

Year 6

Networks, Internet and the WWW



Thinking about the Internet & WWW

- You access the internet as part of everyday life but do you really know what is happening when you enter a web page address or send an email?
- What do you use the internet for at home and in school?

The difference

- Many people think that the internet and the world wide web are the same thing.
- While they are closely linked, they are very different systems.
- The internet is a huge network of computers all connected together. The world wide web ('www' or 'web' for short) is a collection of webpages found on this network of computers. Your web browser uses the internet to access the web.
- So when you get home from school and ask to go on the internet, you should really say, 'Can I look at some of the world wide web?'.

The Internet

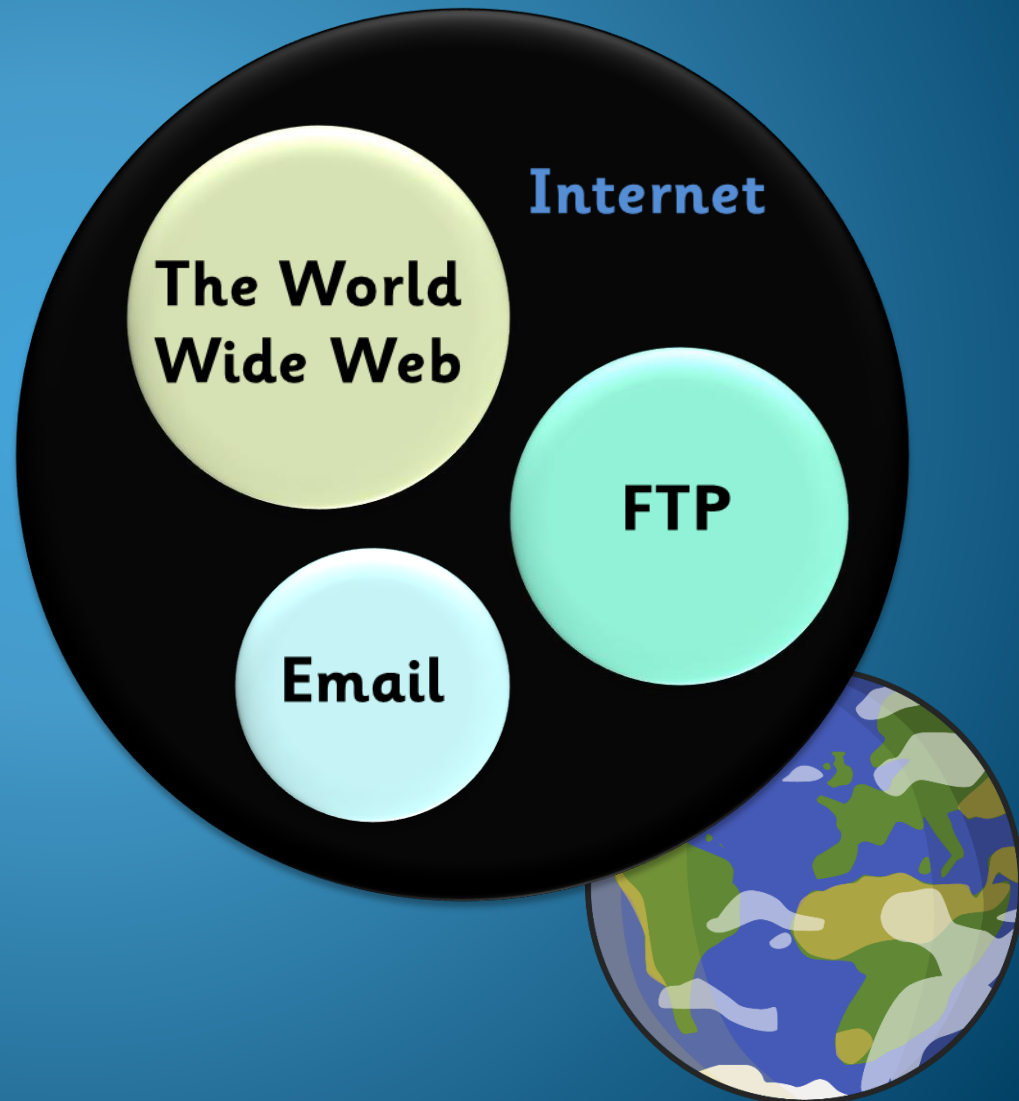
- The internet is all the computers, cables, fibre, routers, switches etc. That connects computers together, or networks of computers to one another.

The Internet – network of computers - WAN



Think of it like this....

