

This document contains details of how the subject is sequenced over the years of delivery. Included are assessment points and the prior learning that will be included in these assessments. It also includes where topics are revisited to maximise student retrieval and retention. Along with curriculum content, opportunities to develop links with careers are also identified in order to bring the relevance of the curriculum into the wider life context.

Curriculum Intent Statement

It is vital that students are able to use computers and relevant software independently. In order to achieve high levels of Computing competence early, students study Computer Science for one 50-minute lesson per week from Year 7 - 8. Students tackle challenging activities and cover topics in depth, allowing them not only to expand their skills and knowledge, but also to gain confidence. We believe the topics we cover at KS3 prepare students excellently for GCSE Computer Science.

The qualification will build on the knowledge, understanding and skills established through the Computer Science elements of the Key Stage 3 programme of study. The content has been designed not only to allow for a solid basis of understanding but to engage learners and get them thinking about real world application.

Year 7

Year 7 assessment dates

Assessment week 1 – 06.01.2026

Assessment week 2 – 28.04.2026

Term	Content	Core knowledge and skills	Sequencing	Assessment	Careers links & Experiences	Vocabulary	Misconceptions
Autumn 1 Aug to Oct (7 weeks)	Topic: Introduction to Computing 7.1 – Introduction Logging on to the system,	Being able to log in. Being able to send / receive an e-mail. Understand the one drive folder (local/online)	N/A	Assessment: Benchmark Test Online Quizzes – E-safety	Basic Work based office skills	Username Password File Management Email Cybersecurity	Believing that deleting a file from the desktop deletes

