



Topic Name	Term	Skills Developed	Link to NC Subject Content	Next link in curriculum	Other Notes
Computer Systems 2	Autumn 1	<ul style="list-style-type: none"> <li>The function of the CPU.</li> <li>Role of internal components of a computer (CPU/RAM hard disk)</li> <li>RAM vs ROM</li> </ul>	<ul style="list-style-type: none"> <li>Understand the hardware and software components that make up computer systems and how they communicate with one another and with other systems.</li> <li><i>Understand how instructions are stored and executed within a computer system</i></li> </ul>	<ul style="list-style-type: none"> <li><i>Computer Systems 3 (Year 9 - Autumn 1)</i></li> </ul>	<p><b>Links to Prior Learning:</b></p> <p>Y7 Computer Systems. Y7 Data Representation.</p>
Data Representation 2	Autumn 2	<ul style="list-style-type: none"> <li><i>Binary representation of text using ASCII/Extended ASCII/Unicode table.</i></li> <li><i>Bitmap image representation.</i></li> </ul>	<ul style="list-style-type: none"> <li><i>Understand how data of various types (including text, sounds and pictures) can be represented and manipulated digitally, in the form of binary digits.</i></li> </ul>	<ul style="list-style-type: none"> <li><i>Data Representation 3 (Year 9 – Autumn 2)</i></li> </ul>	<p>Foundations for GCSE section 2.2 and 2.3</p> <p><b>Links to Prior Learning:</b></p> <p>Year 7 Data Representation</p>
Computer Networks 1	Spring 1	<ul style="list-style-type: none"> <li>Basics of computer networks – Advantages and limitations.</li> <li>Computer networks – Equipment used.</li> <li>Encryption</li> </ul>	<ul style="list-style-type: none"> <li>Understand the hardware and software components that make up computer systems and how they communicate with one another and with other systems.</li> </ul>	<ul style="list-style-type: none"> <li>Computer Networks 2 (Year 9 – Spring 1)</li> </ul>	<p>Foundations for GCSE section 1.3 and 1.4</p> <p><b>Links to Prior Learning:</b></p> <p>Y7 Computer Systems.</p>



					Y7 Web Design (some elements)
Programming with Python – 2	Spring 2	<ul style="list-style-type: none"> <li>Iteration – For and While loops. Counter controlled and condition controlled.</li> <li>Use of python list data structures.</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; make appropriate use of data structures [for example, lists, tables or arrays]; design and develop modular programs that use procedures or functions</li> </ul>	<ul style="list-style-type: none"> <li>Programming with Python 3 (Year 9 Spring 2)</li> </ul>	Foundation for GCSE section 2.2  <b>Links to Prior Learning:</b>  Y7 Introduction to Python Y7 Computational Thinking
Searching Algorithms	Summer 1	<ul style="list-style-type: none"> <li>Be able to compare the two methods with number sets.</li> <li>Understand and compare the linear and binary search algorithms for searching through data sets.</li> </ul>	<ul style="list-style-type: none"> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>Sorting Algorithms (Year 9 – Spring 1)</li> </ul>	Foundation for GCSE section 2.1  <b>Links to Prior Learning:</b>  Y7 Computational Thinking



Computing Impacts Project – Ethical and Social Impacts	Summer 2	<ul style="list-style-type: none"><li>• Concept of artificial intelligence.</li><li>• Ethical issues surrounding the growth of AI.</li><li>• Social impacts of the growth of computing technology including privacy and changes to the employment market.</li></ul>	<ul style="list-style-type: none"><li>• <i>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.</i></li><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 – Digital Divide (Year 9 – Summer 2)</i></li></ul>	<b>Links to Prior Learning:</b>  Y7 – Impacts of Computing Project (Environmental Issues)