Academic Innovation and Distance Education

Overview

From last week's lesson, we know that an image is made up of pixels. The more pixels in the image, the more detail in the image. The number of pixels in an image is called its **resolution**. In this course, we want to take pictures that have high resolution. You will need to understand a few things and then set your camera to take high-resolution images.

Resolution

One of the main ways that manufacturers categorize their digital cameras is in terms of resolution. If you have a 4 Megapixel camera,that means that your camera can make an images that contains roughly 4 million pixels. Today, this number varies between 1 million (1 Megapixel) to around 21.1 million (21.1 Megapixels). Megapixel is abbreviated to MP. Currently most popular consumer digital cameras have between 5MP and 8MP. A 3MP camera can make excellent 4"x6" prints and very good 5"x7" prints. If you intend to make lots of 8"x10" prints, then perhaps a 5MP or 8MP camera would be a better choice. You can adjust the size of the image from your camera's menu. But first, there are some standard resolutions that you will need to know.

Any time we look at an image on a computer screen or on the internet, we are looking at an image that has a resolution of 72 **pixels per inch (ppi)**. This is because computer monitors display information at 72 pixels per inch. Although it may look good on screen, when you print it, your image won't look so great. You will see the pixels and it won't be sharp. When we talk about images that are 72 ppi, we talk about them in terms of being **low resolution.** If you want to print an image and you want it to look sharp and crisp, you will need a resolution of at least 150 pixels per inch. If you plan on making fine art, gallery prints, you will need a resolution of 300 pixels per inch. 300 ppi or higher is generally referred to as **high resolution**.

Images with high resolution definitely have their benefits. They print beautifully and you can make large prints from them. But they also have a disadvantage. Because they are made up of many thousands or millions of pixels, they take up a lot of storage space in your camera, and when you download them, a lot of space on your computer. The following page contains a table that explains the relationship between resolution and file size.

Low Resolution Image	72 ppi	Good for web or viewing on computer screen	Small files, does not take up too much space in camera or computer
Medium Resolution Image	150 ppi	Can make a decent print	Medium-sized files, takes up some space in camera or computer
High Resolution Image	300 ppi	High-quality, gallery print	Large files, takes up a lot of space in camera or computer

These are the standards. Let's exaggerate these numbers and look at some pictures with really low resolutions. On the following page, there are three images, each with the same dimensions, but with different resolutions. Each image is roughly 5.25 inches across. Look at what happens when you decrease the resolution.