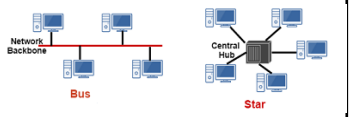
Networks and Cyber Security

Knowledge Organiser

Subject: Computing	Topic: Networks and Cyber Security	Year Group: 9

Networks

1	Types of Network	Personal Area Network (PAN) Local Area Network (LAN) Wide Area Network (WAN)
2	Connection	Wired (Cables can be copper or fibre optic) Wireless (radiowaves)
3	Topology	Star Bus 
4	Address	MAC address on all devices IP address to join internet

Network protocols and Security

1	Connection	Ethernet for copper cables. WiFi wireless networking technologies
2	Internet Protocol	uses the Internet protocol suite to communicate between networks and devices
3	World wide web (www.)	Hypertext Transfer Protocol. HTTP(S) is the protocol used to transfer data over the web.
4	Email	SMTP simple mail transfer IMAP internet message access
5	Network Security	Authentication, encryption, firewall, MAC address filtering

Cyber Security CS

1	Purpose of cyber security	to reduce the risk of cyber attacks, and protect against the unauthorised exploitation of networks and technology.
2	Cyber security threats	Social engineering, Malicious software, weak and default passwords, misconfigured access rights, removable media, outdated software
3	Social engineering	Explain the following; blagging, phishing, pharming, shouldering (or shoulder surfing)
4	Malicious software	Describe the following; virus, Trojan, spyware, adware, ransomware

Detect and prevent CS threats

1	Understand and explain Security measures	Biometric measures (esp for mobile devices) Password systems, CAPTCHA (or similar) Email confirmation to confirm users identitity, Automatic software updates
2	Protect from threats	Social engineering Malware

Key Vocabulary

1	Network	is a set of computers connected together for the purposes of communication and sharing resources.
2	Network protocol	is a program that follows rules that define communication between two or more devices in a network.
3	Topology	is the arrangement of the devices of a communication network.
4	Internet	is the global system of interconnected computer networks
5	Cyber Security	is the technology, and controls to protect networks, programs, devices and data from cyber attacks
6	Social engineering	is malicious activities to trick users into making security mistakes or giving away sensitive information.
7	Malware	Malicious software written to harm or affect a computer.