

Curriculum information KS3 Computer Science

KS3

Subject:	Computer Science
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YEAR 7

	Topic	Knowledge	Skills	Assessment
Autumn Term	<ol style="list-style-type: none"> E Safety, Security and Ethics Understanding Computers 	<ol style="list-style-type: none"> <ul style="list-style-type: none"> Privacy terms Cyberbullying Safety online Digital footprint Legal/Ethical rights online <ul style="list-style-type: none"> History of computing Computer functions/purpose and system Computer instructions 	<ol style="list-style-type: none"> <ul style="list-style-type: none"> Planning: Gathering information Developing a product/presentation critical thinking and ethical decision making about the use of creative works Digital literacy <ul style="list-style-type: none"> Using comparative skills to recognise similarities and differences with computer systems use of correct ICT language relating to the external world 	Project Evaluation
Spring Term	<ol style="list-style-type: none"> How data is represented in Computers Computational Thinking 	<ol style="list-style-type: none"> <ul style="list-style-type: none"> Measurements of data Binary counting Hexadecimal counting File types Metadata <ul style="list-style-type: none"> understand several key algorithms that reflect computational thinking [for example, ones for sorting and searching]; use logical reasoning to compare the utility of alternative algorithms for the same problem 	<ol style="list-style-type: none"> <ul style="list-style-type: none"> Team collaboration converting data using effective organisation Exploration through accessing and managing data <ul style="list-style-type: none"> Decomposition skills Abstraction skills pattern recognition algorithmic thinking skills 	Project Evaluation

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	Topic	Knowledge	Skills	Assessment
Summer Term	1. Programming – Scratch and SmallBasic	1. Understand how to use the programming languages to solve a variety of computational problems - make appropriate use of data structures design and develop modular programs that use procedures or functions	1. Coding skills 2. Organisational skills 3. Exploration 4. Problem solving 5. Designing programmes 6. Logical reasoning	Project Evaluation

YEAR 8

	Topic	Knowledge	Skills	Assessment
Autumn Term	1. Computer Crime and Cyber Security 2. Control Systems	- Computer Misuse Act - Identity theft - copyright infringement - recognise inappropriate content, contact and conduct, and know how to report concerns - design and develop modular programs that use procedures or function	- Share, team work and collaboration. - critical thinking - evaluating the use of technology safely, respectfully, responsibly and securely, including protecting their online identity and privacy; recognise inappropriate content, contact and conduct and know how to report concern	1. Project 2. Project
Spring Term	1. Intro to Python 2. Python Next Steps	-Understand how to use the programming languages to solve a variety of computational problems	- Programming skills - Problem solving - Critical thinking	1. Project 2. Project
Summer Term	1. Spreadsheets	1. Undertake creative projects that involve selecting, using, and combining multiple applications, preferably across a range of devices, to achieve challenging goals, including collecting and analysing data and meeting the needs of known users	- Organisational skills - Reasoning and decision making during project lifecycle - Planning - Evaluation	1. Project

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YEAR 9 (if applicable)

	Topic	Knowledge	Skills	Assessment
Autumn Term	1. HTML Web development	<ul style="list-style-type: none"> - HTML - Audience and purpose - Site Structure -Project Lifecycle 	<ul style="list-style-type: none"> -HTML programing skills -Web creation skills, Adobe Dreamweaver software 	1. Project
Spring Term	1. Business Project	<ul style="list-style-type: none"> - Enterprise - Innovation - Branding - Business Costs and Revenue 	<ul style="list-style-type: none"> - Exploration and investigation skills - MS PowerPoint - MExcel 	1. Project
Summer Term	1. User Interfaces	<ol style="list-style-type: none"> 1. Types of UI 2. Real world exploration- Google City 	<ul style="list-style-type: none"> - Imagination and creativity - MS Powerpoint - Justification skills 	1. Project