



Topic Name	Term	Skills Developed	Link to NC Subject Content	Next link in curriculum	Other Notes
<b>E-Safety and File Management</b>	<b>Autumn</b>	<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>Issues in Computing Project – Legal and Ethical (Summer Year 8)</li> </ul>	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.
<b>Computer Systems</b>	<b>Autumn</b>	<ul style="list-style-type: none"> <li>Understanding the difference between input, output and storage devices.</li> <li>Role of internal components of a computer (CPU/RAM hard disk)</li> <li>The function of the CPU.</li> <li>How computers represent and add numbers using binary.</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 the hardware and software components that make up computer systems.</li> <li>Understand how instructions are stored and executed within a computer system</li> </ul>	<ul style="list-style-type: none"> <li>System Architecture (Spring Year 10)</li> <li>Data Representation (Autumn Year 8)</li> </ul>	Preparation for GCSE sections 1.1/1.2/1.3 and 2.6
<b>Graphics Programming using Logo</b>	<b>Autumn</b>	<ul style="list-style-type: none"> <li>Basic sequences of commands to produce images using Logo.</li> <li>Grouping blocks of code into sub routines.</li> <li>Repetition (loops)</li> </ul>	<ul style="list-style-type: none"> <li>Use two or more programming languages, at least one of which is textual, to solve a variety of computational problems.</li> <li>Design, use and evaluate computational abstractions that</li> </ul>	<ul style="list-style-type: none"> <li>Introduction to Programming with Python (Summer Year 7)</li> </ul>	First introduction to textual programming languages. Preparation for GCSE section 2.2



			<i>model the state and behaviour of real-world problems and physical systems.</i>		
<b>Designing Algorithms (Flowchart and Pseudocode)</b>	<b>Spring</b>	<ul style="list-style-type: none"> <li>• Basic flowchart symbols (terminators/input/output/process etc).</li> <li>• Combining symbols to create algorithms (showing sequence, selection and iteration).</li> <li>• Simple pseudocode commands for input/output/selection and basic iteration.</li> </ul>	<ul style="list-style-type: none"> <li>• <i>Understand several key algorithms that reflect computational thinking.</i></li> <li>• <i>Use logical reasoning to compare the utility of alternative algorithms for the same problem.</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> </ul>	<ul style="list-style-type: none"> <li>• <i>Algorithms and Problem Solving (Autumn Year 9)</i></li> <li>• <i>Introduction to Programming with Python (Summer Year7)</i></li> </ul>	<p>Some of the algorithms designed / created will be coded in the next year 7 unit.</p> <p>Preparation for GCSE section 2.1</p>
<b>Introduction to Programming with Python</b>	<b>Summer</b>	<ul style="list-style-type: none"> <li>• Simple Python input and output commands</li> <li>• Sequences</li> <li>• Selection and nested selection.</li> <li>• Iteration.</li> <li>• Implementing some of the algorithms developed in the previous 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> </ul>	<ul style="list-style-type: none"> <li>• <i>Programming with Python – 2 (Spring Year 8)</i></li> </ul>	<p>Preparation for GCSE section 2.2 and 2.3</p>



			<ul style="list-style-type: none"> <li>Understand simple Boolean logic [for example, AND, OR and NOT] and some of its uses in circuits and programming</li> </ul>		
<b>Issues in Computing Project – Environmental and Social Issues</b>	<b>Summer</b>	<ul style="list-style-type: none"> <li>Environmental impact on the growth of computing technology.</li> <li>Social issues arising – Changing jobs market, digital divide etc.</li> </ul>	<ul style="list-style-type: none"> <li>Create, re-use, revise and re-purpose digital artefacts for a given audience, with attention to trustworthiness, design and usability</li> </ul>	<ul style="list-style-type: none"> <li>Issues in Computing Project – Legal and Ethical (Summer Year 8)</li> </ul>	<p>Online research and data analysis used here.</p> <p>Preparation for GCSE section 1.6</p>
<i>Web Design – HTML/CSS</i>	<i>Summer</i>	<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>Use two or more programming languages, at least one of which is textual, to solve a variety of computational problems.</li> <li>Undertake creative projects that involve selecting, using, and combining multiple applications.</li> </ul>	<ul style="list-style-type: none"> <li>Programming with Python – 2 (Spring Year 8)</li> </ul>	<p>This topic is included as an 'end of term' creative coding project. HTML/CSS coding is not studied again until A Level Computer Science as it is not on the GCSE specification.</p>