Megapixels

In this lesson, we'll be taking a look at
Megapixels.

Estimated Completion Time: **5 minutes.**

Megapixels

Digital cameras all have a ***megapixel*** value. This value determines the resolution of the photographs that camera will take.

It is also probably the most misleading of information in determining the quality of a camera. Megapixels (size of photograph), while it has advantages, does not equal quality.

In this photograph, which is 3,888 pixels x 2,592 pixels, this equals 10,077,696 pixels in total - or approximately 10 megapixels.

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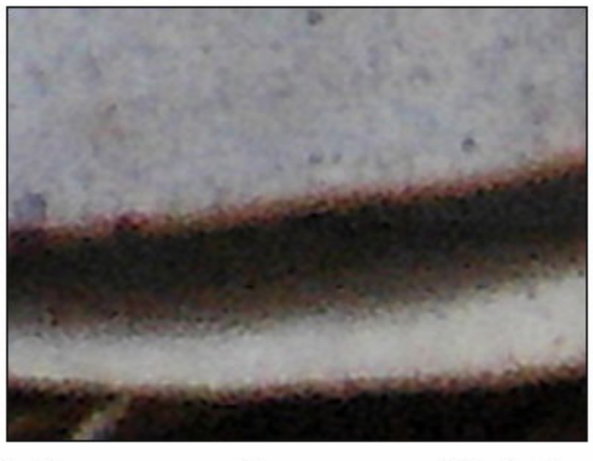
Inside every digital camera is a sensor called a ***CCD*.** The CCD is made up of pixels, and the number of pixels on the CCD determines the megapixel value.

Here's the rub. The larger the CCD is, the larger each pixel is, and the better quality photos it can take. Less noise, better low light photos with greater color range.

The problem is that you are unlikely to find out the size of a CCD unless you really do some research. It is not one of those values you find on the box or in the brochures.



The smaller the CCD, the more noise you are likely to see in a photograph.

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This is *one*, but one quite important, reason why more expensive SLR type digital cameras can take better photographs than smaller, inexpensive digital cameras. Even when both have the same megapixel rating. Larger CCDs cost more money - and so do the cameras.

Additionally, the smaller the camera, the harder it is to fit in a large CCD device - which is one of the reasons the more expensive cameras tend to be larger, as well.

Bigger CCDs - not necessarily big megapixel values - equal low noise, great colour, and sharp images.

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Quite often you'll hear something like - '*if you are only looking at photos on screen, or only printing to A4 size, then you only need a 6 megapixel, 8 megapixels, etc. camera*'. This is not *quite* true.

Let's assume you never intend to print a photo in your life. Perhaps only load them onto Facebook, or Flickr, where they display at something like 800 x 600 pixels, rather than the maybe 4000 x 3000 pixels you took the photo at.

These are not wasted pixels! The more pixels in your original photo, the more you have to play with. The more flexibility you have. The more noise reduction you'll be able to perform. Having the ability to be able to resize, or crop *large* images will give you much better *smaller* images.

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Here is a perfect example. On the left, the raw shot as taken by the camera. But, because this was a 10 megapixel camera, it is quite easy to crop out unwanted areas, which in effect zooms in on the area of interest.

The lower megapixels you have, the harder it will be to maintain quality as you crop.

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Another important factor in camera quality is the size of the lens. Smaller, compact cameras have to have small lenses to fit onto the camera. However, these lenses can let in only so much light - and quite simply, cannot match the sharpness, aperture, and quality of the larger lenses, found in digital SLR cameras, for example. (Note that this is a fairly simplistic explanation, and assumes a good quality larger lens).

Both of these are digital camera lenses - but the one on the right is from a larger, SLR type camera. A lens this size can let in more light - and, generally, will take better photographs, with less noise, and have a wider aperture range.

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If you are selecting a new camera, one thing to do is have a look on the Internet to find some sample photos of the camera you like. Take a good look at them, particularly those ones that appear to be of action, or taken in low light.

Search the net for your desired camera model, download some sample photos, and zoom in - the less noise, the better.

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There are other features a camera will have that will help you get better shots - and we talk about some of those presently. Does the camera have face detection? Smile detection? Will it allow time lapse, or remote photography? Can it capture movies in HD format? What are the optical zoom settings? Does it allow burst shooting? What is the fastest shutter speed available?

All these things, and more, are valid things to look at when looking at the quality of the photographs you'll be able to take with a particular camera.

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You've now completed this lesson.

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