

Skills

Identifying and operating hardware

- Using a mouse, trackpad and/or touchscreen to interact with digital devices.
- Using a keyboard to interact with a device.
- Describe where technology is used at home (e.g., playing games, watching videos).
- Using a mouse, trackpad and/or touchscreen for a specific purpose.
- Using a keyboard for a specific purpose.
- Using inputs to create outputs.
- Recognising that different devices have different parts.
- Identifying common uses of IT in the wider world (e.g., shops, self-service screens, traffic lights).

Networks

- Browsing and interacting with pre-selected websites, software or videos.
- Following links on websites to get to other parts of a page.
- Beginning to recognise a search tool.

Data storage

- Create and name a file with guidance.
- Save and retrieve their work with guidance.
- Naming and saving files so they can be found easily.
- Recognising simple icons associated with saving their work.

Digital security

- Using a password to login and logout of a common platform (this could be a visual password or with support).
- Recognising a login screen.
- Describing why passwords are important.
- Beginning to use username and password independently to log in and out of a common platform.

Computing systems and networks

- Recognise common uses of information technology beyond school.
- Use technology purposefully to create, organise, store, manipulate and retrieve digital content.

Knowledge

Identifying and operating hardware

- To know the names of common digital devices (e.g., computer, tablet, camera).
- To know the names of the parts of the device (e.g., screen, keyboard, mouse).
- To know that button presses and movements of the mouse, trackpad or on the touchscreen are inputs.
- To know that the screen or speaker produces an output.
- To know that IT is a part of our everyday life and the world we live in.

Networks

- To know that online means to be connected to other devices or the internet.
- To know that some digital devices are online.
- To know that some parts of websites are linked together.
- To know that there are visual clues on websites to show the links.

Data storage

- To know that computer files need a name so they can be found again.
- To know that their work can be saved on a digital device.
- To know that their work can be organised into folders so that they can find it easily.
- To know that icons are used across digital devices.

Digital security

- To know that people should have different passwords.
- To know that passwords keep things safe.
- To know that strong passwords can't be easily guessed by others.
- To know that passwords mean that they can share devices in school.

Year 3/4

Skills

Identifying and operating hardware

- Selecting and using appropriate devices for a specific purpose.
- Recognising the shape and name of connectors and their ports.
- Connecting or pairing a wireless peripheral, like headphones or a micro:bit.

Networks

- Using search engines effectively to find information and and navigate links.
- Recognising that a network is two or more wireless or wired connected devices.
- Identifying examples of networks (e.g. school network, home Wi-Fi, internet) and their components (e.g. router, switch and server.).
- Communicate digitally with others.

Data storage

- Saving and retrieving files from different places on a network.
- Create and name a folder, then save files into it.
- Using a cloud-based tool to save, retrieve and share a file (Google drive, OneDrive).

Digital security

- Creating strong passwords.
- Independently logging in and out.
- Describing how computer accounts are personalised to a user.
- Identifying places on the network that they can access.
- Recognising that having multiple logins and passwords adds more security.

Year 5/6

Skills

Identifying and operating hardware

- Using multiple devices or peripheral to achieve a goal (screen sharing, connecting to a printer).
- Using logical steps to troubleshoot hardware by checking power, connections and settings.

Networks

- Evaluating search results to determine how useful they are.
- Explain how search engines work and how they present information.
- Beginning to describe a file's journey through a network (e.g., from a computer to a server).
- Describing how a website works (e.g., how a browser requests a web page from a server).
- Describing how data is broken down into packets, sent across a network and reassembled to form usable information.

Data storage

- Reducing file size for efficient storage.
- Recognising how much data they are storing.
- Describing the purpose of an storage device.
- Choosing different file types to store information efficiently (jpeg, png have different file sizes).

Digital security

- Recognising that you can add extra layers of security to your login.
- Describing how devices connected to the internet are at risk to hackers.
- Recognising that some login methods are more secure than others.

National curriculum statements relating to Computing systems and networks - KS2

Computing systems and networks

- Understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration.
- Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.

Knowledge

Identifying and operating hardware

To know that a peripheral is something that you can connect to a device.

To know that ports are where peripherals can be attached.

To know that a computer is made from different components that do different jobs.

To know that some peripherals connect wirelessly.

Networks

To know that a network is a group of two or more connected computers.

To know that networks are made up of components such as servers, routers and switches.

To know that networks allow devices to share information and resources (e.g. printers and files).

To know that some networks are local and some are global.

To know what happens when they access a website.

To know that text, images and videos on the internet are all forms of data.

To know the world wide web consists of web pages and websites.

To know that the internet enables collaboration and communication.

To know the history and evolution of the internet

Digital security

To know that some areas on a network or device are restricted.

To know that permission means they can access part of a network.

To know that different logins have different purposes.

To know that the school network is a private system that can only be accessed at school.

Knowledge

Identifying and operating hardware

To know that hardware problems can be solved by checking connections and settings.

Networks

To know that search engine results are ranked and influenced by factors like keywords, advertisements and popularity.

To know that packets of data travel across the internet using a system of IP addresses.

To know that each packet contains pieces of data and the instructions on how to assemble them in the right order.

To know that files or requests sent across a network pass through different devices.

To know that websites are hosted on servers.

To know the history and evolution of computer systems.

Data storage

To know that downloading is copying data from one storage place to another, like from the cloud to a local device.

To know that using a cloud or a network to store data is more reliable than storing data locally.

Digital security

To know that networks need security to prevent cyber attacks.

To know that hackers gain access to networks or devices unlawfully.

To know that people can gain access to devices on networks if these are not properly secured.