

KS3



Computer Science Year 9 Curriculum Overview Goals

NOTE: The curriculum overview is thoughtfully crafted to offer flexibility, enabling smooth transitions between terms. This adaptability is designed to seamlessly accommodate any surplus content from one term's Scheme of Work (SOW) to another, ensuring a comprehensive and uninterrupted learning experience for students. Moreover, this approach considers the possibility of missed lessons due to whole-school events, contributing to a dynamic and responsive educational framework. By embracing this flexible structure, we aim to foster a resilient and agile learning environment that can readily adapt to unforeseen circumstances, providing students with a robust and holistic educational journey.

Autumn Half Term 1	Autumn Half Term 2	Spring Half Term 1	Spring Half Term 2	Summer Half Term 1	Summer Half Term 2
Computational Thinking <ul style="list-style-type: none"> Logic thinking and logic gates AND, OR, NOT Combined logic gates and marked piece Algorithmic thinking 1 Algorithmic thinking 2 Abstraction Decomposition 	Data Representation <ul style="list-style-type: none"> Binary/Denary Binary addition Binary to Hexadecimal Denary to Hexadecimal Revision Summative Assessment Feedback and NOW 	Textual Python Programming <ul style="list-style-type: none"> IDE, sequence, print function Variables and input function Selection, if, else Selection with count Selection with random randint Iteration for count based 	<ul style="list-style-type: none"> Iteration while condition based Data Structures <ul style="list-style-type: none"> Linear search Binary search Merge sort Insertion sort 	Photoshop <ul style="list-style-type: none"> Red eye removal Blemish spot removal White teeth Change eye colour Remove person Create a CD cover using Photoshop skills and techniques Revision Summative Assessment Feedback and NOW 	3D Digital Modelling <ul style="list-style-type: none"> Navigation and interface Creating and editing primitive objects. Transformation tools. Applying modifiers Material and texture application. Basic Animation principles
Key Vocabulary/Concepts/Ideas	Key Vocabulary/Concepts/Ideas	Key Vocabulary/Concepts/Ideas	Key Vocabulary/Concepts/Ideas	Key Vocabulary/Concepts/Ideas	Key Vocabulary/Concepts/Ideas
Vocabulary Tier 2: components, manageable, expression Vocabulary Tier 3: logical thinking, logic, Boolean operators, AND, OR, NOT, logic gates, AND gate, OR gate, NOT gate, algorithm, sequence, truth table, circuit, loop, nested loop, instructions, binary tree, abstraction, network, abstraction, decomposition, pixels, ASCII, nodes, edges, packets, source, destination.	Vocabulary Tier 2: memory, adding, logic, computers Vocabulary Tier 3: binary, denary, hexadecimal, logic gates, bit, nibble, byte, Integrated development, IDLE, interactive mode, Script mode, variable, string, syntax, assignment statement,	Vocabulary Tier 2: program, code, random, count, condition Vocabulary Tier 3: integrated development learning environment, IDLE, interactive mode, script mode, variable, data type, string, integer, float, round, BIDMAS, sequence, syntax error, logic error, debug, syntax, assignment statement, comparison statement, AND, OR, NOT, <, >, <=, >=, !=, ==, for, count controlled, while, condition controlled	Vocabulary Tier 2: data, item, lists, sorting, comparisons, systematic, Vocabulary Tier 3: linear search, binary search, merge sort, insertion sort, algorithms, arrays, data types, elements, indexing, trace table, divide and conquer, condition, middle element,	Vocabulary Tier 2: image, text, tools, manipulation, video, sound Vocabulary Tier 3: move tool, magic wand, lasso, magnetic lasso, quick selection, crop, eyedropper, brush, eraser, clone stamp, healing brush, zoom in, zoom out, free transform, layers, transparent, hue and saturation,	Vocabulary Tier 2: image, tools, modify, create, material, cube, sphere, colours, edges, shapes, paint, icons. Vocabulary Tier 3: viewport, toolbar, status bar, geometric shape, parameters, segments, rotation, edges, vertex, polygon, modifier, move, XYZ axis, materials, textures, surface, diffuse, animation principles, keyframe, timeline, movement.
	GCHQ Christmas competition The GCHQ Christmas Challenge 2024 - GCHQ.GOV.UK	Alan Turing Cryptography Competition The Alan Turing Cryptography Competition edition 2024 (manchester.ac.uk)	Take the Test Learn Python - Free Interactive Python Tutorial	Jobs in Social Media	Young animator of the year Young Animator of the Year UK Makeable Under 14 and 14-18 Make:able 3D Printing Challenge PrintLab & Autodesk (makeablechallenge.com)