



Topic Name	Term	Skills Developed	Link to NC Subject Content	Next link in curriculum	Other Notes
Introduction to Computing: E-Safety and File Management	Autumn 1	• Basic knowledge of file management with Windows 10. Creating directory structures. • Safe and responsible use of technology and social media. • Online threats such as virus, spyware and ransomware. • Online privacy issues.	• Understand a range of ways to use technology safely, respectfully, responsibly and securely, including protecting their online identity and privacy; recognise inappropriate content, contact and conduct and know how to report concerns.	• Impacts of Computing Project (Year 7 Summer 2)	Taught over a series of individual lessons at the start of Year 7 along with how to log in to school network, use the school VLE and email. Links to Prior Learning: KS2: Safe, responsible and respectful use of technology
Computer Systems	Autumn 1	• Definition of a computer system and different types of computer system • Understanding the difference between input, output and storage devices, hardware and software. • Storage devices and Units of storage from bit to GB.	• Understand the hardware and software components that make up computer systems.	• Computer Systems 2 – Year 8 (Autumn 1)	Foundations for GCSE sections 1.1/1.2/1.3 Links to Prior Learning: N/A



Data Representation 1	Autumn 2	- How computers represent and add numbers using binary. - Understanding of logic gates and circuit diagrams. - Truth table and Boolean algebra representation of circuits.	- Understand how numbers can be represented in binary, and be able to carry out simple operations on binary numbers [for example, binary addition, and conversion between binary and decimal. - Understand simple Boolean logic [for example, AND, OR and NOT] and some of its uses in circuits and programming.	Representing Data 2 (Year 8 Autumn 2)	Links to Prior Learning: N/A
Computational Thinking	Spring 1	- Key aspects of Computational Thinking: Abstraction, decomposition, and pattern recognition. - Basic flowchart symbols (terminators/input/output/processes etc). - Combining symbols to create algorithms (showing sequence, selection and iteration).	- Understand several key algorithms that reflect computational thinking. - Use logical reasoning to compare the utility of alternative algorithms for the same problem. - Design, use and evaluate computational abstractions that model the state and behaviour of real-world problems and physical systems.	- Searching Algorithms (Year 8 (Summer 1) - Python Programming 1 (Spring 2 Year7)	Some of the algorithms designed / created will be coded in the next year 7 unit. Foundations for GCSE section 2.1 Links to Prior Learning: KS2: Logical Reasoning. Detect and correct errors in algorithms



Python Programming 1	Spring 2	• Simple Python input and output commands • Programs involving user input. • Data types • Sequences • Selection and nested selection. • Implementing some of the algorithms developed in the Computational Thinking/Designing Algorithms topic.	• <i>Use two or more programming languages, at least one of which is textual, to solve a variety of computational problems.</i> • <i>Design, use and evaluate computational abstractions that model the state and behaviour of real-world problems and physical systems</i> • <i>Understand several key algorithms that reflect computational thinking</i> • <i>Understand simple Boolean logic [for example, AND, OR and NOT] and some of its uses in circuits and programming</i>	• <i>Python Programming 2 – Year 8 Spring 2)</i>	Foundations for GCSE section 2.2 and 2.3 Links to Prior Learning: KS2: Sequence/Selection/Iteration in programs. Design, write and debug programs.
Web Design – HTML/CSS	Summer 1	• Basic structure of websites. • HTML tags • HTML tag attributes • Cascading Style Sheet (CSS) use. • Application of skills to develop a website of their own choice.	• <i>Use two or more programming languages, at least one of which is textual, to solve a variety of computational problems.</i> • <i>Undertake creative projects that involve selecting, using, and combining multiple applications.</i>	• <i>Computer Networks (how the Internet works) - Year 9 Spring 1</i>	Links to Prior Learning: KS2: select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs



Impacts of Computing Project – Environmental Issues	Summer 2	Environmental impact on the growth of computing technology.	<i>Create, re-use, revise and re-purpose digital artefacts for a given audience, with attention to trustworthiness, design and usability</i> <i>Undertake creative projects that involve selecting, using, and combining multiple applications.</i>	<i>Impacts of Computing Project – Social and Ethical Issues – (Year 8 Summer 2)</i>	Online research and data analysis used here. Foundations for GCSE section 1.6 Links to Prior Learning: KS2: use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content Collecting, analysing, evaluating and presenting data and information
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