

Computing – Year 5 – Computing Systems

Topic Overview

In this unit, we will develop our understanding of computer systems and how information is transferred between systems and devices. We will learn how search engines work (including how they select and rank results), what influences searching and compare search engines.

Key Knowledge

Systems: Information technology (I.T.) includes computers and things that work with computers. Computer systems are built using parts and can communicate with other devices. Computers have an Input, Process and Output.

Washing Machine: Input: Dials and buttons.

Process: The computer inside follows a program. **Output:** The clothes are washed and the display shows the remaining time.

Smart Locker: Input: The customer scans in a barcode or is in close proximity. **Process:** The code is recognised by the system. **Output:** The correct locker is opened.

Protocols and Packets: Protocols are an agreed way of doing something. When we communicate, we use an agreed set of protocols (greeting, speaking, listening...).

In computing, agreed protocols are the way that computers communicate with each other. The digital information they send is called a 'packet'. Media, files and information can be shared on the internet either privately via email/cloud space or publicly on websites.

IP Addresses: Computers are not always in the same place as one another and need to send information to the correct place. To do this, computers use addresses called IP addresses. They may look like this: From: 216. 58. 1. 214
Computers translate addresses to make them memorable: www.willows.lancs.sch.uk

Collaborating is another word for working together to reach a shared goal. The internet can be used to help people collaborate online, even when they are a long distance apart.

'Chat' functions can be used keep each other updated with new information. Shared 'cloud' spaces and online drives allow one or more people to have access to or edit documents. When building upon someone else's work, you need to be aware of copyright and intellectual property rights.

Important Vocabulary

System	A group of things working together as a whole.
Connection	Linking things so they can talk or share.
Digital	Using computers or screens instead of paper or people.
Input	Putting something into a computer.
Process	What the computer does with the information.
Output	What comes out of the computer after it works.
Storage	Saving information to use later.
Search engine	A tool that helps you find things on the internet.
Bot	A computer helper that does tasks for you.
Ranking	The order results appear in when you search online.
Search engine optimisation (SEO)	Ways to improve a website ranking in a search engine.
Web crawler	A program that looks at available websites and organises that information.
IP Address (Internet Protocol)	A unique number assigned to every device connected to the internet.
Copyright	A rule that says who owns something and how it can be used.
Intellectual property rights	The right to own your ideas, pictures, or creations.

Assessment

Give three examples of a digital system.

Use a web search to find specific information.

Know that search engines follow rules to rank results and give two examples of criteria used.

Give three ways that search results can be influenced.