

Year 8 Curriculum Plan

Computing

IT Computer Science Digital Literacy



Threads:

We use threads to signpost groups of units that link to one another, that together build a common body of knowledge over time. We use the term 'thread' to help us bring to mind the visual concept of a thread weaving through the curriculum:

Algorithms and data structures	Artificial intelligence	Computer systems	Creating media	Data and information	Design and development	Effective use of tools	Impact of technology	Networks	Programming	Safety and security
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	Autumn 1 8.1 - Understanding Computers 2	Autumn 2 8.2 - App Design	Spring 1 8.3 - Networks	Spring 2 8.4 - Creating a Digital Animation	Summer 1 8.5 - Advanced Spreadsheets	Summer 2 8.6 - Webpage Design
PRIOR LEARNING	7.3 Understanding Computers 1: - Basic hardware and software understanding (CPU, memory, storage, input/output) - Simple awareness of how computers process data using binary - Basic idea that computers communicate and transfer data Threads: - Computer systems	7.2 Using Media - Basic design principles (layout, colour, text, images) - Creating simple digital media (posters, presentations, graphics) - Following instructions to complete a digital product 7.5 Block-Based Programming: - Sequencing of instructions - Simple event-based	7.1 UCSER: - Basic understanding of school networks and device use 7.3 Understanding Computers 1: - Basic understanding of hardware and system structure - Awareness that computers can be connected in systems and data can be transferred Threads:	7.2 Using Media: - Basic design principles (audience, purpose and layout) - Creating simple media products for a purpose - Following instructions to complete a digital outcome Threads: - Creating media - Design and development - Effective use of tools	7.6 Introduction to Spreadsheets: - Spreadsheet anatomy (cells, rows and columns) - Formulae and functions - Formatting - Graphs and charts Threads: - Data and information - Effective use of tools - Design and development	7.2 Using Media: - Design for audience and purpose 8.2 App Design: - UI design, navigation, user experience, and responding to a client brief Threads: - Effective use of tools - Design and development - Programming

Updated: April 2026

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	- Impact of technology - Artificial Intelligence - Data and information	actions (trigger → response) - Basic interactivity in block-based programming Threads: - Creating media - Design and development - Programming	- Computer systems - Networks - Data and information			
KNOWING WHAT...	- Embedded systems and real-life examples - CPU and Von Neumann architecture (fetch–decode–execute cycle) - Logic gates and truth tables - Binary representation and binary addition - Storage types and operating systems - Basic concepts of Artificial Intelligence (AI) and where it is used in real life	- App purpose and features - Client brief requirements - Storyboarding and wireframing - User interface design principles	- Types of networks (LAN, WAN, PAN) - Client-server and peer-to-peer models - Network hardware (router, switch, server, NIC) - Internet, packets, and packet switching - IP addresses and DNS - Bandwidth and network performance - Web browsers, web servers, and the WWW - URLs, HTTP and HTTPS	- Types and purposes of animation - Storyboarding and planning techniques - Asset creation and sourcing - Animation techniques (frame-by-frame, tweening, onion skinning, motion paths) - Copyright and intellectual property	- Spreadsheet structure and data types - Formulae and functions (SUM, AVERAGE, COUNT, IF, etc.) - Sorting and filtering data - Drop-down lists and validation tools - Charts and data presentation tools - Logical operators	- HTML structure and elements - CSS styling basics - Layout, navigation, and design principles - Hyperlinks and website structure - Usability and accessibility - Testing websites

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KNOWING HOW...	- Explain how the CPU processes instructions - Describe how system components interact - Interpret simple logic gate outputs - Convert and add binary numbers - Classify storage devices and operating systems - Basic concepts of Artificial Intelligence (AI) and where it is used in real life	- Interpret and respond to a client brief - Design user interfaces and user journeys - Create wireframes and prototypes - Test usability and functionality	- Explain how devices communicate on a network - Compare client-server and peer-to-peer systems - Describe how packets are used to send data - Explain how IP addresses and DNS locate websites - Explain how bandwidth affects performance - Describe how browsers and servers interact - Apply knowledge to simple real-world network scenarios	- Plan an animation using a storyboard - Source and prepare digital assets - Create animation using key techniques - Apply timing and movement effectively - Test and improve animation quality	- Enter and organise structured data - Use formulae and functions correctly - Apply sorting, filtering, and validation tools - Create and interpret charts - Analyse data to identify patterns and results	- Use HTML to structure a webpage - Apply CSS to style content - Create navigation and links between pages - Design for audience and purpose - Test and improve usability and functionality - Build a complete webpage from a design
ASSESSMENT	Knowledge Check 1 Pupils complete a single written assessment covering the full unit. It includes multiple-choice, short recall, explanation, and scenario-based questions assessing knowledge, understanding, and application.	Knowledge Check 2 Pupils complete a single practical assessment in which they design and develop an app in response to a client brief. This assesses planning, design skills, and the ability to create and evaluate an interactive prototype.	Knowledge Check 3 Pupils complete a single written assessment covering the full unit. It includes multiple-choice, short recall, explanation, and scenario-based questions to assess knowledge, understanding, and application of computer networks, the internet, and how data is transmitted across systems.	Knowledge Check 4 Pupils complete a single practical assessment where they independently plan and create a digital animation. This assesses planning, storyboarding, use of animation techniques, and application of creative design skills.	Knowledge Check 5 Pupils complete a single practical assessment where they build and use a spreadsheet model for a client. This assesses the ability to enter and organise data, apply formulae and functions, and present the results.	Knowledge Check 6 Pupils complete a single practical assessment where they design and build a webpage. This assesses HTML structure, styling, navigation, and usability of the final product.

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