

# KS3



## Computer Science Year 7 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
<b>Digital Citizenship School Systems</b> <ul style="list-style-type: none"> <li>Logging onto network create secure password</li> <li>School systems - Teams, Office 365, Classcharts</li> </ul> <b>Mini Project – Digital Literacy</b> Create E-safety presentation on office 365 access at home to add personal image and email <ul style="list-style-type: none"> <li>File management – home area folders/ subfolders/files</li> <li>Creating folders and files</li> <li>Finding, saving and renaming images</li> <li>Inserting images into all about me presentation</li> </ul>	<ul style="list-style-type: none"> <li>All about me presentation</li> </ul> <b>Using Computers Safely Effectively Responsibly</b> <ul style="list-style-type: none"> <li>Social networking</li> <li>Keeping your data safe/how to report---</li> <li>Using email cc, bcc, attachments</li> <li>Sending emails</li> </ul> <b>Data Representation</b> <ul style="list-style-type: none"> <li>Binary</li> </ul>	<ul style="list-style-type: none"> <li>Denary</li> <li>Binary addition</li> <li>Sound, images and text</li> <li>Revision</li> <li><b>Summative Assessment</b></li> <li><b>Feedback and NOW</b></li> </ul> <b>Artificial Intelligence and Machine Learning</b> <ul style="list-style-type: none"> <li>What is Ai</li> <li>Machine Learning</li> <li>Ethics an AI</li> <li>Ethics and China</li> </ul>	<ul style="list-style-type: none"> <li>Bias in bias out</li> <li>Decision trees</li> <li>Solving problems with ML models</li> </ul> <b>Understanding Computers and Data Representation</b> <ul style="list-style-type: none"> <li>Elements of a computer, input and output devices</li> <li>CPU</li> <li>Storage devices</li> </ul>	<b>Mini Project</b> Block programming Microbits/Edison Robots and create a presentation with video of programmed Microbit/Robot  <b>Block Programming - Microbits</b> Microbits to write programs on: <ul style="list-style-type: none"> <li>Sequence</li> <li>Selection</li> <li>Selection with count</li> <li>Decomposition/Function</li> <li>Revision lesson</li> <li><b>Summative Assessment</b></li> <li><b>Feedback and NOW</b></li> </ul>	<b>Block Programming - Edison Robots</b> <ul style="list-style-type: none"> <li>Design a maze</li> <li>Code to navigate maze</li> </ul> <b>Textual Python Programming</b> <ul style="list-style-type: none"> <li>IDE, syntax</li> <li>Sequence, print function</li> <li>Sequence, variable, input function</li> </ul>
Key Vocabulary/Concepts/Ideas	Key Vocabulary/Concepts/Ideas	Key Vocabulary/Concepts/Ideas	Key Vocabulary/Concepts/Ideas	Key Vocabulary/Concepts/Ideas	Key Vocabulary/Concepts/Ideas
<b>Vocabulary Tier 2:</b> policy, manage, secure, techniques, appreciate, accurate, presentation,  <b>Vocabulary Tier 3:</b> file extension, folder, subfolder, root folder directory, recycle bin, backup, shortcut key combination, backup, social networking, cyberbullying, CEOP, online profile, privacy settings, biometrics, encryption, virus, email provider, salutation, email signature, carbon copy (CC) blind carbon copy (BCC), attachment	<b>Vocabulary Tier 2:</b> memory, adding, computers, storage  <b>Vocabulary Tier 3:</b> binary, denary, bit, nibble, byte, kilobyte, megabyte, gigabyte, terabyte, petabyte, exabyte, zettabyte, yottabyte	<b>Vocabulary Tier 2:</b> camera, push button, rules, decisions, morals, bias, email  <b>Vocabulary Tier 3:</b> facial recognition, fingerprint recognition, language processing, neural network, self-driving cars, sensors, embedded, training data, machine learning, structured data, spam, ethics, algorithms, utilitarianism, bits, binary, fuzzy logic, intelligence, IQ, Turing test, Captcha, chatbots, virtual assistants, sentiment analysis	<b>Vocabulary Tier 2:</b> diagram, distinguished, various, scenario,  <b>Vocabulary Tier 3:</b> input, process, output, device, hardware, software, fetch, decode, execute, memory, RAM, ROM, ASCII, code, pits, lands, burn, read, write, data, track	<b>Vocabulary Tier 2:</b> code, program, count, maze, design, navigation, video, sound, presentation, slides, audio  <b>Vocabulary Tier 3:</b> abstraction, decomposition, sequence, selection, IDE, block programming, animation, transition, screen recording	<b>Vocabulary Tier 2:</b> program, code  <b>Vocabulary Tier 3:</b> integrated development learning environment, IDLE, interactive mode, script mode, variable, data type, string, sequence, syntax error, logic error, debug, syntax, assignment statement
	<a href="#">GCHQ Christmas competition</a> <a href="#">The GCHQ Christmas Challenge 2024 - GCHQ.GOV.UK</a>	<a href="#">Alan Turing Cryptography Competition</a> <a href="#">The Alan Turing Cryptography Competition edition 2024 (manchester.ac.uk)</a>	Jobs in Programming		