- Think of the internet like a giant bubble.
- Inside this bubble are different parts:
 - You have the World Wide Web
 - Email
 - And FTP, which a posh term for sharing digital files



The World Wide Web

- The World Wide Web is about connections between documents. The World Wide Web is just one of the services which uses the internet to be able to communicate.
- These documents have addresses called URLs.
- Uses HTTP Protocols (Hyper text, computer language).

What is the World Wide Web?

- The World Wide Web, or Web for short, is a massive collection of digital pages
- These pages are read, and then put on your screens by the internet.
- We see the web through programs called web browsers, you might use Internet Explorer at school
- The Web began in 1989, and today there are over **65 billion** public web pages.





How Do We Use Them?

The Internet

- We use the internet to keep in touch with other people around the world using email
- We are able to send and share files with others easily
- We use it to access the Web
- It keeps all of our computers and devices connected together

The World Wide Web

- View the billions of digital pages available
- Keep up to date with news and events instantly
- Play games with others around the world
- Our smart phones and smart TVs connect to the web to view media

Recap

Internet

- A network of networks.
- The cables and wires etc.
- Uses a variety of computer languages called protocols.
- It is a WAN.
- In existence in 1983.
- Use an ISP to access this.

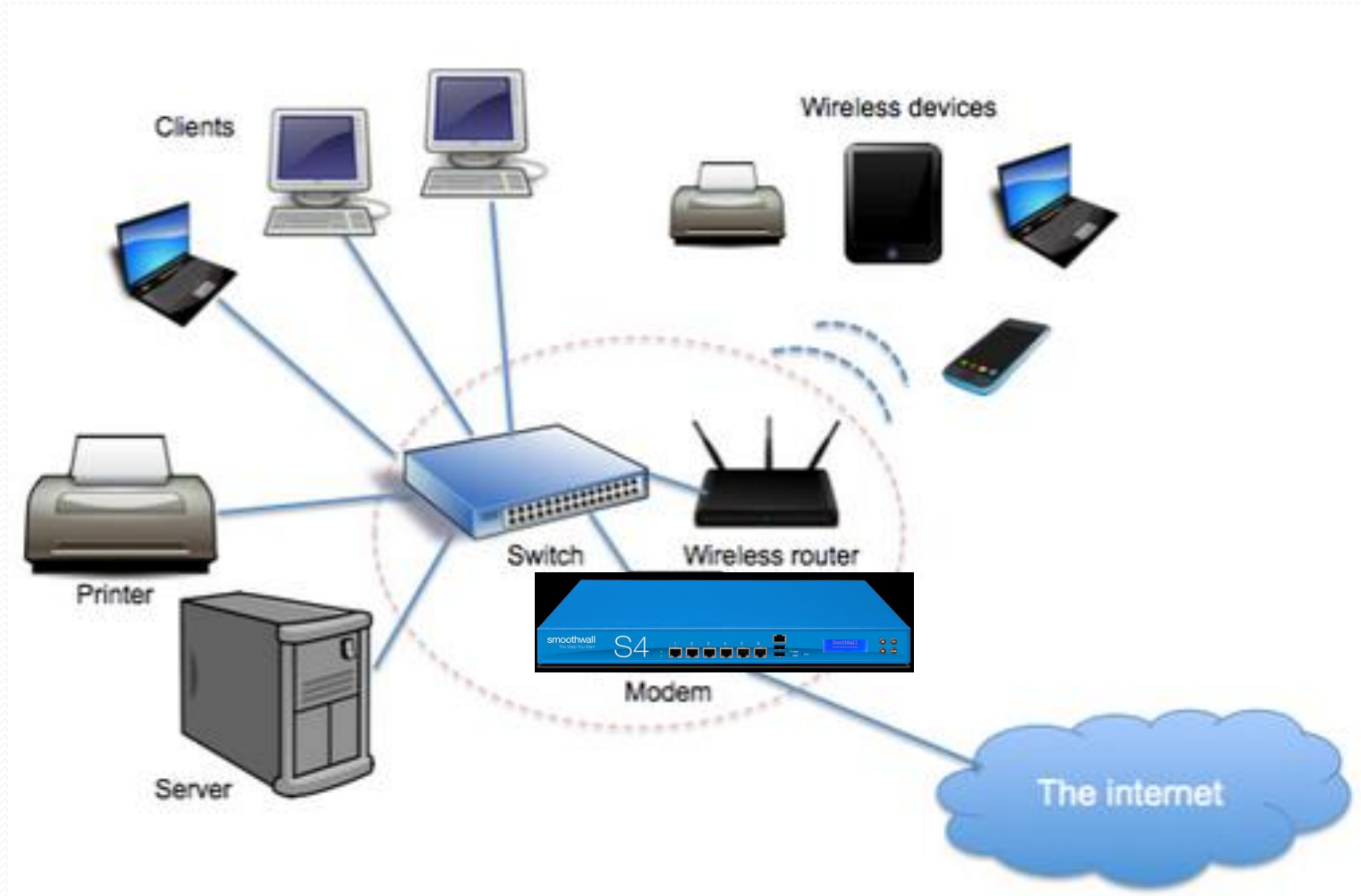
WWW

- Invented by Sir Tim Berners Lee.
- Uses URLs to find data.
- Connections between documents.
- A service that uses the internet to communicate.
- Uses HTTP Protocols (Hyper text, computer language).

What is a Network?

A Network is:
2 or more devices,
connected together that
share resources

Network



How do they connect?

Cat 5 cable



Wired
connection



Wireless connection

