

**Module** Peripherals

**Lesson Topic** Cameras

In this lesson the learners will learn more about digital cameras.

### Outcomes

- Know that videos can be edited on the computer
- List the requirements for editing videos on a computer
- List advantages of digital photography
- Know what to take into consideration when buying a digital camera

### Materials Needed

- Transparency
- CD with presentation: *Digital Cameras*
- Copy of worksheet for each learner

### Lesson

Content		Method
1	Introduction	Ask the learners who have their own cameras. Why is it nice to take pictures? How expensive is it to develop pictures?
2	Transparency	Show the transparency. What is the difference between cameras and digital cameras? (digital → photos can be downloaded onto a computer) What is the difference between camcorders and DV camcorders? (videos are stored digitally on DV camcorders and analogue on other camcorders) What is the difference between digital cameras and digital camcorders? (still pictures and moving pictures)
3	Presentation	Discuss the use of digital cameras and DV cameras with the aid of the presentation.
4	Worksheet	The learners complete the worksheet.

### Assessment/ Assignment

An assessment rubric is included on the worksheet.

## Notes

If you do not have enough computers for all the learners, let all the learners first complete their draft copy (in their exercise books) of the assignment. When finished, you have to “approve” the draft before a learner will be allowed to work on the computer.

Possible answers to the questions in the assignment:

### What is the difference between digital and other cameras?

A digital camera stores the images digitally (on a disk or other storage). The other cameras capture the images on film (still cameras) or on magnetic tape (camcorder).

### Can you download movies from a DV camcorder onto a PC?

Yes, but you need additional hardware. You need a FireWire port to connect the computer to the computer. You can also download from an ordinary camcorder to the computer, but you need different hardware. This hardware will transform the analogue movies into digital data.

### What do you need to edit recordings on your computer?

- A fast processor
- A large hard disk drive
- Enough RAM
- A good video card
- A FireWire port

### What are the advantages of a digital (still) camera?

- Edit picture on the computer
- Cheaper to print photos than to send for development
- E-mail pictures directly to friends (no additional cost)
- View an image immediately
- Delete unwanted images
- Has same features as a traditional camera

### What features must you consider when buying a digital camera?

The two most important are:

- Pixels  
The higher the pixels, the sharper the image
- Optical Zoom

## Digital Video



Digital Camera

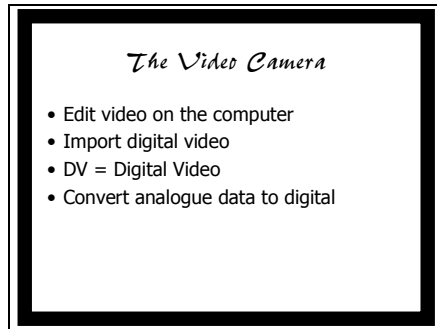


Digital Video Camera  
or DV Camcorder

Slide 1

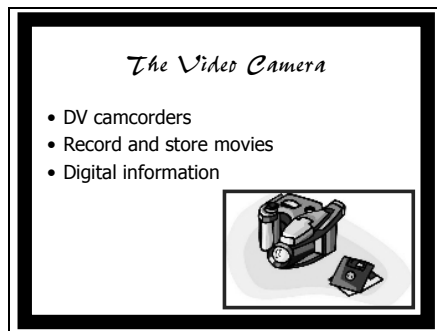


Slide 2



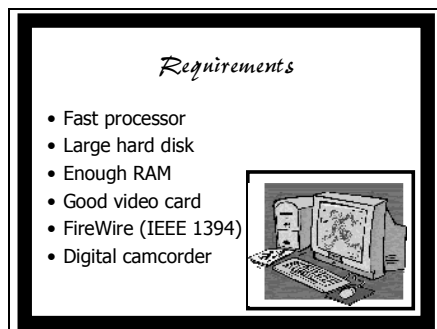
You can edit video on your PC by importing digital video from a DV camera or converting analogue data to digital data.

Slide 3



Digital Video (DV) camcorders record and store moving images as digital information. An ordinary camcorder records the video in analogue format. Both cameras need special hardware before the movies can be transferred from the camcorder to the computer.

Slide 4



In order to download your movies unto the computer and to edit it, you need the following:

- A fast processor (1.6 GHz) video recordings contain enormous amounts of data that need to be processed very quickly
- A large hard disk drive video takes up considerable hard drive space, at least 60 GB
- Enough RAM (Random access memory) Video will require a lot of memory to run, at least


512 MB

- A Good video card with a TV output so you can see what your edited work will look like on a TV screen
- A FireWire port (also called iLink or IEEE 1394) to connect the computer to the camcorder
- And of course, a digital camcorder!

