

Digital Shutterbug SIG #1 of 5

A digital camera has an electronic [sensor](#) that is photosensitive. Images are captured on the sensor, not film. Photos are then stored on a [memory card](#), and can be reviewed right after they are taken and can be easily transferred to a computer for viewing, editing, sending by email and [printing](#).

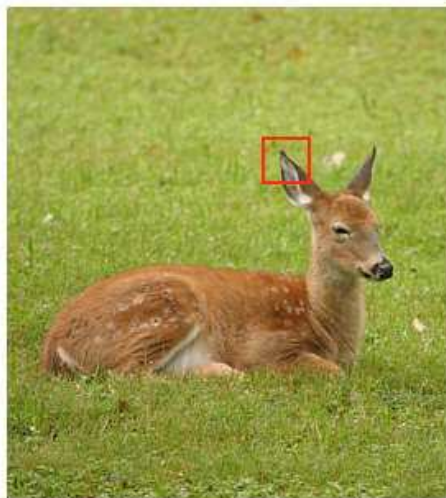
One of the advantages of digital photography is expediency. Review images right after they are taken on a [LCD screen](#). If you don't like a shot, delete it from the [memory card](#) and take another one immediately. Later, save & print only the photos you like.

With [image editing software](#) you can improve the [quality of photos](#) in your own digital darkroom. When using a [photo quality printer](#), digital cameras produce prints that rival those taken with a film camera.

In addition to printing, you can upload images from a computer to a website, [blog](#) or [photo hosting site](#). Online photo finishers will process the images and mail prints right to your front door. Many of these sites provide free online albums where you can store and share photos with others.

Resolution

Digital images are made up of small squares, just like a tile mosaic on your kitchen or bathroom wall. The amount of detail that the camera can capture is called the resolution, and it is measured in pixels. The more mega pixels your camera has, the more detail it can capture. The more detail you have the more you can blow up a picture before it



becomes "grainy" and starts to look out-of-focus. .

**Pixels do not determine the quality of the image; they determine how big the image is.*

- **256x256 pixels**
- You find this resolution on very cheap

cameras. This resolution is so low that the picture quality is almost always unacceptable. This is 65,000 total pixels.

- **640x480 pixels** - This is the low end on most "real" cameras. This resolution is great if you plan to e-mail most of your pictures to friends or post them on a Web site. This is 307,000 total pixels.
- **1216x912 pixels** - If you are planning to print your images, this is a good resolution. This is a "megapixel" image size -- 1,109,000 total pixels.
- **1600x1200 pixels** - This is "high resolution." Images taken with this resolution can be printed in larger sizes, such as 8x10 inches, with good results. This is almost 2 million total pixels. You can find cameras today with up to 10.2 million pixels.

The Mega Pixel

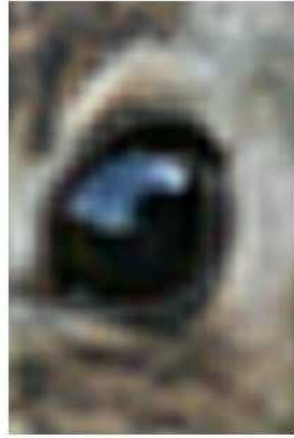
A mega pixel is one million pixels. Each pixel is a tiny colored dot of data. Your picture is created by putting many pixels together. The more mega pixels in your photograph the higher the quality is. More available mega pixels will also increase the price of the camera.



Original



10x Optical



10x Digital

Optical and Digital Lens'

Zoom allows you to capture images from a distance.

The higher the magnification number the closer the object appears.

The lens telescopically brings the object to you so you don't have to get up close and personal with the crocodiles at the zoo!

Just because your camera is digital doesn't mean your zoom lens should be! There's a difference between optical and digital zoom: Optical zoom is a *true* optical magnification of the subject being photographed. Digital zoom is digital cropping of the image file that might result in some degree of reduced image quality. If you see combined zoom, then the advertiser is combining both the optical and digital.

A digital zoom is **not a true zoom**. It is a simulated zoom that enlarges the central portion of an image. The actual length of the lens does not change. A digital zoom pre-crops the center area of an image. Resolution is reduced, giving the appearance of zooming in. It is similar cropping with photo editing software. *A digital camera may have an option to turn off the digital zoom.*



Storage Media Types

Digital photographs are usually stored on small, reusable media cards that are inserted into your camera. The larger the capacity of the storage card the more photos can be saved on it. Consider these storage devices as reusable film. Once you fill it up you have to either transfer the images to another location (computer) or insert another storage device (a spare memory card). The different types of Flash memory devices are not interchangeable. Each of the Flash memory devices also needs some sort of caddy or card reader in order to transfer the data.

