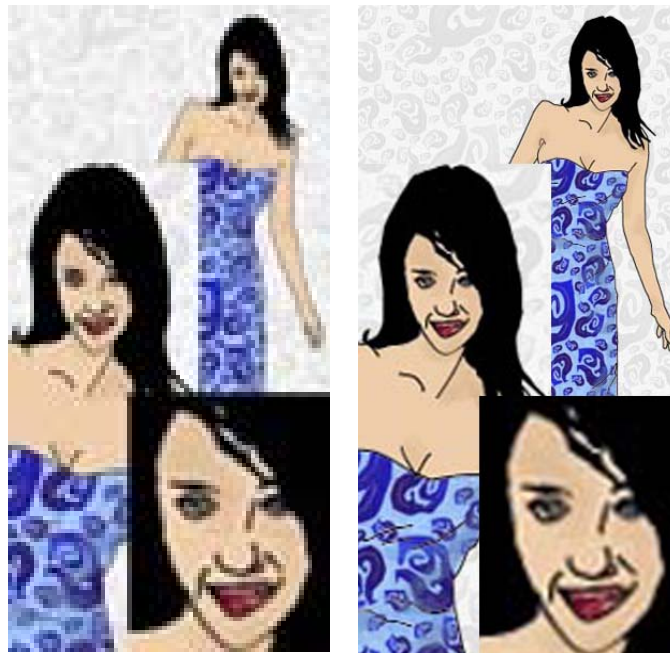


RESOLUTION

Image resolution

The number of pixels displayed per unit of printed length in an image, usually measured in pixels per inch (ppi). In Photoshop, you can change the resolution of an image.

In Photoshop, image resolution and pixel dimensions are interdependent. The amount of detail in an image depends on its pixel dimensions, while the image resolution controls how much space the pixels are printed over. For example, you can modify an image's resolution without changing the actual pixel data in the image--all you change is the printed size of the image. However, if you want to maintain the same output dimensions, changing the image's resolution requires a change in the total number of pixels.



72-ppi and 300-ppi images; inset zooms 200% & 400%

When printed, an image with a high resolution contains more, and therefore smaller, pixels than an image with a low resolution. For example, a 1-by-1-inch image with a resolution of 72 ppi contains a total of 5184 pixels (72 pixels wide x 72 pixels high = 5184). The same 1-by-1-inch image with a resolution of 300 ppi contains a total of 90,000 pixels. Higher-resolution images usually reproduce more detail and subtler color transitions than lower-resolution images. However, increasing the resolution of a low-resolution image only spreads the original pixel information across a greater number of pixels; it rarely improves image quality.

Using too low a resolution for a printed image results in *pixelation*--output with large, coarse-looking pixels. Using too high a resolution (pixels smaller than the output device can produce)

increases the file size and slows the printing of the image; furthermore, the device will be unable to reproduce the extra detail provided by the higher resolution image.

File size

The digital size of an image, measured in kilobytes (K), megabytes (MB), or gigabytes (GB). File size is proportional to the pixel dimensions of the image. Images with more pixels may produce more detail at a given printed size, but they require more disk space to store and may be slower to edit and print. For instance, a 1-by-1-inch, 200-ppi image contains four times as many pixels as a 1-by-1-inch, 100-ppi image and so has four times the file size. Image resolution thus becomes a compromise between image quality (capturing all the data you need) and file size.

Another factor that affects file size is file format--due to varying compression methods used by GIF, JPEG, and PNG file formats, file sizes can vary considerably for the same pixel dimensions.

Recommended Resolutions

For Web and PowerPoint images: low resolution 72dpi (dots per inch)

For Portfolio Layouts and/or Pre Press Printing: 300 dpi

For Textile Fabrics 240 - 300 dpi