Year 8 Computer Science

Knowledge Organiser

Contents

Internet Hardware and Software Topic

Internet Hardware – the **physical** components that enable Internet connection

Hardware name	Description
Ethernet Cables	It is a cable that is used to connect devices within a local area network.
Network Interface Cards	It is a computer hardware component that allows a computer to connect to a network. It may be used for both wired and wireless connections.
Network Routers	A router is a network device that connects together two or more networks.
Network Switches	A switch is a high-speed device that receives incoming data packets and redirects them to their destination on a local area network (LAN).

Hardware name	Description
Network Servers	A server is a networked computer that is providing a specific service to other computers on the network
Wired Methods	A wired method uses physical cables to transfer data between different devices and computer systems.

Internet Hardware and Software Topic

The links between the different pieces of Internet Hardware and their purpose

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                    │  Internet Hardware  │
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                    ┌───────────┴───────────┐
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              │Connections│           │  Network  │
              └───────────┘           └───────────┘
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              │ Cable    │   └─────────┘ └────────┘ └────────┘ └───────┘
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              │ Wired    │
              │ Method   │
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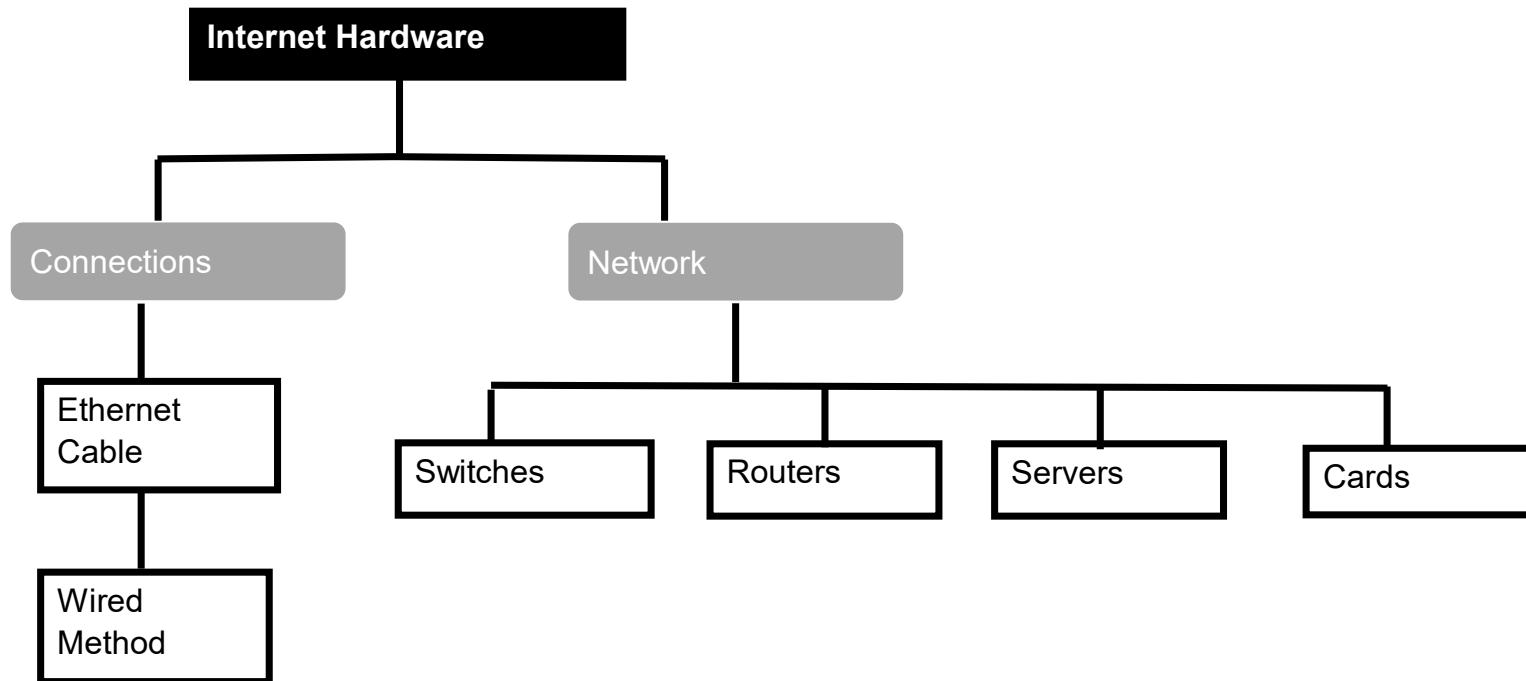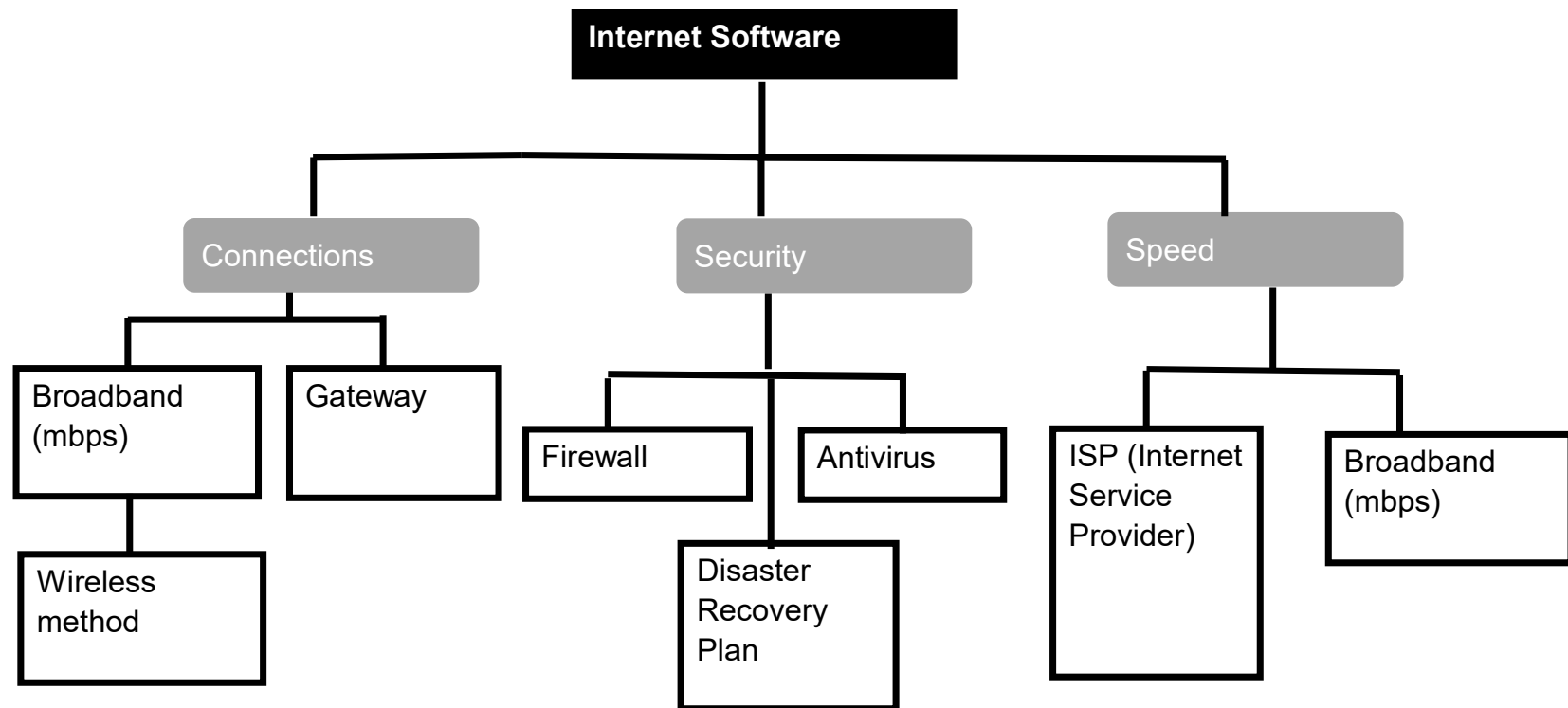
Internet Hardware and Software Topic

