

## Week 1 - Computer Networks & Protocols

### Core Knowledge

- **Computer Network** A computer network is when two or more computers are connected together to allow them to communicate.
- **Email protocols:** an @ symbol must be used. The email address must be unique.
- **Web address protocols** All website addresses start with 'http://' followed by 'www'. All website addresses are unique. They use dots to separate each part of the address.

### Key Literacy Protocols

**Definition** - All methods of communication need rules in place in order to pass on the message successfully. These sets of rules are called protocols.

**Associated terms** - Communication Protocols, TCP/IP, HHTTP/HTTPS, Transmission, Router

- Communicating over the internet requires us to use a set of rules, this is known as protocols
- Protocols are similar to traffic rules for computer.

## Week 2 - Networking Hardware

### Core Knowledge

- **Networking Hardware:** a number of pieces of hardware that are needed in order to create a computer network.
- **Network Cable:** to connect together different devices, you need cables. They have plastic plugs that connect into sockets on devices. The cable is made up of a number of copper wires. Data can be sent in both directions across a cable.
- **Hubs:** connects a number of computers together. Ports allow cables to be plugged in from each connected computer.
- **Servers:** a server is a powerful computer which provides services.
- **Router:** when a network needs to be connected to another network over a large area, a router is needed.

### Key Literacy Hardware

**Definition:** the machines, wiring, and other physical components of a computer or other electronic system.

**Associated terms:** Hub, Network Cable, Server, Router, Components

- Computing components refers to the physical components of the computer such as a CPU

## Week 3 - Wired & Wireless

### Core Knowledge

- **Wired Network** send data **along cables**
- **Wireless Networks** send data through the air **using radio waves.**

### Key Literacy Network Connectivity

**Definition** - Network connectivity refers to the extensive process of connecting various parts of a network to one another may be through the use of routers, switches and gateways, and the method of the process.

**Associated terms** - Ethernet Cable, LAN, Router, Bandwidth, WIFI, Hotspot, 4G/5G

- Without network connectivity, our digital devices wouldn't be able to browse websites, send messages, or play online games.
- Network connectivity is essential for devices like computers and smartphones to link up and exchange data, just like friends talking on the phone to share information.

## Week 4 - The Internet

### Core Knowledge

- The **internet** is 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.
- An **IP address** is made up of 4 groups of numbers between 0 and 255, each separated by a full stop.. These are unique for every device on the internet.
- **Transmission Control Protocol:** Splits the messages sent across the internet into smaller pieces called 'packets' Assembles the packets in the correct order at the receiver end
- **IP:** A protocol to route the packets Each device on the internet has an IP address that uniquely identifies it from all other devices

### Key Literacy IP Address

**Definition** - A unique numerical address to each device that is part of a computer network that uses IP Protocol for communication

**Associated terms** - TCP/IP, Data Packets, Data Transmission, Internet

- A unique numerical label assigned to each device connected to a network, serving as its digital identification for data transmission and routing is known as IP Address.

## Week 5 - Internet Services

### Core Knowledge

- The **World Wide Web** is a service provided on the internet. It is the websites, web pages, and links found on the internet.
- **Email** is an internet service that allows people who have an email address to **send and receive electronic messages.**
- The **Internet of Things** means taking everyday '**things**' and connecting them to the **internet**. Your **privacy** maybe compromised as companies may eventually be able to learn everything about you. IoT devices could be hacked for example access to home cameras and remote access of your vehicle.
- **VoIP** is short for 'Voice over Internet Protocol'. This allows voice data to be sent in packets over the internet.

### Key Literacy Internet

**Definition** - The **internet** is a vast network of computers all connected together.

**Associated terms** - Internet, Website, Web Browser, Social Media, URL

- A massive web of connected computers that allows us to search for information is known as the internet
- We can use the internet to watch videos and share information

## Week 6 - World Wide Web

### Core Knowledge

- A **web browser** is a piece of software (code) used to view information on the World Wide Web.
- A **Web Server** is a server located on the internet that holds a websites web pages
- The **Web Browser** communicates with the web server to retrieve information, which uses two protocols—HTTP & HTTPS
- A **Web Page** is a document that is accessible through the internet on a **Web Browser**
- A **Search Engine** is a website that allows you to look up information on the **WWW**
- URL stands for 'Uniform Resource Locator'. It is the address of a World Wide Web page and is sometimes called the 'web address'.

### Key Literacy World Wide Web

**Definition** - The **World Wide Web** is a service provided on the internet. It is the websites, web pages, and links found on the internet.

**Associated terms** - Web Browser, Web Server, HHTTP/HTTPS/ Search Engine, Web Address, Domain, IP Address

- A global network of interconnected web pages, making it easy for us to explore and learn about a wide range of topics at our fingertips.



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