	<p>Managing their files properly Using e-mail and MS Office (Including Teams) Using social networking safely Keeping data safe How to search the web properly Benchmark Test (Year 7 Tests/Camping)</p> <p>Topic: 7.2 – Computer Hardware (Begin)</p> <p>The various components of a computer system and their purpose. The purpose of the CPU The purpose of the RAM The purpose of the Hard Drive The purpose of the I/O devices How they all function together The function of the CPU (including the fetch, decode, execute cycle)</p>	<p>Being able to access a team, a teams assignment, and upload to a teams assignment.</p> <p>To know that a computer takes an input, processes it, and outputs it. To know 3 input devices and 3 output devices. To know and explain the purpose of at least two internal components. To be able to explain the FDE cycle in basic terms.</p>		<p>Online Quizzes - Hardware</p>		<p>Social Media, Internet Search Engine</p> <p>CPU RAM Hard Drive Input Process Output Fetch Decode Execute</p>	<p>it from the computer. Thinking that all information online is reliable.</p> <p>Confusing RAM with storage space. Believing the CPU is the entire computer.</p>
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<p>Autumn 2 Oct – Dec (7 weeks)</p>	<p>Topic: 7.2 – Computer Hardware (End)</p> <p>The various components of a computer system and their purpose. The purpose of the CPU The purpose of the RAM The purpose of the Hard Drive The purpose of the I/O devices How they all function together The function of the CPU (including the fetch, decode, execute cycle)</p> <p>Topic: 7.3 – Visual Scratch Programming (Begin)</p> <p>Programming inputs Variable storage Outputs Sequencing Selection Xmas – Santa Tracker</p>	<p>To know that a computer takes an input, processes it, and outputs it. To know 3 input devices and 3 output devices. To know and explain the purpose of at least two internal components. To be able to explain the FDE cycle in basic terms.</p> <p>Create a Magic 8 Ball program in Scratch. Create a GUI that responds to user input and displays stored data. Build a simple calculator GUI. Understand key concepts and apply them to problem-solving tasks.</p>	<p>Previous topics built on in this topic: KS2 Computing (Presuming none)</p>	<p>Assessment:</p> <p>Online Quizzes – Hardware Formative - Hardware</p> <p>Online Quizzes – Scratch Programming Scratch Project Self Assessment</p>	<p>Technician roles</p>	<p>CPU RAM Hard Drive Input Output Fetch Decode Execute</p> <p>Variable Sequence Selection Iteration Loop Blocks</p>	<p>Confusing RAM with storage space.</p> <p>Believing the CPU is the entire computer.</p> <p>Thinking that code runs from left to right instead of top to bottom.</p> <p>Believing that Scratch is not real programming.</p>
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<p>Spring 1 Jan -Feb (5 weeks)</p>	<p>Topic: 7.3 – Visual Scratch Programming (End)</p> <ul style="list-style-type: none"> - Programming inputs - Variable storage - Outputs - Sequencing - Selection 	<p>How to navigate the Scratch interface (stages, sprites, blocks, costumes, sounds). How to add, delete, duplicate, and edit sprites and backgrounds. Use the costume editor to change the appearance of sprites. Should be able to do at least four of the following core programming concepts Sequencing – putting blocks in the correct order to make things happen. Events – using blocks (like when green flag clicked or when key pressed.) Motion – moving sprites, turning, changing x/y positions. Looks – changing costumes, speech bubbles, effects. Loops – using repeat and forever for repetition. Selection – introducing if and if...else statements for decisions. Variables – creating and using simple variables (e.g. score, timer).</p>	<p>Previous topics built on in this topic: KS2 Computing (Presuming none)</p>	<p>Assessment week 1 – 06.01.2025</p> <p>Assessment: Online Quizzes End of Unit Test - Hardware</p>		<p>Variable Sequence Selection Iteration Loop Input Output Algorithm</p>	<p>Thinking that code runs from left to right instead of top to bottom. Believing that Scratch is not real programming.</p>
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		Operators – using comparisons (<, =, >), basic maths, and joining text. Saving and sharing projects.					
Spring 2 Feb - Mar (5 weeks)	Topic: 7.4 – Binary Bits and Bobs <ul style="list-style-type: none"> - binary number system - converting between binary and denary - simple binary addition 	<p>Knowledge Excellence Computers only understand 1s and 0s (binary system). Each bit = a 1 or 0. Byte = 8 bits (and larger units: KB, MB, GB, TB).</p> <p>Skills Excellence Counting in binary up to 8 or 16 Converting simple binary to decimal (up to 8-bit). Understanding place value in binary</p>	Previous topics built on in this topic: KS2 Computing (Presuming none)	Assessment: Online Quizzes (E-safety, Scratch Programming, Binary+) End of Unit Test - Binary	Digital Creative Industries	Binary Bit Byte Denary Resolution Colour Depth Sample Rate Bit Depth	<p>Believing that binary is only used for numbers.</p> <p>Thinking that binary is always 0s and 1s with no structure.</p>
Summer 1 Apr – Jun (10 weeks)	Topic: 7.5 – Advanced Scratch The 'Advanced Scratch' unit introduces students to event driven programming. Students will recap basic programming constructs including Selection Iteration	<p>Loops – using repeat and forever for repetition.</p> <p>Selection – introducing if and if...else statements for decisions.</p> <p>Variables – creating and using simple variables (e.g. score, timer).</p> <p>Operators – using comparisons (<, =, >), basic maths, and joining text.</p> <p>Broadcast & Receive – passing messages between</p>	Previous topics built on in this topic: 7.3 – Visual Scratch Programming	<p>Assessment week 2 – 28.04.2025</p> <p>Consolidation/Summative assessment: Online Quizzes – Scratch Programming and previous topics Scratch Project Self Assessment</p> <p>Summative: End of Year Test</p>	Programming Careers	Event Broadcast Function Nested Loop Clone Condition Variable	<p>Misunderstanding how events trigger blocks.</p> <p>Confusing loops with if statements.</p>

	<p>End of Year Extension tasks:- Avatar Making IDEA Award Wick Editor Animation Introduction to Photoshop Contingency</p>	<p>sprites to coordinate actions.</p> <p>Decomposition – breaking problems down into smaller steps.</p> <p>Pattern recognition – spotting repeated actions to use loops.</p> <p>Abstraction – focusing on key details (e.g., only coding what’s needed).</p> <p>Debugging – testing code, spotting errors, and fixing them.</p>					
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Year 8

