

	<p><b>Intent</b></p> <p>The year 8 curriculum aims to inspire young programmers by embedding the fundamentals studied in year 7. They will write programs in a text-based language that produce interesting output and build resilience when faced with difficulties. They will develop their spreadsheet skills to use named functions to analyse large quantities of data and will understand the benefits of using these tools. They will develop some understanding of the hardware that makes up individual computers and networks. They will consider the impact computer use has on the wider society.</p>			
<p><b>Computing</b></p>	<p><b>Threshold Concepts</b></p> <ul style="list-style-type: none"> <li>• How to organise data on a spreadsheet for processing – atomic data values, using labels, grouping data together.</li> <li>• Using Python IDLE to execute and save programs.</li> </ul>			
<p><b>Year 8</b></p>	<p><b>Programming (Sept to Nov)</b></p>	<p><b>Spreadsheets (Nov to Feb)</b></p>	<p><b>Computer Systems (Mar to May)</b></p>	<p><b>The impact of IT on Society (June and July)</b></p>
<p><b>Knowledge</b> (facts, information, concepts and key terminology)</p>	<ul style="list-style-type: none"> <li>• Be aware of the different modes of the Python interface.</li> <li>• Understand the following programming concepts: input, output, selection, indefinite iteration and Boolean expressions.</li> </ul>	<ul style="list-style-type: none"> <li>• Know what these functions do: SUM, AVE, MAX, MIN, COUNT, COUNTA, COUNTIF, VLOOKUP.</li> </ul>	<ul style="list-style-type: none"> <li>• Identifying elements of a computer system.</li> <li>• What a network is and different types of network.</li> <li>• What embedded systems are used for.</li> <li>• What cloud computing is.</li> <li>• Uses of artificial intelligence.</li> <li>• What the internet is and how it works.</li> </ul>	<ul style="list-style-type: none"> <li>• Some articles that are presented as ‘news’ are fake.</li> <li>• Software developers employ tactics to keep you on their app.</li> <li>• Definition of hacking.</li> <li>• Copyright is the right of the creator of original content to say what is one with it.</li> </ul>
<p><b>Understanding</b> (ability to connect and synthesise knowledge within a context)</p>	<ul style="list-style-type: none"> <li>• Using multiple commands to write parts of a program.</li> </ul>	<ul style="list-style-type: none"> <li>• Composition of functions.</li> </ul>	<ul style="list-style-type: none"> <li>• The difference between hardware and software.</li> <li>• Recognising input and output devices.</li> </ul>	<ul style="list-style-type: none"> <li>• Understand the above has an impact on society as a whole.</li> </ul>
<p><b>Skills</b> (successful application of knowledge and understanding to a specific task)</p>	<ul style="list-style-type: none"> <li>• Combine the above programming techniques into a small application with support.</li> </ul>	<ul style="list-style-type: none"> <li>• Apply the above functions to a spreadsheet model.</li> <li>• Organising data for processing.</li> </ul>	<ul style="list-style-type: none"> <li>• Explain the operation of the internet.</li> <li>• Explain the roles of hardware and software in the operation of a computer.</li> </ul>	<ul style="list-style-type: none"> <li>• How to spot fake news.</li> <li>• How to recognise tactics used to keep users on apps.</li> </ul>
<p><b>Formal Assessments</b> (those done by all/vast majority of the cohort)</p>	<p>Multiple-choice test at the end of the unit.</p>	<p>Multiple-choice test at the end of the unit.</p>	<p>Multiple-choice test at the end of the unit.</p>	<p>Multiple-choice test at the end of the unit.</p>
<p>By the end of the year students on course for at least a grade 5 will...</p> <ul style="list-style-type: none"> <li>• Be able to edit Python programs that include iteration and selection features.</li> <li>• Apply functions in a spreadsheet that take a range of cells as the input.</li> <li>• Briefly describe the fetch-decode-execute cycle, including the role of hardware.</li> </ul>				