- 🔗 2 megapixel cameras - get at least a 64MB card
- 🔗 3 megapixel camera - get at least a 128MB card
- 🔗 4 megapixel camera - get at least a 256MB card
- 🔗 5 megapixel camera and above - get at least a 512MB or 1GB card

There are several types of storage available for digital cameras:

- ☞ **SmartMedia cards** – smart media cards are small Flash memory modules.
- ☞ **CompactFlash** –compact flash cards are another form of Flash memory, similar to but slightly larger than SmartMedia cards.
- ☞ **Memory Stick** – A Memory Stick is a proprietary form of Flash memory used by Sony.
- ☞ **Floppy disk** - Some cameras store images directly onto floppy disks.
- ☞ **Hard disk** - Some higher-end cameras use small built-in hard disks for image storage.
- ☞ **Writeable CD and DVD** - Some of the newest cameras have built-in writeable CD drives.

How much storage do you need? If you always have a transfer method readily available then you won't need a large card. But, if you will be on a vacation or at an event where you will be taking several photos then you would want a large 128 MB or better card- possibly even two. A 128-MB Flash memory card, for instance, could store more than 1,400 small compressed images or 21 of the uncompressed 1600x1200 images. If you will be taking pictures at a high resolution a large card would be the only way to go.

Transferring photos from camera to computer



To transfer the pictures you can either connect a cable from the camera directly to the computer, or you can connect a USB card reader/writer to any of the computer's USB ports. Many new printers have card readers built-in. Some cameras come with a cradle so there is no need to plug in cables every time you wish to download or recharge your cameras. Some recent camera models come with the ability to connect via a wireless connection.

Lag Time

The CCD (Charge Coupled Device) is the central processing unit of the digital camera. The CCD is a collection of tiny light-sensitive diodes, which convert photons (light) into electrons (electrical charge). An analog-to-digital converter then turns each pixel's value into a digital value. Cycle Time is the time needed for the CCD to convert the light to data so the camera becomes ready to take another photo.

Maybe buy spares, just in case?

Digital cameras, especially those that use a CCD sensor and an LCD display, tend to use lots of power -- which means they use up batteries quickly. You may want to get rechargeable batteries or an AC power adapter if you plan to use your camera frequently. Just an afternoon at a wedding or a morning at the zoo can eat up a set of batteries.

Take the Owner's Manual out of the wrapper and read it finally!

Find your owner's manual and read it cover to cover. As you go through your manual, have your camera ready and confirm where each feature is located, or confirm how to find it on the camera's built-in screen menu. Try to find how to access the following feature settings:

- Date/time
- Date/time display on photos
- Disable the optical zoom
- Set the resolution to the highest value

Changing the Resolution and Compression

Available in the following modes.



You can change the resolution and compression (excluding movies) settings to suit the purpose of the image you are about to shoot.

Resolution		Purpose	
L (Large)	2272 x 1704 pixels	High	<ul style="list-style-type: none"> • Print up to A4 size* 210 x 297 mm (8.3 x 11.7 in.) prints • Print up to Letter size* 216 x 279 mm (8.5 x 11 in.) prints
M1 (Medium 1)	1600 x 1200 pixels	↑ ↓	<ul style="list-style-type: none"> • Print postcard size 148 x 100 mm (6 x 4 in.) prints • Print L-size 119 x 89 mm (4.7 x 3.5 in.) prints
M2 (Medium 2)	1024 x 768 pixels		<ul style="list-style-type: none"> • Print card size 86 x 54 mm (3.4 x 2.1 in.) prints
S (Small)	640 x 480 pixels	Low	<ul style="list-style-type: none"> • Send images as e-mail attachments • Shoot more images

* Paper sizes vary according to region.

Compression		Purpose	
Superfine	High Quality	↑ ↓	Shoot higher quality images
Fine	Normal		Shoot normal quality images
Normal	Normal		Shoot more images



- <http://electronics.howstuffworks.com/digital-camera.htm>
- http://www.fujifilm.co.uk/digital/cameras/ten_things.php?flash=7
- http://www.crutchfieldadvisor.com/ISEO-rgbtcpd/learningcenter/home/digitalcameras_glossary.html
- <http://www.normankoren.com/Tutorials/MTF7.html>
- <http://www.pcphotoreview.com/basic3040crx.aspx>
- <http://www.photonhead.com/beginners/>
- <http://www.photo.net/equipment/digital/basics/>
- http://dir.yahoo.com/Arts/Visual_Arts/Photography/Digital/
- <http://www.dcvIEWS.com/tutors.htm>
- http://www.cyberseniors.org/artman/publish/article_377.shtml
- <http://graphicssoft.about.com/cs/digitalimaging/tp/newbiemistakes.htm>
- <http://picasa.google.com/web/help.html>
- [WELCOME TO DIGICAMHELP!](#)
- [Top 5 Digital Cameras for Beginners](#)
- [Kodak debuts wireless digital camera](#)
- [Canon Powershot SD430 Wireless](#)