Year 8 assessment dates

Assessment week 1 – 30.09.2025

Assessment week 2 – 03.03.2026

Term	Content	Core knowledge and skills	Sequencing	Assessment	Careers links & Experiences	Vocabulary	Misconceptions
Summer 2 Jun – Jul (4 weeks)	8.1 – Back to the Future Back to the Future 1- Alan Turing (Encryption) Back to the Future 2- Tim Berners Lee (HTML) Back to the Future 3- George Boole (Logic Gates) Week 4 - Contingency	Each Computer Scientist – 3 facts AT – Encryption, Key, Decryption GB – Logic Gates, Simple Logic Circuits (AND, OR, NOT) TBL – to know at least html tags (p, h1, br, a, img) To be able to use Pigpen and Caesar Cypher To be able to recognise 3 logic gates, and work out the output of a simple logic circuit.	Previous topics built on in this topic: N/A	Assessment: Online quizzes	Career Aspirations	Encryption Decryption Cipher Internet World Wide Web DNS HTML Logic Gates AND OR NOT	Confusing the internet with the world wide web.
Autumn 1 Aug to Sep (4 weeks)	8.2 – Back to the Future (Continued) Back to the Future 3- George Boole (Logic Gates)	GB – To interpret and create Logic Gates, Simple Logic Circuits (AND, OR, NOT) CB – The concept of problem solving	Previous topics built on in this topic: N/A	Assessment: Quiz / Test End of Unit Test Online quizzes		Encryption Decryption Cipher Internet World Wide Web	

<p>Oct – Dec 6 weeks</p>	<p>Back to the Future 4- Charles Babbage (Problem solving / Algorithms) Back to the Future 5 – Revision/Consolidation Back to the Future 6 – Assessment</p> <p>8.3 – Introduction to AI</p> <ol style="list-style-type: none"> 1. Introduction to Artificial Intelligence 2. Machine Learning 3. Neural Networks and Deep Learning 4. The Ethical Implications of AI 5. The Future of AI and Its Implications 6. Assessment <p>What are the advantages/disadvantages? Contingency</p>	<p>Difference between narrow and general AI</p> <p>Two current sectors that benefit from AI</p> <p>Two ethical implications, present and future. Define machine learning and its types. Describe what a neural network is and its parts. Identify key ethical concerns (bias, privacy, jobs) in AI. Describe future uses of AI in different fields.</p> <p>To be able to refine a prompt in an AI app.</p>	<p>Previous topics built on in this topic: N/A</p>	<p>Quiz / Test</p> <p>Assessment week 1 – 30.09.2025</p> <p>Assessment: End of Unit Test (including AI) Online quizzes</p>	<p>AI in the workplace</p>	<p>DNS HTML Logic Gates AND OR NOT</p> <p>Artificial Intelligence (AI) Algorithm Machine Learning (ML) Bias Ethics Chatbot Voice Recognition Facial Recognition Autonomous Vehicle Deepfake Privacy Consent Transparency Accountability Digital Footprint</p>	<p>Believing that AI is conscious or has emotions.</p>
<p>Dec – Feb (5 weeks)</p>	<p>Topic: 8.6 Introduction to Python (Turtle) Lesson-1- Introduction to Turtle Graphics and Basic Commands</p>	<p>Set up the Turtle environment and create a Turtle object. Use basic Turtle commands to move the turtle and draw simple shapes.</p>	<p>Previous topics built on in this topic: 7.5 – Advanced Scratch</p>	<p>Quiz End of Unit assessment</p>	<p>Programming</p>	<p>Turtle, Direction and movement, iteration, procedure, function</p>	