Slide 5

*Digital Photography*

- Still pictures
- Edit pictures on computer
- Cheaper
- E-mail direct
- View image immediately
- Delete unwanted images
- Packed with features



With a digital camera you can take still pictures. The advantage of a digital camera is that you can edit pictures on your computer. It is also cheaper to print your photos on a printer, than sending it for development. Going digital also means you can e-mail images direct to friends. Digital cameras allow you to view an image immediately and retake the shot if it isn't right. You can also delete unwanted images. All the features of a traditional camera are also available on a digital camera, such as flash, red-eye reduction and a self-timer.

Slide 6

*Digital cameras*

- Image resolution
- More dots – sharper picture, more space on computer

Digital cameras can vary image resolution. The more dots in an image, the sharper the picture will be, but it will also require more space to store it digitally.

Slide 7

*Image resolution*

- Number of dots horizontal and vertical
  - 1280 x 960 pixels
  - 1800 x 1200 pixels
- Total (horizontal x vertical)
  - 1.3 megapixels
  - 2.3 megapixels

Image resolution is presented either as the number of dots on both the horizontal and vertical lines, or as a total. So an image taken at 1280 x 960 pixels (or 1.3 megapixels) will be less clear than one taken at 1800 x 1200 pixels (or 2.3 megapixels).

Slide 8

*Zoom*

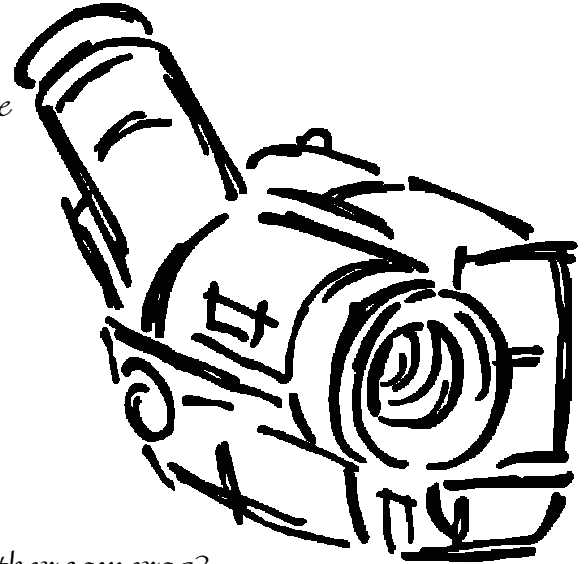
- Optical Zoom
  - Zoom with lens of camera
- Digital Zoom
  - Enlarge picture

When you buy a digital camera, the optical zoom and digital zoom will be listed. Optical zoom refers to the zooming of the lens of the camera (e.g. x10 or x6). Digital zoom is the digital enlarging of the image (x60 or x 40). The higher the optical zoom of the lens, the better the quality of the photo will be.

# A picture is worth a thousand words

You are an employee at The PhotoShop, a local camera and development shop. Your boss asked you to create an information sheet on digital photography to inform clients on digital photography. Do the following:

1. Work in a word processing program.
2. You may use only one page (A4 sheet) to cover all the information.
3. Create a logo for the shop.
  - Include the name of the shop and a slogan
  - Use WordArt, Drawing Tools and/or ClipArt
  - Make use of different font sizes and style
  - Apply different colours
4. The logo must appear somewhere on the Info sheet
5. Answer the following questions on the sheet:
  - What is the difference between digital and other cameras?
  - Can you download movies from a DV camcorder onto a PC?
  - What do you need to edit recordings on your computer?
  - What are the advantages of a digital (still) camera?
  - What features must you consider when buying a digital camera?
6. Include contact details on the Info sheet.
7. Be creative – include anything extra that you think will make your information sheet more functional and attractive!
8. Plan your work carefully and hand the draft in with the final copy.



## Assessment Sheet

	Max	Self	Peer	Mark
Only one page used	1			
The logo				
• Name and slogan included	2			
• WordArt, Drawing Tools or ClipArt used	2			
• Different formatting used	2			
• Creativity, Impression and appeal	4			
Quality of answers to questions	10			
Presentation and appeal	5			
Contact details included	1			
Info sheet well planned	3			
Total 44	30			