1. Types of Networks

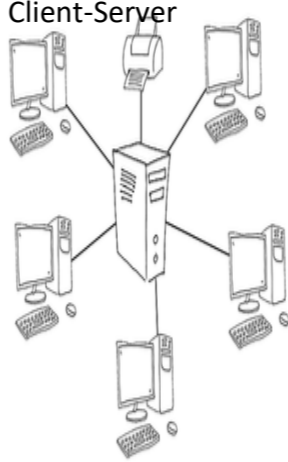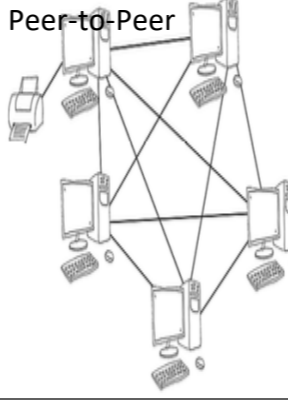|	
Network	A set of connected computers and other devices (e.g. printers, phones, HomeKit devices) for the purpose of sharing resources
LAN	Local Area Network. Covers a small geographical area (a home, a school, etc.) The infrastructure is often owned by the individual / organisation
WAN	Wide Area Network. Covers a large geographical area. WANs are made up of LANs joined together. The infrastructure is often owned by a Telecoms or other company rater than the individual
Advantages to using a LAN	• Resources (files, etc.) and devices (printers, etc.) can be easily shared across the network • Computers can be configured with the same 'image' so you have the same programs and access to your data from any computer (like in school) • You can control devices (e.g. HomeKit)
Disadvantages to using a LAN	• Security. Malware can spread across a network • Complexity of setting up and maintaining

2. Factors affecting performance of a network

Latency	You can get bottlenecks in parts of your network, either because of a faulty switch, or due to the design of your network. Latency is the term used describe the time it takes data to travel from one designated point to another on the network
Bandwidth	The maximum amount of data transmitted over an internet or LAN connection in a given amount of time.
Transmission Media	WiFi generally has less bandwidth than wired connections. Wired connections (ethernet) can be different speeds (10Mbps, 100Mbps, Gigabit). Switches and routers also have maximum speeds
Concurrent Users	The more users there are on a network the more data is likely being transmitted. This means it can take longer as you have to wait your turn for your packets to travel across the network

6. Star and Mesh Topologies

Star Network	Cheaper than mesh network. Less cabling. Easy to add devices BUT total reliance on central node. If it fails whole network fails		Mesh Network	Full or partial. More cabling than star. Costs more to install. Harder to add a device. Harder to maintain	

3. Network Types

Client-Server		The network relies on a central server and all the clients (devices) request services from the server such as print services, file services etc. Additional hardware is needed in this type of network: a server. All files can be stored and backed-up centrally on a server which means workers can access files from any computer on the network and the computers can also be updated centrally.
Peer-to-Peer		All computers have equal status and any computer can act as a client and a server—even at the same time. All computers can request and provide network services. For example, any computer can use a resource physically connected to a different computer. There is no need to buy a dedicated server
Media		What connects the computer/devices to each other. Copper cables, fibre optic cables, wireless signals
Switch		A device on the network that receives signals from a computer/device and transmits the signal to its intended recipient

5. The Internet

The Internet	The Internet is a global collection of interconnected networks
DNS	The Domain Name Server is a large directory allowing the Internet Service Provider (ISP) to look up the correct IP address for the desired website
Hosting	If you don't own your own servers and host your website yourself you can use a company to do it for you. They will monitor and maintain their servers they are renting you space on
The Cloud	