	<p>Lesson-2- Drawing Shapes and Using Loops</p> <p>Lesson-3- Colours and More Complex Shapes</p> <p>Lesson-4- Functions and Modular Programming</p> <p>Lesson-5-Python- Event Handling and Interactive Graphics</p>	<p>Use loops to draw polygons with varying numbers of sides.</p> <p>Change the pen colour and fill colour in Turtle drawings.</p>					
<p>Spring 1a – 1b Jan -Mar (4 weeks)</p>	<p>Introduction to Creative iMedia</p>	<p>Introduction to the course.</p> <p>To be able to edit a digital image using Photoshop</p> <p>To create a vector-based logo using VectorPea</p> <p>To be able to produce a simple animation using Wick Editor.</p>		<p>Quiz</p> <p>End of Unit assessment</p>	<p>The Media Industry</p>	<p>Multimedia, Workflow, Interface, Project, Composition, Contrast, Layout, Typography, Raster, Layer, Resolution, Brush, Vector, Path, Scalability, Animation, Frame</p>	<p>Photoshop should be used for print layout and logos</p> <p>Vector and raster graphics are interchangeable</p> <p>Animation is quick and easy to create</p>
<p>Spring 1b Feb - April (8 weeks)</p>	<p>Topic: 8.5 –Javascript, HTML, CSS</p> <p>This unit teaches the basics of Javascript enabling students to create the graphics and animations for a mini website.</p> <p>Lesson 1 - the basics of programming and how to draw shapes.</p>	<p>Create a basic form with JavaScript.</p> <p>Write a JavaScript function with an IF statement.</p> <p>Create clickable buttons using JavaScript.</p>	<p>Previous topics built on in this topic:</p> <p>Builing on from programming knowledge gained in Scratch.</p>	<p>Assessment week 2 – 03.03.2026</p> <p>Assessment – Year 8 so far (Formative)</p> <p>Assesment:</p> <p>Online quizzes – Year 8 content</p>	<p>Programming</p>	<p>Variable</p> <p>Function</p> <p>Animation</p> <p>Shape</p> <p>HTML</p> <p>Canvas</p> <p>String</p> <p>Colour Code</p>	<p>Thinking</p> <p>JavaScript is the same as Java.</p> <p>Confusing HTML content with JavaScript behaviour.</p>

	<p>Lesson 2 - how to color and outline your shapes</p> <p>Lesson 3 - use variables to hold values, animate your drawings</p> <p>Lesson 4 - how to animate your drawings</p> <p>This unit also teaches the basics of HTML enabling students to create a mini website.</p> <p>Lesson 5: Contingency</p>						
<p>Spring 2 April - June (5 weeks)</p>	<p>Topic: 8.4 Python</p> <p>Lesson-1-Introduction-to-Python</p> <p>Lesson-2-Outputs-Inputs-and-Variables</p> <p>Lesson-3-Python-Data-Types-and-Arithmetic</p> <p>Lesson-4-Worksheet-Decisions-IF-Statements</p> <p>Lesson-5-Python-Consolidation</p>	<p>Use print() and input() functions to display and store inputs.</p> <p>Create a Python program that uses integer inputs.</p> <p>Write a Python program using simple IF-ELSE statements.</p> <p>Complete a simple challenge involving inputs and arithmetic.</p>	<p>Previous topics built on in this topic:</p> <p>7.5 – Advanced Scratch</p> <p>8.6 – Python Turtle</p>	<p>Assessment:</p> <p>Year-8-Python-Programming-Assessment (Part 1)</p> <p>Online quizzes</p>	<p>Programming</p>	<p>Input</p> <p>Output</p> <p>Data Type</p> <p>String</p> <p>Integer</p> <p>Float</p> <p>Selection</p>	<p>Thinking Python is case-insensitive.</p> <p>Believing a syntax error means the computer is broken.</p>

Year 9 assessment dates

Assessment week 1 – 09.12.2025

Assessment week 2 – 31.03.2026

Term	Content	Core knowledge and skills	Sequencing	Assessment	Careers links & Experiences	Vocabulary	Misconceptions
Summer 2 June – July (5 weeks)	Topic: Topic: 9.1 – Bits and Bobs 2 Bits and Bobs – Shifts & Addition Hexadecimal numbers, Calculating sizes of images and sound ASCII / Unicode Contingency	Characters are stored as numbers (e.g., ASCII). Images are made of pixels Each pixel has a colour value stored in binary. Resolution = how many pixels there are. Colour depth = how many bits per pixel Sound is stored as samples of the wave. Sample rate, Bit Depth	Previous topics built on in this topic: 7.4	Summative assessment: Unit Test – B&B 2 Online quizzes (inc Yr 8 content)		Shift Hexadecimal ASCII Unicode File Size Bit Depth Resolution	Thinking hexadecimal is a different number system from binary/denary.
Autumn 1 Aug – Oct (5 weeks)	Topic: 9.3 –Python Count controlled Loops Condition controlled Loops Lists Introduction to procedures and functions Contingency	Create a program that accepts inputs and stores them in variables. Write an IF statement to compare inputs. Write a simple while loop. Write a for loop that repeats an action a set number of times.	Previous topics built on in this topic: 8.3	Assessment week 1 – 09.12.2025 Formative Assessment: Window Term exam Online quizzes Full Content Test	Programming	Loop For While List Function Procedure Index	Believing loops run forever by default. Confusing lists with strings.

