



Year 8 Curriculum Map  
Faculty/Subject: Computing

<p><u>Unit 8.1</u></p> <p><u>Topic:</u> <u>Computing Heroes</u></p>	<p><u>Unit 8.2</u></p> <p><u>Topic: Computer Systems</u> <u>2</u></p>	<p><u>Unit 8.3</u></p> <p><u>Topic: Computer</u> <u>Networks 2</u></p>	<p><u>Unit 8.4</u></p> <p><u>Topic: Scratch</u> <u>Programming</u></p>	<p><u>Unit 8.5</u></p> <p><u>Topic: Python</u> <u>Programming</u></p>
<p><b>Intent:</b> Pupils need to understand the development of computers over time and how they came to be used with the frequency and importance they have today. Pupils are given the opportunity to research a range of past and present 'heroes' to discover both how long ago computers were developed, that women have had a key role (Ada Lovelace) and the development of software has been as key as hardware (Bill Gates etc).</p>	<p><b>Intent:</b> This unit is designed to expand on what pupils learnt about Computer Science fundamentals in Year 7. This unit covers:</p> <ul style="list-style-type: none"> <li>• How computers are integrated in many devices (embedded systems)</li> <li>• Logic gates – how processors process</li> <li>• Binary and how data is represented</li> <li>• Data storage and types of storage (allowing pupils to evaluate and understand the</li> </ul>	<p><b>Intent:</b> As with 8.2, this unit builds upon knowledge from Year 7. The context of this unit is that pupils both learn more about networks such as their topology, but also more about their benefits and drawbacks. The unit also includes vocational elements, providing a work-based context to much of the unit. Lessons cover:</p> <ul style="list-style-type: none"> <li>• Topologies</li> <li>• Hardware</li> <li>• Performance</li> <li>• Protocols</li> <li>• Threats</li> </ul>	<p><b>Intent:</b> Continuing on from Unit 7.6 micro:bit programming, pupils again cover the important and fundamental programming concepts, including:</p> <ul style="list-style-type: none"> <li>• Algorithms</li> <li>• Iteration</li> <li>• Selection</li> <li>• Variables</li> <li>• Procedures</li> <li>• Debugging and fault-finding</li> </ul> <p>They use Scratch as a vehicle for this, which again builds upon 7.6. The main intent is that repeated programming</p>	<p><b>Intent:</b> This units gives pupils an opportunity to again practice and build upon programming skills but in a more challenging textual-based programming environment. This is to prepare pupils using the common language of Python, frequently used to create programs internationally. Pupils use the same core concepts, applying them using text-based programming.</p> <p><b>Assessment Focus:</b> Pupils complete a workbook of increasingly</p>



<p><b>Assessment Focus:</b> Pupils create a poster that contains the key information – who the person is, what they did for computing. The quality of the poster’s presentation is also assessed. A baseline test will also occur at the end of this unit.</p>	<p>need for different types)</p> <ul style="list-style-type: none"> <li>• Memory – building further on how memory works and its necessity in a computer system</li> </ul> <p><b>Assessment Focus:</b> There are two assessments – the paper workbook where pupils demonstrate their learning each lesson. There is also a more formal end of unit summative test.</p>	<ul style="list-style-type: none"> <li>• Preventing vulnerabilities</li> </ul> <p>This rounds out the learning around networks to give pupils the breadth of knowledge that underpins any further study of computer networks.</p> <p><b>Assessment Focus:</b> Pupils complete a workbook portfolio that contains their learning of each topic, including network topology diagrams, tables etc due to the practical nature of the topic. There is also a mini-test to provide some summative information.</p>	<p>practice is important to build up both knowledge of concepts, but also to allow pupils to understand the process behind writing a program irrespective of language.</p> <p><b>Assessment Focus:</b> Pupils complete a workbook which demonstrates their understanding of a programming concept of each lesson as their program develops. Pupils also submit their program to an online group to be assessed.</p>	<p>challenging programming tasks, each week applying the core skills now learnt in several prior units. The workbook is heavily differentiated to allow progress at all levels, but also to challenge those who have an excellent grasp of the fundamental elements.</p>
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