

KNOWLEDGE ORGANISER

KS3 COMPUTING: Year 7 Autumn Term Unit 2 ICT in Society

Overview

KEY WORDS

Artificial Intelligence	The theory and development of computer systems able to perform tasks normally requiring human intelligence, such as visual perception, speech recognition, decision-making, and translation between languages
Privacy Issues	Our data is private to us. Privacy is to do with how our data is kept and stored. Is it safe? Is it in the right hands?
Cookies	Small files that are used to track our use of a website
Open Source Software	Software that can be developed further by the user. The original developer has left it open for this.
Proprietary Software	Software that is locked by the developer so that it cannot be amended or developed further.
Stakeholders	An individual or group of individuals who are directly involved or have an interest in a particular thing.
Legislation and Privacy	Laws that are in place for issues such as a data protection and copyright. Laws must be followed to protect our privacy and information
Multifunctional Devices	Devices that have multiple functions. For example a printer that is also a photocopier, scanner, printer
Digital Device	A physical unit of equipment that contains a computer or microcontroller. Today, myriad devices are digital including a smartphone, tablet and smartwatch
GPS	Global Positioning System. Used to give the location of a device.
Input Devices	A device that connects to the PC such as a mouse or keyboard which sends signals and data IN to a device
Output Devices	A device that connects to the PC such as a printer, monitor, speaker which sends data OUT of a device, such as an image or sound
Accessibility Issues	These are issues surrounding the use of computers. Such as visual impairment, hard of hearing and using Narrator on the computer
Storage Device	A device that stores data, such as a hard drive, SD card etc

Computer Systems used for:

- Travel
- Food
- Navigation
- Hospitals
- Monitoring the environment.



Software and resources that will be used:

- Schoology
- Internet Explorer/Chrome
- Microsoft Word/Powerpoint

Key Learning that will take place in this unit

- Consider the ethical, cultural and privacy issues related to computer science technologies
- Understand the use of peripheral devices for ICT.
- Learn about accessibility issues faced by users of ICT
- Learn about the different laws in place to protect our privacy

Ethical Issues

Recycling of electrical waste that is no longer needed

Countries around the world run illegal landfill sites where young people are made to work to collect raw material to sell to illegal traders.

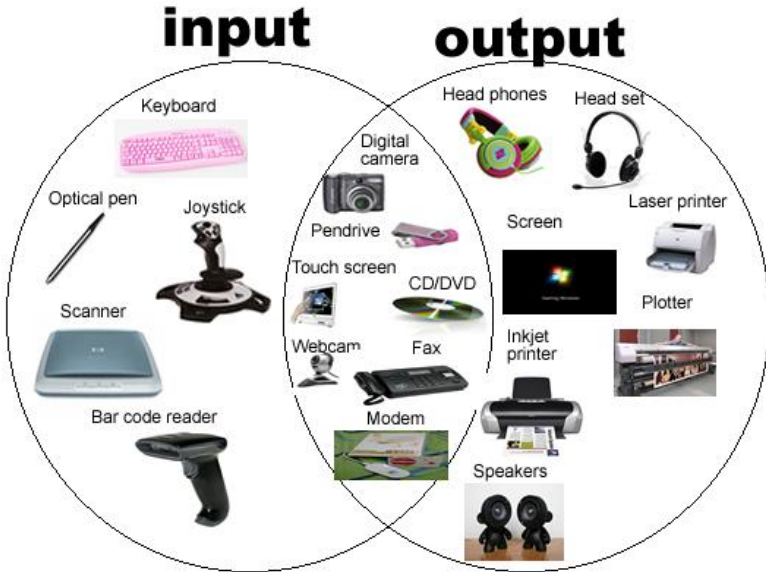

Why is this an ethical issue?



Environmental Considerations

- Organisations such as schools and hospitals have an obligation to dispose of old computers by recycling
- Some organisations will refurbish old but working computers and sell them or donate them to people who cannot afford to buy a computer



<div><div><div>input</div><div></div></div></div>	<div><div>Personal devices and uses</div><div><p>Many personal electronic devices now exist</p><p>Smartphones are used for communication, shopping, payments, video and music</p><p>What other personal devices exist and what are they used for?</p></div></div>	<div><div>Retail Use of Digital Devices</div><div><p>Retail stores make heavy use of technology</p><ul style="list-style-type: none">• Barcodes and barcode scanners on each product• Card payments and mobile payments• RFID tags on expensive products• Self service checkouts• CCTV• Loyalty cards<p>How does each of these technologies help stores?</p></div></div>
<div><div>Computers and the law</div><div><p>Computers are fantastic - they help us to learn, share, communicate and find entertainment. However, it is also possible for computers to be used to aid illegal activities. An understanding of computer-related laws in the United Kingdom is needed to make sure we stay on the right side of the law. Computers might be used unlawfully in many ways, for example:</p><ul style="list-style-type: none">• allowing someone to illegally share your personal data• helping to steal financial information, such as credit card numbers or bank account details• helping to illegally copy and distribute films, television programmes and music• extorting information or blackmailing someone</div></div>	<div><div></div><div><div>There are 3 main laws to consider</div><div><ul style="list-style-type: none">• Computer Misuse Act• Copyright, Designs and Patents Act• Data Protection Act (GDPR)</div></div></div>	

Accessibility and Equality

People are diverse! - Some people are not able to use the 'standard' devices that you or I use in our every-day lives. And so, devices have been specially developed to allow for these differences. Impairments include

- Visually impaired (partial or total blindness)
- Motor impaired (difficulty in movement)
- Auditory impaired (difficulty in hearing)

Some disabilities mean that the input devices themselves need to be placed at convenient locations for the person. For example mounted on a wheel-chair.



There is a need to have certain types of equipment to meet the needs of all users.

Specialist Hardware

- High contrast keyboard for people with dyslexia
- Foot mouse for those who cannot use a hand mouse
- Braille keyboard / number pad for blind people
- Microphone for dictation voice commands
- Speaker / headphones for speech synthesis



Useful Links

GCSE Bitesize

<https://www.bbc.co.uk/bitesize/guides/zkhykqt/revision/5>

<https://www.bbc.co.uk/bitesize/guides/zbxbkqt/revision/1>

Test Yourself

1. Name three of the main laws that need to be followed in ICT
2. Name 3 Input Devices
3. Name 4 Output Devices
4. Give an example of an Ethical Issue surrounding ICT

At Home

Try having a look at the settings on your mobile phone to see what accessibility options exist.

Next time you use a keyboard, look out for the raised line on J and F and the Braille notches on a keypad at the Cash Machines