

Digital Zoom vs Optical Zoom

Manufacturers love to claim that their camera has a large zoom capability by combining digital zoom with optical zoom. For the most part, digital zoom is like cropping down a photograph where optical zoom is actual magnification of an image.

A camera that boasts 7x zoom (like mine) uses 3x optical zoom plus 4x digital zoom. Sounds great but the results are usually full of noise from the resolution loss. 4x digital zoom means you are discarding 3/4 of your image in favor of the remaining 1/4. You as the photographer can avoid this issue by 1) stepping closer to your subject and 2) carefully composing the shot before you release the shutter or by selecting the proper equipment for the job.

In almost every case optical zoom is preferred over digital zoom as higher resolution translates to better prints.

Resolution

Refers to the sharpness and clarity of an image. The term is most often used to describe monitors, printers, and bit-mapped graphic images. In the case of dot-matrix and laser printers, the resolution indicates the number of dots per inch. For example, a 300-dpi (dots per inch) printer is one that is capable of printing 300 distinct dots in a line 1 inch long. This means it can print 90,000 dots per square inch. For graphics monitors, the screen resolution signifies the number of dots (pixels) on the entire screen. For example, a 640-by-480 pixel screen is capable of displaying 640 distinct dots on each of 480 lines, or about 300,000 pixels. This translates into different dpi measurements depending on the size of the screen. For example, a 15-inch

Your Point of View

Because you are the person holding the camera you get to decide how to compose the shot! Not all photos are taken at eye level with the camera in landscape. Learn to change your point of view. Rather than photograph the kids from a normal standing position....bend down to their level and get a new perspective. Turn the camera on it's side to take advantage of a portrait perspective to add interest to your pictures.



Digital zoom crops the image file and enlarges the result at the expense of resolution.



6x4.5 @ 300 dpi



4.5x6 @ 72 dpi



6x4.5 @ 300 dpi with 120mm



6x4.5 @ 300 dpi with 50mm

Optical zoom crops the image to the file without loss to resolution.

VGA monitor (640x480) displays about 50 dots per inch. Printers, monitors, scanners, and other I/O devices are often classified as high resolution, medium resolution, or low resolution. The actual resolution ranges for each of these grades is constantly shifting as the technology improves.