Internet Software – the elements that run **on** the system to enable Internet connection

Software Element	Description
Broadband (mbps)	This term is applied to networks which can carry multiple channels of data. Each channel can carry a different signal e.g. moving images, sound or text. It is measured in megabits per second (mbps)
Gateway	This routes the traffic from a workstation to the outside network that is serving the pages Gateways connect networks so the devices on them can communicate.
Disaster Recovery Plan	Disaster Recovery is having a plan that details how the company will recover from losing all of the data stored on their system.

Software Element	Description
ISP (Internet Service Provider)	This is a company which usually for a monthly subscription fee, will allow a user to connect to the Internet.
Wireless Method	Wireless devices communicate over the air using radio frequencies to transmit and receive data, a good example is WiFi.
Firewall	Protects a system/network from unauthorised access
Anti-virus	Designed to detect and destroy computer viruses

Internet Hardware and Software Topic

The links between the different pieces of Internet Software and their purpose

Internet Hardware and Software Topic

As part of this topic you will present your work using presentation **software**.

Below is a reminder of what to think about when creating a presentation.

What to consider	How to do it	Why it is important
A simple colour scheme	Use a dark background with light writing or a light background with dark writing.	It will make the text easier to read.
Limit bullet points and text	5 bullet points of one sentence each is usually enough.	Too much information on one slide can become distracting and may not be read.
Limit animations and transitions	Choose one type of animation and one type of transition and apply them only where needed.	If there are too many used or they are not consistent, it can look unprofessional and become distracting

What to consider	How to do it	Why it is important
Relevant, high quality images	Ensure any images used are not blurry and are relevant to the text on the slide.	If the images are not relevant or poor quality it makes the presentation look unprofessional
Ensure the text is in your own words	After reading the information, see if you can reword the key explanations.	There are copyright issues to consider and it also shows that you have used only the key information.

Internet Hardware and Software Topic

As part of this topic you will be using the Internet to research about **Internet Hardware and Software**.

Below are two reminders of what you could do when entering search criteria online for better results.

What to consider	How to do it	Example
Use specific terms	Instead of entering a whole sentence as a search term, select the keywords from the sentence	Instead of searching for: 'How is an Ethernet cable used in a computer?' you could just search using 'Ethernet Cable Uses'
Use quotations for exact phrases	If you know the exact wording then use speech marks " " to restrict the search to just those terms	If you wanted to know 'how a firewall protects a computer from unauthorised access' is you could search using the phrase "firewall preventing unauthorised access"