



# COMPUTING SYSTEMS AND NETWORKS KNOWLEDGE ORGANISER

## Overview



### Digital Devices

- You should already know that Technology is something that has been made by people to help us.
  - You should also know that Information technology (I.T.) includes computers and things that work with computers.
  - Digital devices are things made for a particular purpose, that use processing.
- Digital devices have an input, process, and output (IPO).
- Information and data can be shared across networks.
- Many devices are used to create networks.

## Digital Devices – Input, Process Output (IPO)

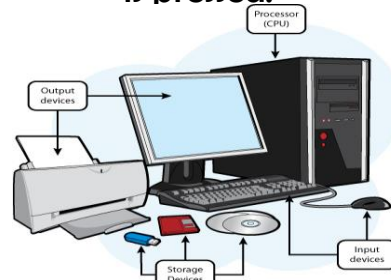
- A device is something that has been made for a particular purpose (it has a special use).
  - Digital devices use processing (have a process) There is more than just an on-off function.
- Digital devices have an input, process, output (IPO)

**Input:** Something that sends a message to the device. E.g. You press a button on the keyboard.



**Input Devices:** Keyboard, joystick, mouse, web cam, microphone, touch screen, track ball, digital camera.

**Process:** The device acts on the message. E.g. The computer follows a program that tells it what to do when the keyboard is pressed.



**Output:** Something that is sent out by the device. E.g. The letter that you have typed on the screen.



**Output Devices:** Screen/monitor, printer, headphones, projector, speaker, smartboard.

## Networks and Network Devices

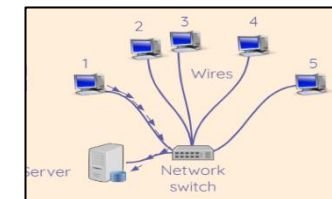
### Connections and Networks

- In Computing, a connection describes a link between the computer and something else.
- For example, a computer may be connected to the internet through wires, a mobile data system, or WiFi.
- A computer network is a set of connections that joins computers together.
- The computers in the network can send and receive information to one another.



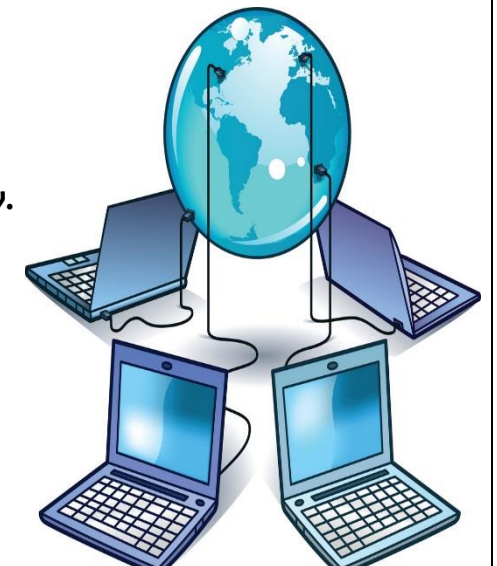
### Network Devices

- Network switch: a device that helps different devices on a network to be connected with each other.
  - Server: a computer that manages the network and stores files
- Wireless access point (WAP): a device, connected to a wired network, that sends and receives wireless signals to and from devices.



## Why Networks Are Useful

- Computer networks allow us to send and receive information between computers that are in different places.
- Networks can help us to communicate quickly and easily.
- Networks can also join computers to shared devices, like scanners and printers.
- The internet is a global network of computers. Imagine how different life would be without the internet!
- If information is shared on a network, it helps to reduce the risk of data being lost, e.g. if one computer breaks.



## Important Vocabulary

Digital Device

Input

Process

Output

Connection

Network

Network Switch

Server

WAP

E-Safety