

Using Digital Cameras

what is a digital camera?

Digital cameras store pictures into a digital format when you snap the shutter. Although more expensive than scanners, digital cameras offer convenience and portability. It's a lot easier to bring the digital camera with you to the zoo, take pictures, and load them directly into your computer when you get back to school than to take pictures with a regular camera, get the film developed, and scan the picture into the computer several days later.



Digital Camera Features

Digital cameras are very similar to one another and vary slightly within a price range. Here are some features that differentiate digital cameras from each other and traditional film cameras.

- Digital cameras store images in memory, not on film. More about memory on the next page.
- Most digital cameras allow you to preview the images to determine their worth. If they're not what you want, then you can delete them.
- Most digital cameras have an LCD screen that looks like a little TV screen. What you see on the screen is what the camera will take a picture of. Some models have a traditional viewfinder instead of or in addition to the LCD screen. Note: The LCD screen doesn't show the pictures as crisp as they actually are.
- Images on digital cameras are immediately available to download onto your computer.



Using Digital Cameras

storing and transferring images

At one time, storing digital images to a 3.5" floppy disk was cutting edge technology. Now, however, digital cameras have several options for storing photos and transferring them to your computer that are extremely cool and convenient.

Universal Serial Bus (USB)



Almost every digital camera sold today allows you to connect to your computer via the USB port. What's nice about USB is that it is easy to connect devices and get them working right away. Transferring photos to your computer still requires you to install software, but it is easier and quicker than ever. If your computer is more than two years old, you might not have any USB ports. Check the rear panel of your computer.

Memory Cards

Memory cards are small disks, about the size of a postage stamp, which fit inside digital cameras and are used to store images. They come in many shapes and sizes and can store anywhere from 8 MB to 128 MB of information.

CompactFlash



SmartMedia



Memory Stick



Multimedia card



USB Card Reader



Another Option

Sony's new CD Mavica allows you to record more than 1000 pictures directly to CD-R or CD-RW!

Using Digital Cameras

selecting a digital camera

Choosing a digital camera is very similar to choosing a scanner. It's still very important to know how the camera is going to be used. Remember that images to be viewed on a screen need much less resolution than images that will ultimately be printed. Here is an online guide to buying digital cameras: http://www.consumerreview.com/guides/electronics/digiphoto_guide2.asp.

Resolution

The more the merrier, but don't pay for what you don't need. Look for 640 x 480 as a minimum. One top rated camera has 2048 by 1536 maximum resolution. That's a lot of pixels! (3,145,728 to be exact.)

Photographic Features

All cameras will have differences in their focal length, ability to adjust exposure, adjustable shutter speed, zooming capabilities, flash, and other features commonly associated with film cameras. The question is, "Do I need all these options?"

Image File Type

Most cameras now store images in JPEG format, although there are other options. Some use their own proprietary formats.

Transferring Images to a Computer

If convenience is a major factor, then choosing a camera that saves directly to disk may be a good option. Memory cards, memory sticks, and CDs are other options for storing photos. Otherwise, you'll use a cable to connect the camera to a port on the back of your computer.

Software

Just like scanners, digital cameras often come with image enhancing software. Usually, the software isn't quite as robust, but be aware of it in any case.

Power

Digital cameras eat up batteries. Some models use regular alkaline batteries and some come with rechargeable. Many cameras also come with an AC adapter if you're not going to take it anywhere.

Cost

An average cost for a decent digital camera is around \$400. You get what you pay for: cheaper cameras produce poorer images and vice versa.

Digital Video Recorders

Digital video camcorders are the "new thing." With software like iMovie or Studio DV, using digital video cameras to create home movies has become very easy and very popular. It's worth mentioning them because of their ability to take still digital pictures as well as full motion video.



Digital video camcorders don't have many photographic features, but nevertheless can take a decent picture. Usually digital video cameras store images on a memory card of some type.

Hints for using BCISD's Sony Mavicas

- ✓ Make sure the camera is in **Camera** mode. The other mode is **Play**, for viewing pictures after you've taken them.
- ✓ Follow the directions in the manual. Find out how each option effects the quality of your pictures. Diagrams of the features are on pp. 8-9.
- ✓ Use basic photographic techniques to achieve good picture quality. Check out Kodak's site <http://www.kodak.com/global/en/consumer/pictureTaking/top10/10TipsMain.shtml>.
- ✓ Take the same picture in both Fine and Normal quality. We'll compare the quality of each and see if there really is a difference. You can fit more Normal pictures on a disk because it compresses the image to a higher degree.
- ✓ Take a picture as a Bitmap (.bmp). Again, let's compare this image to the JPEG's you created. Is there a difference?
- ✓ Keep looking at the Curriculum Integration Ideas sheet. Add more ideas to the list and share them with the rest of us.