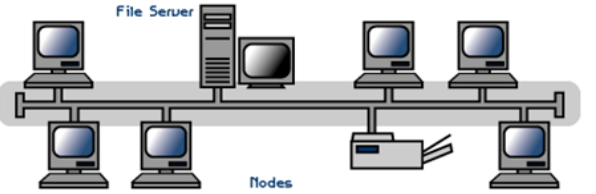
Year 8 – Autumn Term 1: Network Hardware

Key Vocabulary…

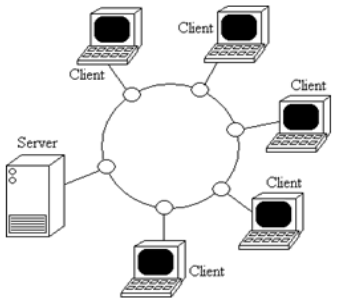
Name	Purpose
Network	A collection of PCs joined either by cable or wirelessly.
LAN- Local Area Network	Devices connected over a smalll geographical area such a school.
WAN – Wide Area Network	Devices connected over a wider geographical area such as the internet.
WPAN – Wireless Private Area network	Used to connect devices to your PC without wires. Bluetooth is a good example of this.
Server	Stores all user data in a network in a central location. This means that you can log on any computer in the network and get your files.
Switch	Connects the individual computers (workstations) with the server.
Router	Responsible for connecting different networks together. Routers will connect LANs to the internet.
Topology	How the network has been designed to be connected.
Network interface card	A piece of hardware in your device that lets you connect to the internet.
Ethernet	A cable that connect devices together on a LAN.
Data packet	Bits of data that are split up and sent along a network.
Malware	A piece of malicious software created to damage or gain illegal access to devices.

Picture This…

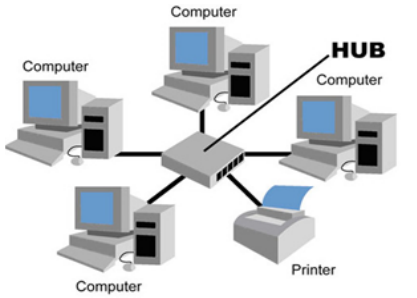
Three types of computer networks.



Bus Network - data packets are sent in both directions along a central cable.



Ring Network – data packets are sent in one direction around the circle.



Star Network - Each PC is connected to the server by a cable.

Network Attacks & Security

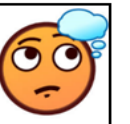
Networks can be attacked by the following:
Malware: Malicious software designed to harm your computer.
Virus – copies itself on your computer and can steal data and slow your computer down.
Trojan – a piece of software that pretends to be something else but has a virus in it. Usefully spread by email attachments and torrent sites.
Spyware – software that records your actions on the internet.

Network security:
The following can help to protect a network.
Anti-virus software – scans your computer and removes any viruses.
Firewall – prevents unathourised access to your network.
Encryption software – scrambles data so hackers can't read it.

Questions

1. What is the difference between a LAN and a WAN?
2. What is the difference between a RING and a BUS network?
3. Name two ways that your network might get attacked ?
4. Which hardware device is used to connect networks together?
5. Which device is responsible for connecting individual computers to a network?

Deeper Learning…



Network topologies (how networks are connected) will be revisited in more detail in Year 10. If you would like to know more about the topic now type the following weblinks into a search engine.
https://bbc.in/383747H

Activity – Explain threats to a network and identify security measures that would help protect from malicious software.