

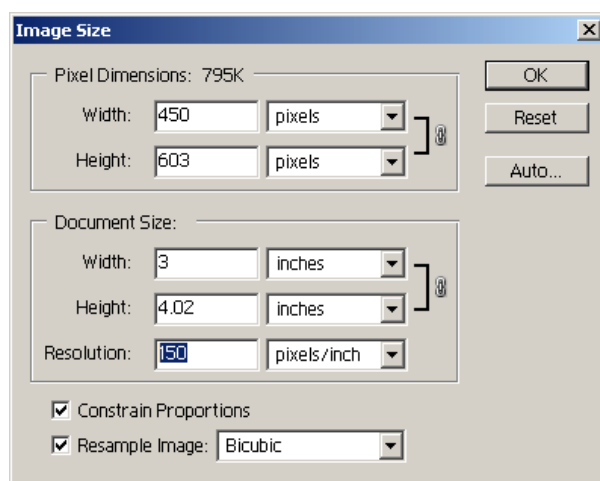
Working with Images in PowerPoint

Images are a natural part of the visual content/information that can enhance a PowerPoint presentation. We all know that! However, these same images are a major part of the problem of managing the accumulated file size of a visual-rich PowerPoint presentation. Normally images take up a significant amount of memory. Even an image that is only a quarter of the size of the “slide” will probably be half a megabyte (500k) or more. One of the best ways of dealing with this problem is to use *compressed image file types*. The most common of these file types are JPEGs (JPGs) and GIFs. Both of these types greatly reduce the “k” (“kilobyte”) size of an image; generally without affecting the quality of the resulting image ... that is, unless the user has sacrificed the quality of these file types by over compressing. This leads to some minimum guidelines that can aid the user as to which file type to use and how much to compress these images. The other part of this equation is the physical size of the images used. I will address this issue first.

The physical size of an **onscreen** PowerPoint slide is ten inches wide by seven and a half inches high (10" x 7.5"). This is the first indicator to the user as how to constrain memory as it relates to images and their physical size. You do not want to use an existing image that is larger than the size you want it to be in the final slide layout, even though you can easily resize **down** the image in PowerPoint (use the corner handles on the highlighted image and drag into the center of the image). The reason for this is that even though the image is smaller in the slide it still possesses the same amount of k-memory. *NOTE:* You should **NEVER** scale an image larger than 100% because the quality of the stretched image will quickly degrade, making the visual information more distracting than beneficial. **NO image** is better than a **BAD image**. Therefore, if you are scanning images for visual content scale the images during the scanning process to the size you want them to be on your slide.

As a rule of thumb I scan all of my images at the maximum height and width that I want (and only what I want, *remember to crop*) to use them in the presentation and at 150 dpi/ppi (dots per inch/pixels per inch) and save them as a TIFF (TIF). This rule adds a

couple more ingredients to the mix: DPI/PPI and the uncompressed file type, TIF. Most PowerPoint presentations are viewed on a computer monitor or through a video projection device on a screen. The highest resolution needed for either of these presentation modes is 72 dpi/ppi. Now that I have stated this, why do I scan my images more than twice the 72 dpi/ppi and save as an uncompressed file type? The main reason is that I use *Photoshop* whenever I work with images. At the right is Photoshop's Image Size dialog box (**Image/Image**



Size). I can change the physical size and the resolution from this menu. However, depending on the image, I may leave the dpi/ppi at 150 or I may change it to 72. This is dependent on how much detail I want the image to communicate. A scan of a diagram may need this level of detail (150 dpi/ppi) but a scan of a famous person related to my topic may not need all that detail (72 dpi/ppi) as long as the image communicates the information and does not detract. Humans are very conscious of visual quality. When I scan, I am digitizing as much of the visual information of the “image” as I need and then I refine it in Photoshop so it will be the best image for the least amount of memory. **I DO NOT** compress the “raw” image from the scanner because in the act of compressing, I am removing information from the image and I will do that later in Photoshop, and therefore removing information only once! When you compress a compressed file, it throws out even more information and further degrades the image. The first compression, if compressed at the recommended quality, is virtually unnoticeable! However, the more times you compress a compressed file the more unusable it becomes ... and again, **NO image** is better than a **BAD image!**

Now, I will address the role of compressed file types. Again, the two common file types are JPGs and GIFs. In PowerPoint, I use JPGs almost exclusively unless I am taking advantage of the GIFs capability of transparency, which I will address later. The nature of a JPG is that it can display millions of colors, therefore anything photographic will look best in this file type. In addition, JPG compression is very efficient compression. It can reduce an image file size down a significant amount without affecting the look of the resulting image. In the process of saving an image as a JPG, the user must determine the

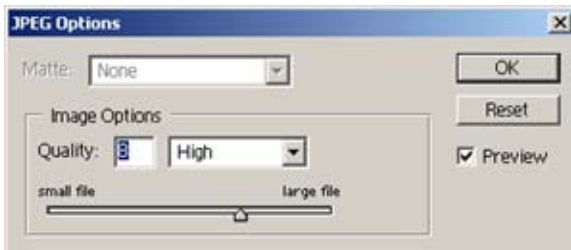
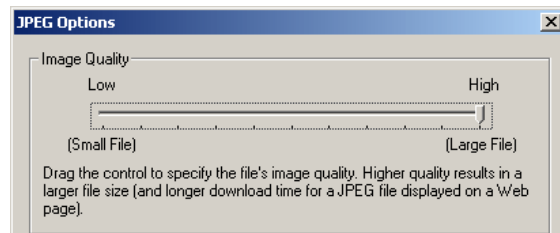
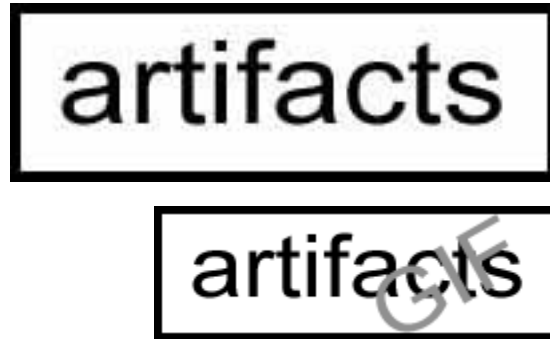


image quality to file size ratio. The higher the quality, the larger the file size ... the smaller the file size, the lower the image quality. In Photoshop, these options are based on a 0-12 quality slider scale. For images in PowerPoint, I use a high quality setting of eight (see *JPEG Options dialog box, left*).

