# Year 7 Computer Science Networks Knowledge Organiser

| Key Word | Definition |
|---|---|
| Network | When two or more computers are connected together to allow them to communicate. |
| Protocol | A set of rules or procedures for transmitting data between electronic devices, such as computers. |
| Mainframe | A computer used primarily by large organizations for bulk data processing. |
| Personal Computer | A computer designed for use by one person at a time. |
| Stand-alone | A computer that is used on its own without requiring a connection to a network. |
| HTTP | Hypertext transfer protocol – the set of rules that control how data is transferred on a network. |
| Cable | A number of copper wires with plastic plugs that connect into sockets on devices used to connect together different devices in a network. |
| Hub | Connects a number of computers together. |
| Server | A powerful computer which provides services. There a many different types, e.g. file server. |
| Router | Forwards messages from one network to another and acts as a gateway. |
| ISP | Internet Service Provider – the company which is used to connect to the internet. |
| Wired | Where you physically plug your computer or docking station into an ethernet cord or wall jack. |
| Wireless | Computer networks that are not connected by cables of any kind. |
| 3G | Third generation of wireless mobile telecommunications technology. |
| Bit | The smallest unit of data that a computer can process and store. |
| Megabit | A unit for measuring the speed at which information is sent between computers, equal to one million bits. |
| Gigabit | As megabit, but one billion bits. |

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| Key Word | Definition |
|---|---|
| Buffering | When your device pauses mid-task because your system will put your task on hold until enough data is downloaded to allow the music or video stream to play without lag |
| 4G | Fourth generation of wireless mobile telecommunications technology |
| 5G | Fifth generation of wireless mobile telecommunications technology. |
| Wi-Fi | A wireless technology used to connect computers, tablets, smartphones and other devices to the internet. |
| Bandwidth | The amount of data that can be moved from one point to another in a given time. |
| Broadband | High-speed internet access. |
| Internet | A worldwide network of computers. It is the physical hardware, i.e., the cables, the routers, and other pieces of hardware used to connect devices together. |
| Router | Forwards messages from one network to another and acts as a gateway. |
| Packet | A unit of data made into a single package that travels along a given network path. |
| Packet Header | A "label" of sorts, which provides information about the packet's contents, origin, and destination. |
| Packet Payload | The part of a data packet containing the transmitted data. |
| IP Address | The address of the router that connects to the internet, which is unique for every device on the internet, and made up of 4 groups of numbers between 0 and 255, each separated by a full stop. |
| TCP | Transmission Control Protocol - a transport protocol that is used on top of IP to ensure reliable transmission of packets. |
| IP | The method or protocol by which data is sent from one computer to another on the internet. |
| World Wide Web | Service provided on the internet. It is the websites, web pages, and links found on the internet. |
| Internet Services | The range of facilities provided by the internet. |

