



Year 1

Term 1&2 – Computing Skills

Key Vocabulary:

Mouse, cursor, click, double-click, log on, log off, window, folder, select, drag, computer, laptop, tablet, resize

Substantive Knowledge

Pupils will:

- identify a smartphone, laptop and tablet as information technology
- list a monitor, computer system unit, keyboard and a mouse as the four main parts of a desktop computer, showing an awareness of the roles each part plays
- list a screen, keyboard and trackpad as the three main parts of a laptop, showing an awareness of the roles each part plays
- recognise what an on/off button looks like on a desktop and laptop
- discover the mouse/trackpad has the ability to left click, right click and double click
- discuss the functions of the three buttons located in the top right corner of an application window

Procedural Knowledge

Pupils will:

- turn a device on and off correctly using the power button
- right click, left click and double click using a mouse or trackpad to interact with the computer interface
- type using a keyboard by becoming familiar with the layout of the keyboard, including letter keys, number keys, function keys and special keys
- interact with application windows by minimising, resizing, and closing them using the buttons in the top right corner
- save documents, images or other files to a specific location on the computer
- locate and open saved files, either through the desktop or file explorer



- problem solve when introduced to common computer errors or issues, such as when an application freezes or a file cannot be found
- acquire skills in organising files and creating folders to maintain a tidy digital workspace



Year 2

Term 1&2 – Technology Around Us

Key Vocabulary:

Technology, digital, device, computer, change, content, data, function, system, information technology (IT), network, wireless, artificial intelligence (AI), virtual reality (VR), augmented reality (AR)

Substantive Knowledge

Pupils will:

- define technology as any tool, device or systems that helps us to do something or solve a problem
- identify technology in school, recognising the different technology different roles within school would need
- recognise information technology in their home
- identify a job role and list the information technology the specified job would require
- name Charles Babbage as the creator of the first mechanical computer
- name Ada Lovelace, Bill Gates, Steve Jobs or Sir Tim Berners Lee as significant figures of information technology

Procedural Knowledge

Pupils will:

- identify and differentiate between various types of technology within and outside of school
- research and identify different job roles within the community that involve information technology
- study the involvement of historical figures in the field of information technology
- explain how AI, AR and VR work at a basic level



Year 3

Term 1&2 – The Internet

Key Vocabulary:

Connection, copper cables, fibre-optic, internet, Internet Service Provider (ISP), network, web browser, wireless, World Wide Web (www), Internet Protocol address (IP address), packets of data, website, web page, address bar, search engine, router, tabs, URL, domain, copy, paste, shortcut

Substantive Knowledge

Pupils will:

- define the internet as a network of computers connected to each other all around the world
- know Sir Tim Berners Lee invented the World Wide Web, which is a collection of web pages found on a network
- name Google Chrome and Microsoft Edge as web browsers which can be used to search for information
- explain the process of the internet and how it works, including the use of routers, web servers and data packets
- recognise Google as a search engine
- identify the padlock in an address bar and determine that this represents a safe website to use

Procedural Knowledge

Pupils will:

- differentiate between the internet (the global network of connected computers) and the World Wide Web (the system of interlinked web pages accessed through the internet)
- use web browsers to access websites and understand the browser's interface
- become proficient in using search engines to find information online and understand how to enter queries
- open, close and manage multiple tabs in a web browser for efficient browsing

- browse the internet safely, including concepts like not sharing personal information and recognising and avoiding suspicious websites
- assess the reliability of websites by examining the URL, looking for security indicators (padlock), and checking for credible sources of information
- enter a website's URL into the web browser's address bar to access a specific webpage
- address common browser issues such as clearing cookies, dealing with slow loading, and handling browser crashes



Year 4

Term 1&2 – Animation

Key Vocabulary:

Animate, animation, still image, frame, onion skinning, loop, frame rate, record, backdrop, stop motion, upload, image

Substantive Knowledge

Pupils will:

- define animation as the process of creating the illusion of moving images using a series of still frames
- identify the advantages computers have on the animation process
- explain the animation process of 'onion skinning' where an animator can see the top frame they are working on, with one or more previous frames shown underneath
- describe a stop motion as an animation where one image is taken at a time with each image being moved slightly in between

Procedural Knowledge

Pupils will:

- engage in discussions and reflections about the evolution of animation and the impact of technology
- create basic animations whilst learning about the concept of onion skinning
- use different animation software to create more complex animations, such as animating an on-screen animal or character
- record their own animations using software tools, and saving their work
- acquire practical skills in creating their own stop motion animations, including setting up scenes, capturing frames, and making small adjustments
- evaluate their stop motion animations, considering factors like smoothness and storytelling
- troubleshoot common animation issues, like frame alignment or software glitches



Year 5

Term 1&2 – The Internet

Key Vocabulary:

Internet, search engine optimisation (SEO), Uniform Resource Locator (URL), web browser, web crawler, web page, website

Substantive Knowledge

Pupils will:

- identify George Boole as a mathematician and computer scientist who created the ideas of Boolean logic (the idea of using AND, OR, NOT to combine or exclude keywords in a search) to help narrow or broaden a search
- know a URL (Uniform Resource Locator) is the address of a web page
- identify a URL as being secure if it starts with https (Hypertext Transfer Protocol Secure)
- explain how indexing works on the internet using a search engine
- recognise that search engine optimisation (SEO) is when a person, or group of people use their knowledge of how search engine ranking works to boost a web page's ranking in a search engine results page

Procedural Knowledge

Pupils will:

- use popular search engines effectively by applying Boolean operators (AND, OR, NOT) to refine their searches and get more accurate results
- read and understand URLs, including recognising https for secure sites
- differentiate trusted and credible websites from less reliable sources based on URL characteristics
- research topics using various websites and online resources, learning to evaluate the reliability of sources
- implement practical steps to optimise a website for better search engine rankings, including keyword research, content creation, and metadata optimisation



Year 6

Term 1&2 – Spreadsheets

Key Vocabulary:

spreadsheet, cell, row, column, formula, format, average, edit, insert, ascending, descending, sort, graph, cumulative

Substantive Knowledge

Pupils will:

- know each cell in a spreadsheet is named by the row and column in which it is located
- recognise cells can be formatted to look clearer or more interesting, similar to word processing or desktop publishing
- identify an advantage of a spreadsheet is the ability to do calculation quickly
- know a formula is always shown by using the '=' sign first
- discover * and / as symbols to support the use of multiplication and division calculations in Excel

Procedural Knowledge

Pupils will:

- open Excel, navigate the Excel interface, and understand the layout of rows, columns, cells and the worksheet
- input data into cells, including numbers, text and dates
- create and enter formulas using common operators and functions
- format cells, including changing fonts, font size, cell colours and borders whilst knowing how to format numbers with specific decimal places, currency symbols, or percentages
- sort data in ascending or descending order based on one or multiple columns
- plan and create budgets using spreadsheet software, including creating tables, entering income or expenses, and using formulas to calculate totals and balances
- save, find and retrieve Excel files
- recognise and resolve common spreadsheet errors, such as formula errors or data entry mistakes