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The eyes of your computer

A In pairs, discuss how many ways there are of capturing an image on a computer.

B Read the text and see how many things from your list are mentioned.

C Read the text again and answer these questions.

- 1 Which device is used to input text and graphic images from a printed page?
- 2 How does a scanner send information to the computer?
- 3 How do digital cameras store photographs?
- 4 What feature allows mobile phone users to take pictures?
- 5 Which device would you use to take digital video?
- 6 What kind of software is used to manipulate video clips on the computer?

The eyes of your computer**What does a scanner do?**

A scanner 'sees' images and converts the printed text or pictures into electronic codes that can be understood by the computer. With a flatbed colour scanner, the paper with the image is placed face down on a glass screen, as with a photocopier. Beneath the glass are the lighting and measurement devices. Once the scanner is activated, it reads the image as a series of dots and then generates the digitized image that is sent to the computer and stored as a file.

The scanner operates by using three rotating lamps, each of which has a different coloured filter: red, green and blue. The resulting three separate images are combined into one by appropriate software.

**What does a digital camera do?**

A digital camera takes photos electronically and converts them into digital data (binary codes made up of 1s and 0s). It doesn't use the film found in a traditional camera; instead it has a special light-sensitive silicon chip.

Photographs are stored in the camera's memory card before being sent to the computer. Some cameras can also be connected to a printer or a TV set to make viewing images easier. This is usually the case with camera phones – mobile phones with a built-in camera.

**What does a camcorder do?**

A camcorder, or digital video camera, records moving pictures and converts them into digital data that can be stored and edited by a computer with special video editing software.

Digital video cameras are used by home users to create their own movies, or by professionals in computer art and video conferencing.

They are also used to send live video images via the Internet. In this case they are called web cameras, or webcams.



2 Scanners



A handheld scanner for scanning text, bar codes and handwritten numbers



A slide scanner

Listen to a conversation between Vicky Cameron, an Information Technology (IT) lecturer, and one of her students, and complete the student's notes.

- 1 The technology used in scanners is similar to that used in a _____.
- 2 The scanned image is sent to the _____, where you can manipulate it.
- 3 To scan text, you need special software called _____.
- 4 Flatbed scanners can scan _____.
- 5 Slide scanners are used to scan _____ or film negatives.
- 6 Handheld scanners are used for capturing _____.

3 Facts and opinions

A What is the difference between facts and opinions? Complete these definitions.

- 1 fact _____ are real, objective information.
- 2 opinion _____ usually include emotive words and subjective statements.

B Read these advertisements and underline the facts and circle the opinions.

ColourScan XR from Sunrise

The ColourScan XR from Sunrise is a flatbed scanner with 1,200 dots per inch (dpi) of resolution and 9" x 15" of scanning area.

Just think of the possibilities.

You can enter data and graphic images directly into your applications (word processors or databases). You can get crisp, clean scans for colour compositions, video and animation work.

The ColourScan XR comes complete with its own image-capture software, which allows for colour and grey retouching. And it's easy to use. What more could you want for only £79? It couldn't be cheaper.

In the field of flatbeds, the ColourScan XR is the clear winner.

ScanPress DF

The ScanPress DF is a self-calibrating flatbed scanner with 2,400 dpi of resolution. You can scan everything from black and white to 24-bit colour. The package includes a hardware accelerator for JPEG compression and decompression. JPEG technology saves disk space by compressing images by up to 50 to 1.

In creating the ScanPress DF, we have chosen the most advanced technology to give you the best scans with the least effort. It produces images with high colour definition and sharpness. And it comes with OCR software and Adobe Photoshop, so you can manipulate all the images you capture.

The ScanPress DF is a fantastic machine that you will love working with. And at only £309, an excellent investment.

C In small groups, compare your answers and decide about the following.

- 1 Which text uses more persuasive language?
- 2 Which text is more factual or objective?

4 Language work: superlatives

A Apart from catchy slogans and other persuasive techniques, advertisements often use the superlative form of adjectives and adverbs. Read the following examples from advertisements for input devices. What can you say from these examples about how superlatives are formed? Look at the HELP box to check your answers.

- 1 We have chosen the most advanced technology ... **best**
- 2 The fastest personal scanner ... **fast**
- 3 The most revolutionary computer peripheral ... **revolutionary**
- 4 The best scans with the least effort ... **good**

B Complete these sentences with the superlative form of the adjectives in brackets.

