>Image Size** (*Elements*) from the **Image** menu.

2. Make sure that both the **Resample Image** and **Constrains Proportions** boxes are checked.

3. Now enter a reduced value in the resolution entry box. Under **Pixel Dimensions**: the file size and pixel count (*number of pixels*) will decrease, but under **Document Size**: the Width and Height has not changed.

4. The file size (file size in Kb/Mb) will go down and the number of pixels used will reduce. The actual size of the Print (*under Document Size*) will remain the same but with a lower resolution. You will have fewer pixels in the same image area of your print.

5. **TIP**: To reduce the actual Print Size but keep the same resolution make sure the **Resample Image** and **Constrains Proportions** boxes are ticked and then under the Document Size section enter a lower value in either the **Width** or **Height** entry box. Click OK. Print and File size will reduce but image resolution is unchanged.

To INCREASE the Image Pixel Dimensions (change number of usable pixels) by Resampling Up – To make the image size and resolution larger and keep the same printable size.

1. From the **Image** menu select **Image>Image Resize** (*Photoshop*) **Image>Resize>Image Size** (*Elements*) from the **Image** menu..

2. Make sure that both the **Resample Image** and **Constrains Proportions** boxes are checked.

3. Enter a higher value in the Resolution box. Under **Pixel Dimensions**: the File size and pixel count (*number of usable pixels*) will increase, but under **Document Size**: the Width and Height has not changed. The size of the print from the printer tray will be the same.

4. To **INCREASE** the actual Print Size but keep the same resolution make sure that both the **Resample Image** and **Constrains Proportions** boxes are checked and then enter a higher value in the Document Size: Width or Height entry boxes. Click OK.

5. The print size goes up. The actual file size and pixel count has also gone up but the resolution remains unchanged.