

## Year 8 Big Picture – Computer Science

<b>Autumn Weeks 2-15</b> <b>7 Lessons</b>	<b>Spring Weeks 16-27</b> <b>4 Lessons (2 lessons allocated to BT &amp; CFS)</b>	<b>SUMMER Weeks 27-39</b> <b>4 Lessons (2 lessons allocated to BT &amp; CFS)</b>
<p><b>Networks</b></p> <p>This unit begins by defining a network and addressing the benefits of networking, before covering the types of hardware required are explained.</p> <p>Learners will develop an understanding of the terms 'internet' and 'World Wide Web'. Learners will develop a network diagram and cost a new network infrastructure. The final lesson discusses operating systems and introduced graphical user interfaces (GUI) &amp; Command line interfaces (CLI).</p>	<p><b>Python Programming</b></p> <p>During this unit students will build on the skills and knowledge taught in Year 7.</p> <p>Students will gain an in-depth understanding of how to use variables, data types, and string/ number manipulation.</p> <p>Students will learn about sequencing, selection and iteration and will be introduced to debugging, functions and lists in Python.</p>	<p><b>Plan and Create a website</b></p> <p>In this unit, learners will plan a Moodboard and Wireframe for a given scenario</p> <p>Learners will either use HTML or an Online Platform to create the website for a client</p>
<p><b>Content</b></p> <ul style="list-style-type: none"> <li>Define what a computer network is and explain the advantages and disadvantages of using a network</li> <li>List examples of the hardware necessary for connecting devices to networks</li> <li>Define what the internet is</li> <li>Explain how data travels between computers across the internet</li> </ul>	<p><b>Content</b></p> <ul style="list-style-type: none"> <li>Write simple Python programs that display messages, assign values to variables, and receive keyboard input</li> <li>Use simple arithmetic expressions in assignment statements to calculate values</li> <li>Receive input from the keyboard and convert it to a numerical value</li> <li>Use binary selection (if, else statements) to control the flow of program execution</li> </ul>	<p><b>Content</b></p> <ul style="list-style-type: none"> <li>Compare planning tools available for pre-production</li> <li>Describe what HTML is</li> <li>Identify and explain the features of a website</li> <li>Know the basics of good Web Design</li> <li>Understand the purpose of CSS and why it is needed in addition to HTML</li> </ul>

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<ul style="list-style-type: none"> <li>Explain the difference between the internet, its services, and the World Wide Web</li> <li>Create a network diagram using a range of hardware solutions &amp; pricing to enable re world understanding and context.</li> <li>Understand what an operating system is and be able to define a Graphical user interface &amp; a Command line interface.</li> </ul>	<ul style="list-style-type: none"> <li>Describe how iteration (for statements) controls the flow of program execution</li> </ul>	<ul style="list-style-type: none"> <li>Understand the purpose of DIV tags</li> <li>Create a two-page website to showcase the skills learnt throughout this unit of study</li> </ul>
	<b>Big Test 1 from 12<sup>th</sup> Jan to 23<sup>rd</sup> Jan</b>	<b>Big Test 2</b>