<p>Autumn 2 Oct to Dec (4 weeks)</p>	<p>9.3 – Introduction to AI 7. Introduction to Artificial Intelligence 8. Machine Learning 9. Neural Networks and Deep Learning 10. The Ethical Implications of AI 11. The Future of AI and Its Implications 12. Assessment</p> <p>What are the advantages/disadvantages? Contingency</p>	<p>Difference between narrow and general AI Two current sectors that benefit from AI Two ethical implications, present and future. Define machine learning and its types. Describe what a neural network is and its parts. Identify key ethical concerns (bias, privacy, jobs) in AI. Describe future uses of AI in different fields.</p> <p>To be able to refine a prompt in an AI app.</p>	<p>Previous topics built on in this topic: N/A</p>	<p>Quiz / Test End of Unit Test Online quizzes</p>	<p>AI in the workplace</p>	<p>Artificial Intelligence (AI) Algorithm Machine Learning (ML) Neural Networks Structured Unstructured Bias Ethics Chatbot Voice Recognition Facial Recognition Autonomous Vehicle Privacy</p>	<p>Believing that AI is conscious or has emotions.</p>
<p>Dec to Dec 2025 (4 weeks)</p>	<p>Spring 2 Feb -Mar (5 weeks)</p>	<p>Topic: 9.5 – Computer Networks Local Area Networks (LANs) The hardware of a local network The workings of the Internet How the WWW and Internet differ How data travels around a network (e.g. Data Packets).</p>	<p>Understand what a network is. Understand what the internet and WANs are. Define four key terms related to the internet. Identify common network threats.</p>	<p>Previous topics built on in this topic: 8.6</p>	<p>Summative assessment: Year end Test/exam Online quizzes</p>	<p>Networking</p>	<p>LAN Packet Router IP Address DNS Internet Protocol</p>

			Understand basic prevention methods.				
Spring 1 Jan -Feb (5 weeks)	Topic: 9.4 – Computational Thinking Computational Thinking Abstraction Decomposition Flow Charts Pseudo Code	Students can explain what an algorithm is and write a clear, simple algorithm for an everyday task. Students can identify patterns in sequences and describe how patterns help in problem-solving. Students can decompose a complex task into smaller, simpler steps and explain each step. Students can explain abstraction and give examples of how unnecessary details can be ignored in problem-solving. Students can use all four computational thinking concepts to solve a problem or complete a task.	Previous topics built on in this topic: Scratch/Text Based Programming	Assessment: Unit Test 9.3 Online quizzes		Abstraction Decomposition Algorithm Pseudocode Flowchart, Pattern Recognition	Believing pseudocode must follow Python syntax. Thinking decomposition means breaking the computer.
Spring 2 Feb -Mar (5 weeks)	Topic: 9.5 – Computer Networks Local Area Networks (LANS) The hardware of a local network	Understand what a network is. Understand what the internet and WANs are. Define four key terms related to the internet.	Previous topics built on in this topic: 8.6	Assessment week 2 – 31.03.2026 Summative assessment:	Networking	LAN Packet Router IP Address DNS Internet	Believing data travels directly without routing. Thinking DNS is a type of virus.

	<p>The workings of the Internet</p> <p>How the WWW and Internet differ</p> <p>How data travels around a network (e.g. Data Packets).</p>	<p>Identify common network threats.</p> <p>Understand basic prevention methods.</p>		<p>Year end Test/exam</p> <p>Online quizzes</p>		<p>Protocol</p>	
<p>Summer 1</p> <p>Apr – Jun</p> <p>(9 weeks)</p>	<p>Topic: Programming Project</p> <p>Based on J276</p> <p>Programming Projects (Previous GCSE Spec)</p> <p>Eg Dice Game</p>		<p>Previous topics built on in this topic:</p> <p>Text based programming</p>	<p>Assessment:</p> <p>Online quizzes</p> <p>Programming Project</p>			