



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	<ul style="list-style-type: none"><li>• Basic knowledge of file management with Windows 10. Creating directory structures.</li><li>• Safe and responsible use of technology and social media.</li><li>• Online threats such as virus, spyware and ransomware.</li><li>• Online privacy issues.</li></ul>	<ul style="list-style-type: none"><li>• 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.</li></ul>	<ul style="list-style-type: none"><li>• Impacts of Computing Project (Year 7 Summer 2)</li></ul>	<p>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.</p> <p><b>Links to Prior Learning:</b></p> <p>KS2: Safe, responsible and respectful use of technology</p>
Computer Systems	Autumn 1	<ul style="list-style-type: none"><li>• Definition of a computer system and different types of computer system</li><li>• Understanding the difference between input, output and storage devices.</li><li>• The difference between local and cloud storage and advantages / limitations of each. Units of storage from bit to GB.</li></ul>	<ul style="list-style-type: none"><li>• Understand the hardware and software components that make up computer systems.</li></ul>	<ul style="list-style-type: none"><li>• Computer Systems 2 – Year 8 (Autumn 1)</li></ul>	<p>Foundations for GCSE sections 1.1/1.2/1.3</p> <p><b>Links to Prior Learning:</b></p> <p>N/A</p>



<p>Data Representation 1</p>	<p>Autumn 2</p>	<ul style="list-style-type: none"> <li>• How computers represent and add/subtract numbers using binary.</li> <li>• Understanding of logic gates and circuit diagrams.</li> <li>• Truth table and Boolean algebra representation of circuits.</li> </ul>	<ul style="list-style-type: none"> <li>• 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.</li> <li>• Understand simple Boolean logic [for example, AND, OR and NOT] and some of its uses in circuits and programming.</li> </ul>	<ul style="list-style-type: none"> <li>• Representing Data 2 (Year 8 Autumn 2)</li> </ul>	<p><b>Links to Prior Learning:</b></p> <p>N/A</p>
<p>Computational Thinking</p>	<p>Spring 1</p>	<ul style="list-style-type: none"> <li>• Key aspects of Computational Thinking: Abstraction, decomposition, and pattern recognition.</li> <li>• Basic flowchart symbols (terminators/input/output/processes etc).</li> <li>• Combining symbols to create algorithms (showing sequence, selection and iteration).</li> </ul>	<ul style="list-style-type: none"> <li>• Understand several key algorithms that reflect computational thinking.</li> <li>• Use logical reasoning to compare the utility of alternative algorithms for the same problem.</li> <li>• Design, use and evaluate computational abstractions that model the state and behaviour of real-world problems and physical systems.</li> </ul>	<ul style="list-style-type: none"> <li>• Searching Algorithms (Year 8 (Summer 1)</li> <li>• Python Programming 1 (Spring 2 Year7)</li> </ul>	<p>Some of the algorithms designed / created will be coded in the next year 7 unit.</p> <p>Foundations for GCSE section 2.1</p> <p><b>Links to Prior Learning:</b></p> <p>KS2: Logical Reasoning. Detect and correct errors in algorithms</p>



<p>Python Programming 1</p>	<p>Spring 2</p>	<ul style="list-style-type: none"> <li>• Simple Python input and output commands</li> <li>• Programs involving user input.</li> <li>• Data types</li> <li>• Sequences</li> <li>• Selection and nested selection.</li> <li>• Implementing some of the algorithms developed in the Computational Thinking/Designing Algorithms topic.</li> </ul>	<ul style="list-style-type: none"> <li>• <i>Use two or more programming languages, at least one of which is textual, to solve a variety of computational problems.</i></li> <li>• <i>Design, use and evaluate computational abstractions that model the state and behaviour of real-world problems and physical systems</i></li> <li>• <i>Understand several key algorithms that reflect computational thinking</i></li> <li>• <i>Understand simple Boolean logic [for example, AND, OR and NOT] and some of its uses in circuits and programming</i></li> </ul>	<ul style="list-style-type: none"> <li>• Python Programming 2 – Year 8 Spring 2)</li> </ul>	<p>Foundations for GCSE section 2.2 and 2.3</p> <p><b>Links to Prior Learning:</b></p> <p>KS2: Sequence/Selection/Iteration in programs.</p> <p>Design, write and debug programs.</p>
<p>Web Design – HTML/CSS</p>	<p>Summer 1</p>	<ul style="list-style-type: none"> <li>• Basic structure of websites.</li> <li>• HTML tags</li> <li>• HTML tag attributes</li> <li>• Cascading Style Sheet (CSS) use.</li> <li>• Application of skills to develop a website of their own choice.</li> </ul>	<ul style="list-style-type: none"> <li>• <i>Use two or more programming languages, at least one of which is textual, to solve a variety of computational problems.</i></li> <li>• <i>Undertake creative projects that involve selecting, using, and combining multiple applications.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Computer Networks (how the Internet works) - Year 9 Spring 1</li> </ul>	<p><b>Links to Prior Learning:</b></p> <p>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</p>



<b>Impacts of Computing Project – Environmental Issues</b>	<b>Summer 2</b>	<ul style="list-style-type: none"><li>• Environmental impact on the growth of computing technology.</li></ul>	<ul style="list-style-type: none"><li>• <i>Create, re-use, revise and re-purpose digital artefacts for a given audience, with attention to trustworthiness, design and usability</i></li><li>• <i>Undertake creative projects that involve selecting, using, and combining multiple applications.</i></li></ul>	<ul style="list-style-type: none"><li>• <i>Impacts of Computing Project – Social and Ethical Issues – (Year 8 Summer 2)</i></li></ul>	Online research and data analysis used here.  Foundations for GCSE section 1.6  <b>Links to Prior Learning:</b>  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
--	-----------------	---	---	---	--