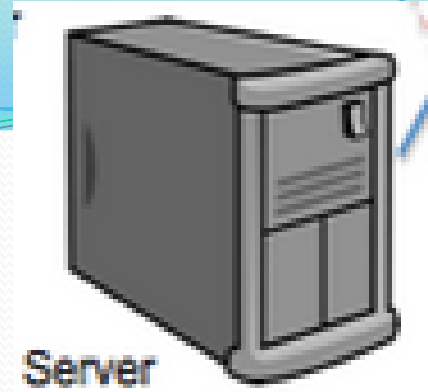
Parts of a Network

Wired networking

A group of devices which are connected to one another using network cables is basically a wired local network.



Server



- A server is a powerful computer that provides one or more services to a network and its users.
- It runs the network.
- Servers are left on 24/7 – 365 days a year.
- On a local area network services will include:
managing user accounts to enable users to log in to the network, running software, enabling saving to a shared area, printing and access to the internet.

Modem Router

- A modem provides access to the internet for the computers.
- It does this by turning data from your computer into a suitable form to be transmitted over fibre cables.



WiFi Router

- It sends data from the internet cable to a device — and as a **wireless** access point so this data can be shared through radio signals instead of another cable.



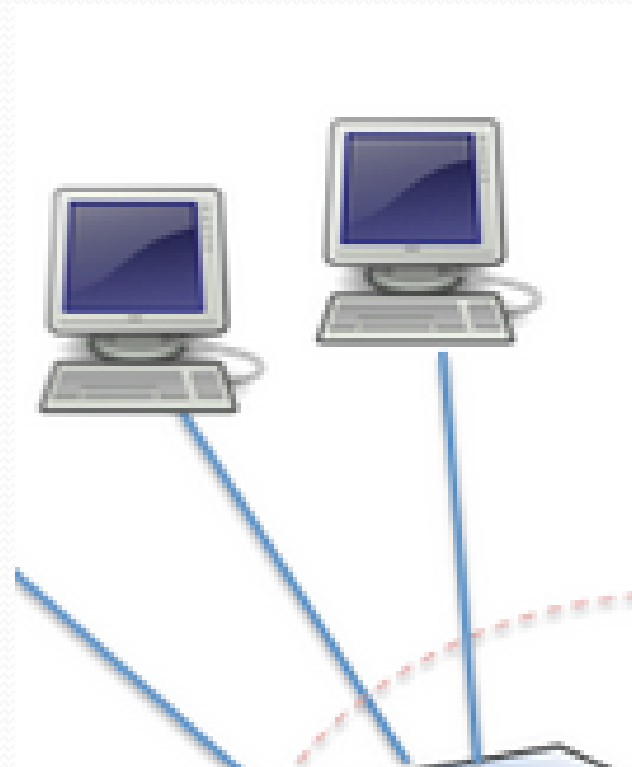
Wireless Devices

- Chromebooks, Laptops & I Pads that are connected to the network via WIFI.
- No wires, they receive their data and internet via radio waves.



Clients

- Are hard wired computers attached to the switch.
- For example teacher pc in classroom and all the pcs in the ICT Suite.



Wireless Network

Wireless networking

A wireless network is like a wired network except that the devices connect to the router and one another using radio wireless connections instead of cables. This is known as **Wi-Fi networking**.



Wireless networking devices don't need to have ports, just antennas, which are sometimes hidden inside the device itself. In many schools and homes, there are generally both wired and wireless devices, which can all communicate together.

Broadcast Wi-Fi signals are literally sent through the air; therefore, it is very easy to connect to a Wi-Fi network. This could be a serious security risk, though, so it is very important for the Wi-Fi network to be password-protected.