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| Key Word | Definition |
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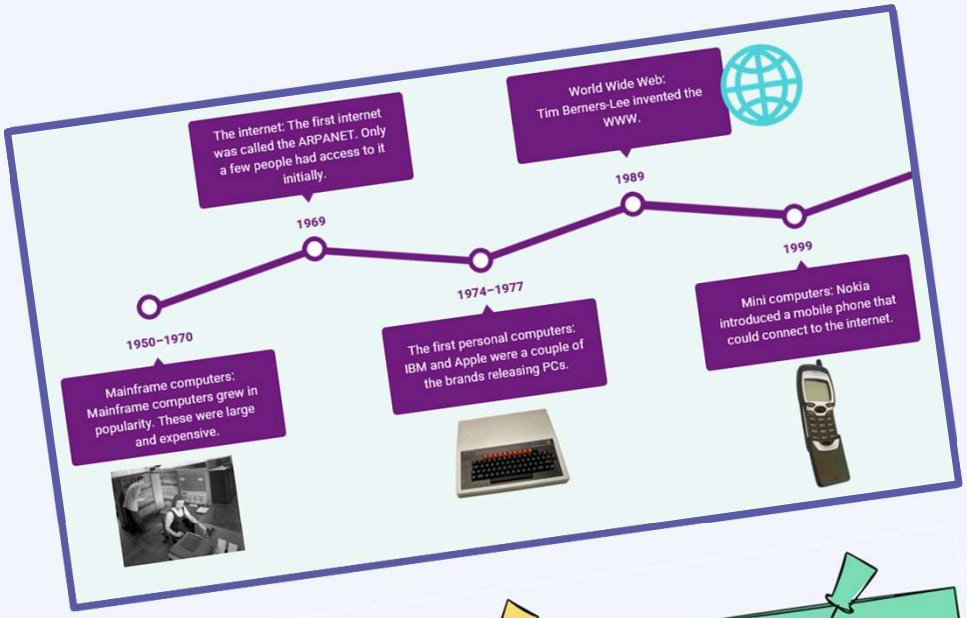
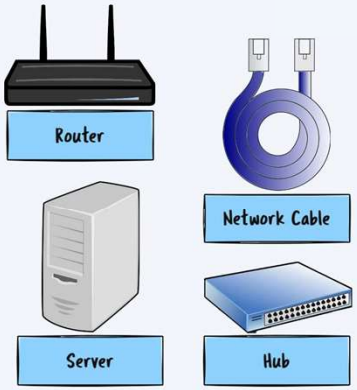
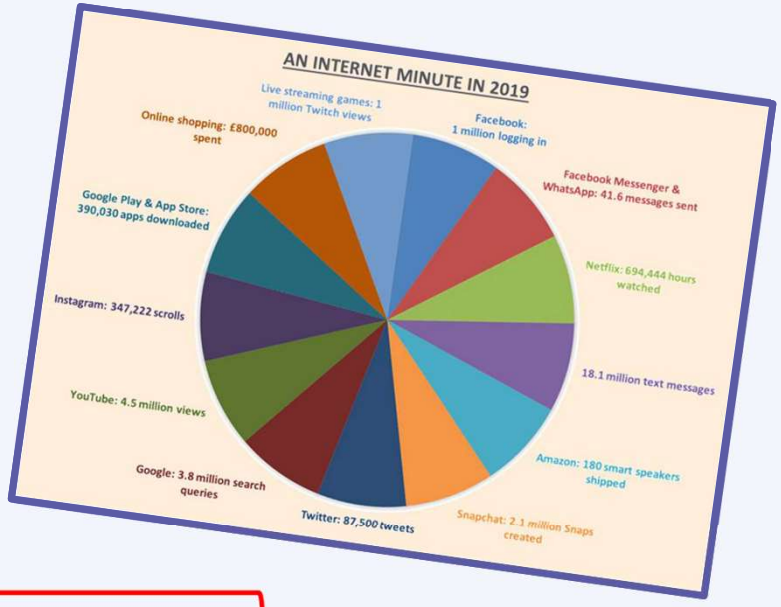
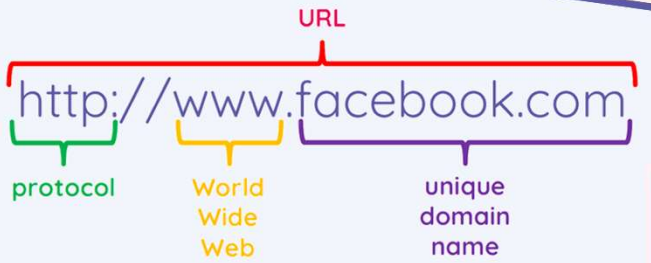
| Email | An internet service that allows people to send and receive electronic messages. |
| Spam | Emails that you receive that you do not want. |
| Privacy | Keeping information about yourself to yourself. |
| Security | Protecting your computer devices and data from unauthorised access. |
| Voice over Internet Protocol (VoIP) | It allows voice data to be sent in packets over the internet. |
| Internet of Things (IoT) | Taking everyday 'things' and connecting them to the internet to allow us to gather information, send information, or both. |
| HTTP | Hypertext Transfer Protocol. Messages sent between your browser and the website are readable to other devices. It is not secure. |
| HTTPS | Hypertext Transfer Protocol Secure. Messages sent between your browser and the website are encrypted so other devices cannot understand it. It is secure. |
| URL | Uniform Resource Locator. It is the address of a World Wide Web page and is sometimes called the 'web address'. |
| Domain Name | A unique, easy-to-remember address used to access websites. |
| Web Browser | A piece of software used to view information on the World Wide Web. |
| Web Server | A server located on the internet that holds website web pages. |
| Web Page | A document that is accessible through the internet on a web browser. |
| Search Engine | A website that allows you to look up information on the World Wide Web. |
| Domain Name System | A service on the internet maps domain names to IP addresses. It acts as the 'phone book' of the internet. |


The internet: The first internet was called the ARPANET. Only a few people had access to it initially.
World Wide Web: Tim Berners-Lee invented the WWW.
1950–1970
1969
1974–1977
1989
1999
Mainframe computers: Mainframe computers grew in popularity. These were large and expensive.
The first personal computers: IBM and Apple were a couple of the brands releasing PCs.
Mini computers: Nokia introduced a mobile phone that could connect to the internet.