When I got my new scanner, I was happy to see that I could save a compressed file directly out of the scanner. I thought being able to scan and save the image right to a JPG was going to be a time saver, but I have not been overly impressed with the resulting images. If I wanted to use an image, directly from my scanner (*which I never do*) I could use the 72 dpi setting (75 dpi on my scanner) and in the JPEG Options dialog box, I would use the highest quality setting. My scanner has a Low to High scale (see *right*). After testing several of these JPGs, those saved at a lower setting were surprising poor quality, not at all what I expected. Therefore, I still go through the 150 dpi/ppi/TIF mode and take them into Photoshop. By following this method I have more control of the image.



GIF files are a little different to work with in PowerPoint. The nature of a GIF is that it has a constrained color palette. Whereas JPGs can display millions of colors, GIFs are restricted to a color palette of 256 *or less* (indexed) colors, and this fact is part of GIF's compression. GIFs work better for images that contain text and have a limited range of color. Therefore, if I had a diagram that consisted of line work and text I could save this file as a GIF in Photoshop. The text and line work would look cleaner than if it was saved as a JPG. This is due to the nature of JPG compression and a visual byproduct that results, JPG *artifacts*, which are blocky patterns at the edges of text and on curved areas of higher contrast, *see the example right*.



The top image is a JPG. Notice the visual “noise” associated with the artifacts. The bottom image is the same image saved as a GIF.

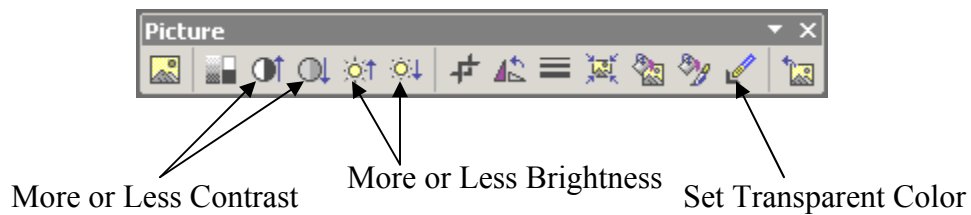
One problem arises, though, if I wanted to use this image at 150 dpi/ppi and save it as a GIF, to preserve image quality, as I will sometimes with a JPG. When I insert this higher resolution GIF image into a PowerPoint slide the resulting image appears on my slide over twice the physical size, unlike the JPG that would insert at the expected size. GIFs strictly conform to the 72 dpi/ppi mode, therefore to fit in the 72 dpi/ppi world of PowerPoint a GIF fills up those 72 pixels per inch by stretching it out. In order to use this image in the presentation I would have to scale it down to fit within the slide, which seems to defeat the purpose of having it at a higher resolution (dpi/ppi). Moreover, when I do scale it down I do not notice it displaying the image with any better quality. Therefore, when I use the GIF file format ... I stick to the 72 dpi/ppi resolution as a rule.

The most common reason I use the GIF file format is if I want to display my image as a freeform object as opposed to the rectangular nature of digital images. For example, if I want to use the Excellence seal in my presentation on a graduated colored background I will have to make the outside of the seal transparent. The easiest way to do this is to open this file in Photoshop and select the outside area with the Magic Wand tool. Then, in the **Help** area of the upper menu bar I would select the **Export Transparent Image...** option. This will bring up a wizard that will walk the user through changing the file into a transparent GIF. The highlights of the options in this wizard are; I have selected the part of the image I want made transparent, it is for online use, I want to save it as a GIF, I want the palette to be local adaptive, and Dither: None. When I insert this file into the slide, I should see only the round seal.

The last concern that I will address is digital photos. If you are taking the images yourself, I recommend that you always adjust the camera's setting to the largest image size and the highest resolution. You can always size down the image in Photoshop, but you can never successfully enlarge a smaller, lower resolution file. Commonly, most digital photos are saved in a compressed file format, usually JPG. Remember if you plan to take these digital photographs into Photoshop (or some other graphics software) for further

manipulation and recompress them as a JPG, this will remove more digital information. Be careful! However, going from that large image to a smaller more slide size friendly image may even improve the look of the “photo” even though you are resaving it as a JPG again.

One last thing that can help the appearance of your images in PowerPoint is a PowerPoint feature itself. When you click on an image, a Picture toolbar should appear. *(If you have “x”ed it out previously it won’t appear when you click on an image so you will have to go to the **View/Toolbars/Picture** and now the toolbar will appear. When you click off the image, the toolbar will disappear!)* This toolbar has several areas for improving the look of you image. You can add or remove contrast and brightness. You can even make one color in the image transparent.



Minimums for Images in PowerPoint

- Use appropriately sized images
 - Onscreen slide size = 10 x 7.5 inches
- When scanning
 - 150 dpi
 - Save as a TIF for “raw” file
 - Manipulate in Photoshop
- Use compressed files
 - JPG
 - GIF
- Resolution
 - 72 dpi/ppi
 - 150 dpi/ppi for more detail