PC – Laptop – Chromebooks

do not need wires to get on to the internet

- Chromebooks, Laptops & I Pads that are connected to the network via WIFI.
- No wires, they receive their data and internet via radio waves.

Wireless devices



Switch

Switches are used to connect the various devices on a network together.

They reduce the amount of cabling required to set up a network.



LAN

Local Area Network

- A small connection of computers. Usually in a small business or school.

WAN

Wide area network (WAN)

The router also has a separate port called the wide area network (WAN) port, which is also known as the internet port. This is often a different colour from the LAN ports.

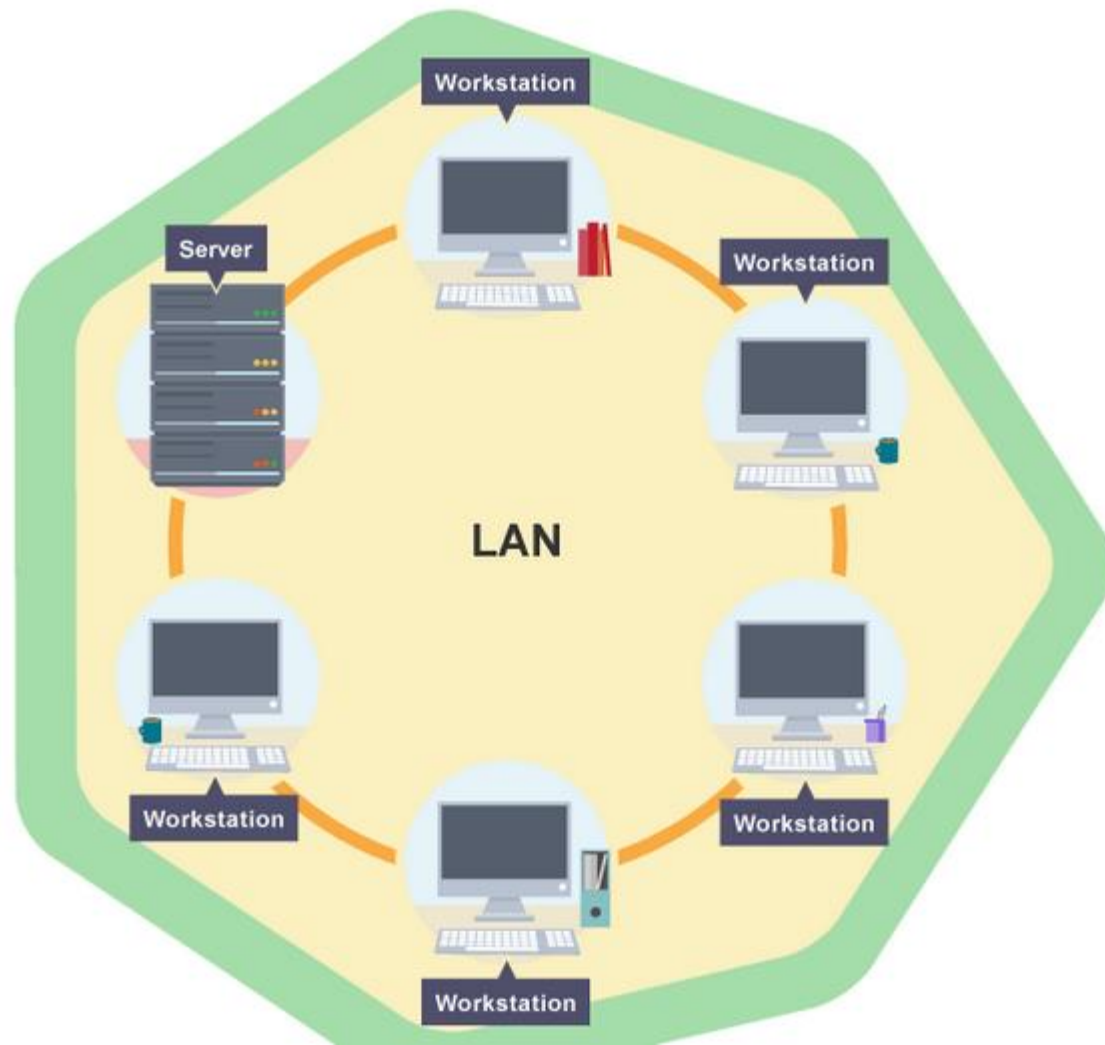
The WAN port is used to connect to an internet service provider.

- A collection of computers that are connected – nationally and internationally.