Router
Network Cable
Server
Hub


AN INTERNET MINUTE IN 2019
Live streaming games: 1 million Twitch views
Facebook: 1 million logging in
Online shopping: £800,000 spent
Facebook Messenger & WhatsApp: 41.6 messages sent
Google Play & App Store: 390,030 apps downloaded
Netflix: 694,444 hours watched
Instagram: 347,222 scrolls
18.1 million text messages
YouTube: 4.5 million views
Amazon: 180 smart speakers shipped
Google: 3.8 million search queries
Twitter: 87,500 tweets
Snapchat: 2.1 million Snaps created

Browser
Search Engine
Google
Bing
Website

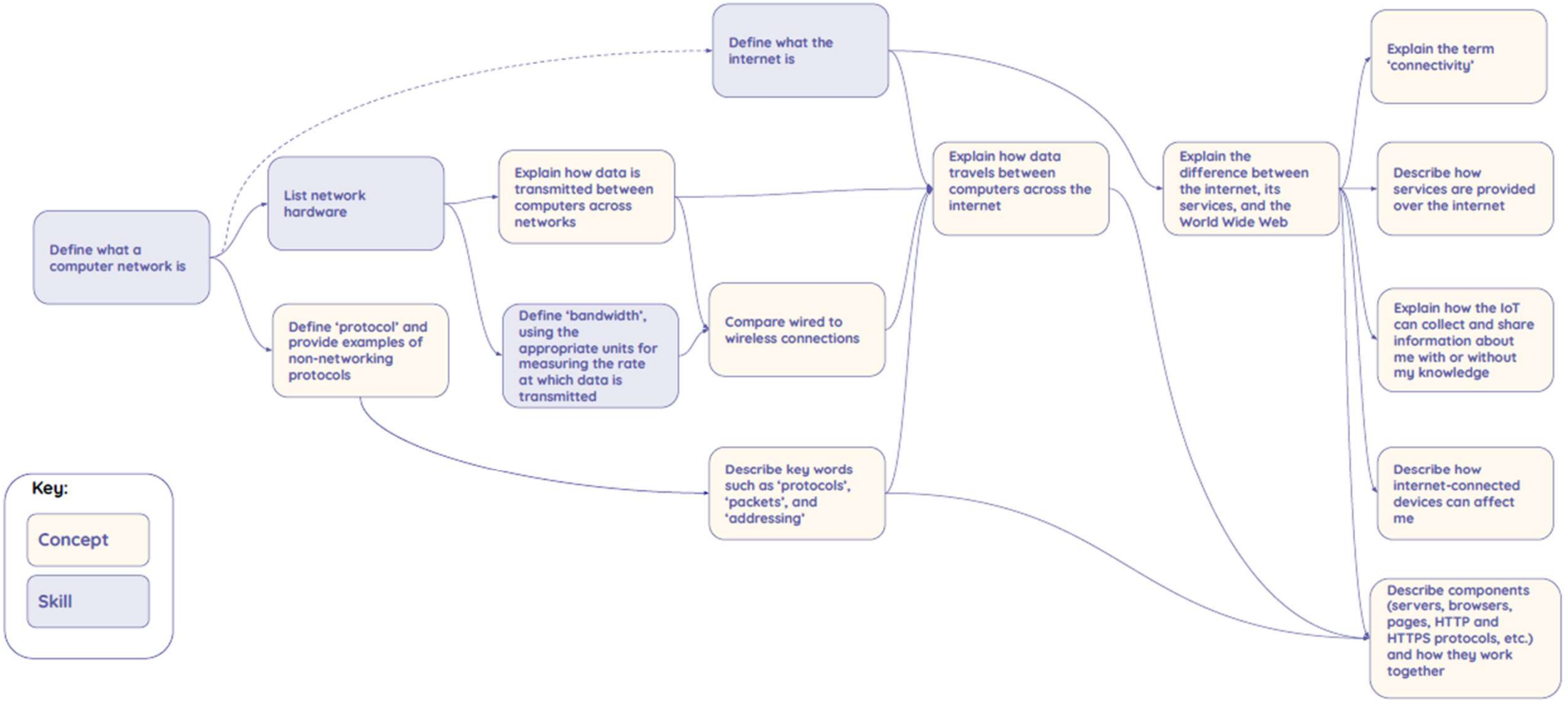

URL
http://www.facebook.com
protocol
World Wide Web
unique domain name

http://www.supercoloring.com
Paint the world
SUPER COLORING

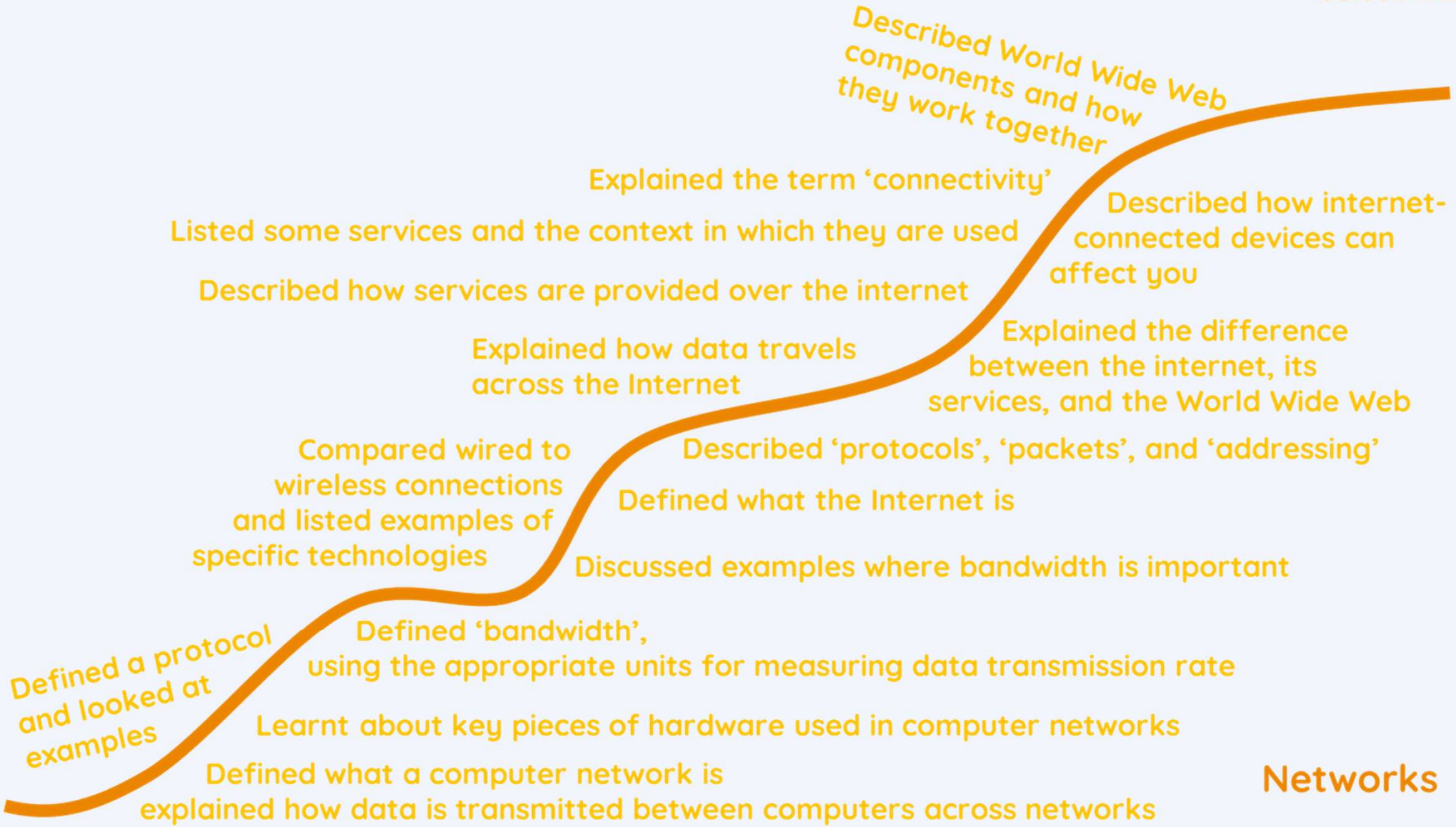
https://www.hsbc.co.uk
Personal
Business
HSBC UK

Smart Home

# Learning Graph



Golden Threads




# Networks