- 1 Always buy the (fast) faster scanner with the (high) highest resolution you can afford.
- 2 They have created the (revolutionary) **the most revolutionary** camera to date.
- 3 FotoFinish is the (easy) easiest photo editing software for your digital camera.
- 4 This scanner gives you the (good) the best scans with the (little) least effort.
- 5 Our university has bought the (modern) **the most modern** computer equipment.

HELP box

Superlatives

- We form the superlative of one-syllable and most two-syllable adjectives by adding **-est**.
cheap → the cheapest
clever → the cleverest
- Some two-syllable adjectives (including those ending in **-ing**, **-ed**, **ful** and **-less**) form the superlative with **the most/least**.
advanced → the most advanced
- Adjectives with three or more syllables also take **the most/least**.
fantastic → the most fantastic
powerful → the least powerful
- But two syllable adjectives ending in **-y** (for example, **noisy**) take **-est** and the **y** changes to **i**.
noisy → the noisiest
- Note the irregular forms:
good → the best
bad → the worst
little → the least
(with amounts, not size)

C In pairs, discuss who or what you think is:

- 1 the most difficult computer game you've ever played.
- 2 the most exciting film you've ever seen.
- 3 the funniest programme on TV.
- 4 the most dangerous computer virus.
- 5 the best blogger or webmaster on the Web.
- 6 the most popular web browser.

5 Language work: suffixes

A Look at the HELP box and then use suitable suffixes to make adjectives or nouns from these words. In some cases, you can make more than one word. Use a dictionary to help you.

- 1 colour
- 2 profession
- 3 photograph
- 4 wire
- 5 blur
- 6 innovate
- 7 underexpose

B Complete these sentences with the word in brackets and one of these noun suffixes: **-tion, -er, -ing, -logy, -ness**. Use a dictionary to help you.

- 1 Kodak is a (manufacture) manufacturer of photographic and imaging equipment.
- 2 To avoid red eyes, use the camera's red eye (reduce) reduction.
- 3 (Crop) cropping a photograph means cutting out the parts of an image you don't need.
- 4 The (sharp) sharpness of a photograph is a combination of resolution and acutance – the ability to represent clear edges.
- 5 Digital (techno) technology is evolving so rapidly that some cameras have a resolution of 12 megapixels – that's 12 million pixels.

HELP box

Suffixes

- Suffixes change the class of the root word. For example, by adding the suffix **-al**, the noun **digit** is changed into the adjective **digital**. Suffixes can help you tell if a word is a noun, an adjective or a verb.

Common adjectival suffixes are: **-y, -able, -ible, -ive, -al, -ed, -ful, -ic, -less, -ing**

Common noun suffixes are: **-er, -or, -ion, -tion, -ation, -ment, -ness, -ity, -ant, -logy, -ing, -y, -ure, -sion**

- When using suffixes, always check in your dictionary to see if you need to change any other letters.

scan → **scanner** (double n)



6 Press release: a digital camera

Complete the press release with words from the box.

colour	megapixels	shot	video	optical	brighter	reduction
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Kodak has introduced the EasyShare M753 digital camera, with 7.0 (1) megapixels resolution, a huge 2.5-inch LCD screen, and a professional 3x (2) optical zoom lens. It is the first camera to incorporate proprietary Kodak Perfect Touch Technology. At the touch of a button, this innovative feature creates better, (3) brighter pictures by bringing out detail in shadows without affecting lighter areas. It's ideal for underexposed pictures caused by shooting beyond the flash range or in adverse lighting conditions.

The M753 uses the exclusive Kodak Colour Science chip for phenomenal image quality with rich (4) colour and accurate skin tones. Seventeen programmed scene modes (e.g. party, fireworks, children) and five colour modes (high, low, natural, sepia, and black and white) help capture the best (5) shot with the least effort.

Other features include cropping, auto picture rotation, digital red-eye (6) reduction, and blurry picture alert. For capturing more than just still pictures, the camera also features high-quality (VGA) (7) video capture and playback.



7 Describing a camera



In pairs, describe your digital camera, webcam or video camera. Think about these questions.

- What do you use the device for?
- Why did you buy that particular make/model?
- What are your favourite functions?
- What improvements would you make to the device?

