



COMPUTING: From semaphores to the internet

KNOWLEDGE ORGANISER



Overview

What is a network?

A network is when two or more devices are connected together to allow them to communicate and share resources.

What is a protocol?

A protocol is a set of rules for transmitting data between devices, such as HTTP, or HTTPS.

What is the Internet?

The Internet is a worldwide network of computers, whereas the web is the collection of web pages found on the Internet.

Packets:

Packet switching is when messages are broken up into very small pieces, called packets. Each packet consists of two parts:

- header - this includes the sender's and recipient's IP addresses, the packet number, the total number of packets the message contains, plus the details of any protocols used
- payload - this is part of the actual message itself

The packets are sent individually across the network and put back together to reform the message at the other end.
Wired vs Wireless: the message at the other end.

Packet header	
Sender IP	192.1.5.8
Receiver IP	205.9.4.3
Sequence	1 of 3
Payload	"How"

Addresses/Hardware

IP Addresses:

Every device on the internet has a unique IP address. The IP address is included in a data packet. This is an example of an IP address:

192.168.5.43

Web Addresses:

- 'URL' stands for 'Uniform Resource Locator'.
- It is the address of a World Wide Web page and is sometimes called the 'web address'.



the 'web address'.

Network Hardware:



Router



Server



Hub

Network cable



Wired vs Wireless:

Wired	Wireless
Faster data transfer	No trailing wires
More secure	Quick and cheap to connect devices
Less interference	Portability

Important Vocabulary

Network

Protocol

Internet

Wired

Wireless

Packets

Router

Server

Hardware