Local Area Network

LAN

A LAN covers a small area such as one site or building, eg a school or a college.

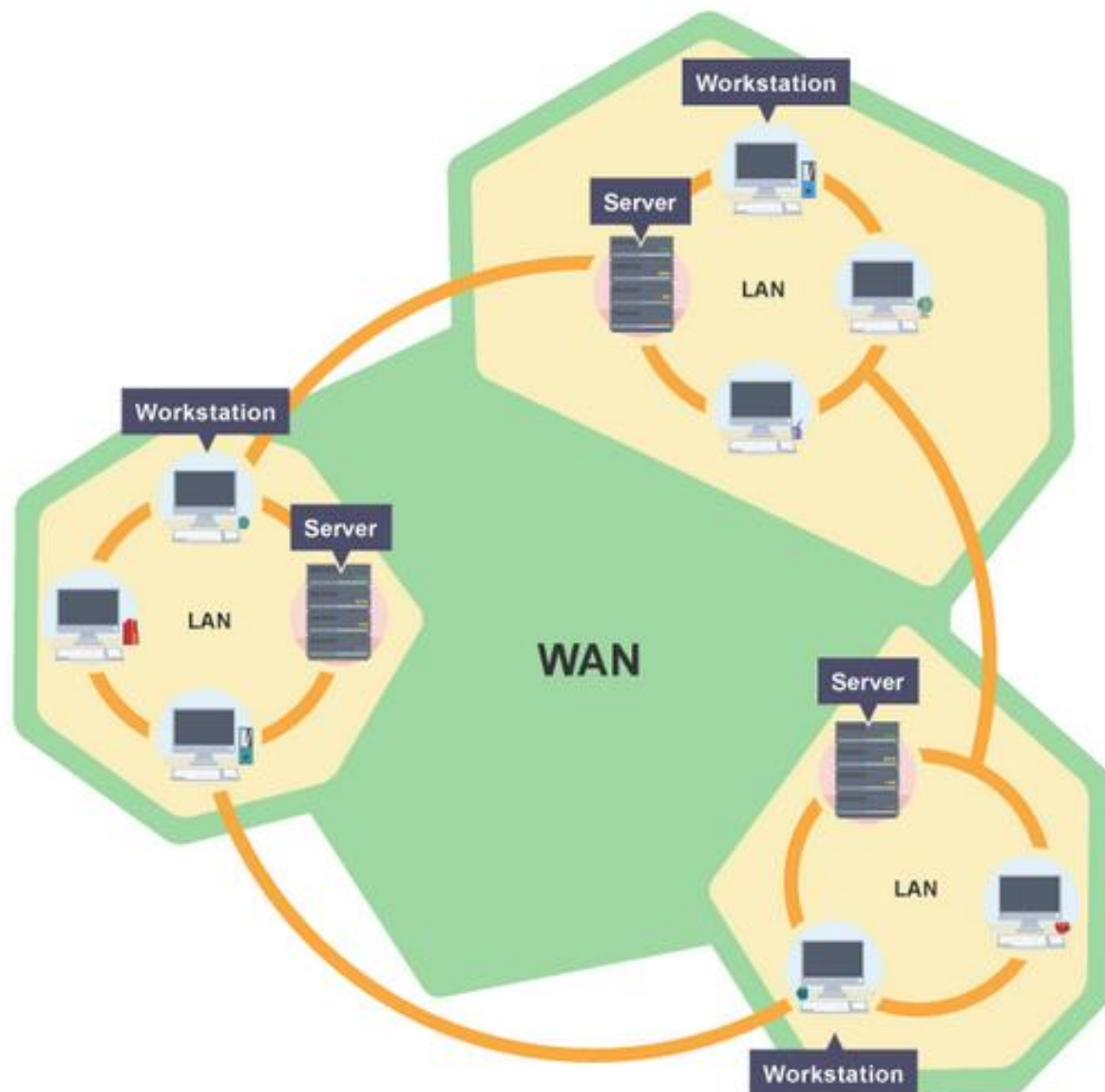


Wide Area Network

- The internet is a WAN.
- Bank cash dispensers is a WAN.
- School is LAN.

WAN

A **WAN** covers a large geographical area. Most WANs are made from several LANs connected together.



History of the Internet

AIMS:

To research and find out about the age of the internet.

To think about what the future might hold.

- You will be able to research and find out about Tim Berners-Lee.
- You will consider some of the major changes in technology which have taken place during your lifetime. Mobile phones, TVs, game consoles, tablets and PCs.
- Demo how to use a search engine to find facts on the history of the internet.

Old Tech

