

# ASHTON COMMUNITY SCIENCE COLLEGE: COMPUTING CURRICULUM

Year 8						
	Half term 1	Half term 2	Half term 3	Half term 4	Half term 5	Half term 6
Knowledge	<p><u>Topic:</u></p> <ul style="list-style-type: none"> <li>Memory &amp; Storage</li> <li>Searching &amp; Sorting Data</li> </ul>	<p><u>Topic:</u></p> <ul style="list-style-type: none"> <li>Searching &amp; Sorting Data</li> <li>Networks</li> </ul>	<p><u>Topic:</u></p> <ul style="list-style-type: none"> <li>Python Introduction</li> </ul>	<p><u>Topic:</u></p> <ul style="list-style-type: none"> <li>Multimedia Products</li> </ul>	<p><u>Topic:</u></p> <ul style="list-style-type: none"> <li>Multimedia Products</li> <li>Binary &amp; Hexadecimal</li> </ul>	<p><u>Topic:</u></p> <ul style="list-style-type: none"> <li>System Security</li> </ul>
Skills/ application of knowledge	<ul style="list-style-type: none"> <li>Why does a computer need memory?</li> <li>Why does a computer need different types of memory?</li> <li>Why are some of the different types of memory faster than others?</li> <li>How do computers search and sort data?</li> <li>What are linear and binary search algorithms and how do they work?</li> <li>What are bubble and merge sort algorithms and how do they work?</li> </ul>	<ul style="list-style-type: none"> <li>What are bubble and merge sort algorithms and how do they work?</li> <li>The difference between LAN's and WAN's</li> <li>Knowledge of different types of network hardware and their use</li> <li>Use of different types of networks</li> <li>Understanding of network topologies where and why they are used</li> <li>The purpose of network protocols</li> </ul>	<ul style="list-style-type: none"> <li>What is python?</li> <li>How do I make programs in python using sequence and selection?</li> <li>What are mathematical and Boolean operators</li> <li>What are data types and why do computers need them?</li> <li>What is maintainability?</li> </ul>	<ul style="list-style-type: none"> <li>What are multimedia products?</li> <li>Be able to plan a multimedia product</li> </ul>	<ul style="list-style-type: none"> <li>Be able to create a multimedia product</li> <li>Be able to review and test a multimedia product</li> <li>Converting binary, denary, and hexadecimal numbers</li> </ul>	<ul style="list-style-type: none"> <li>What are the different threats posed to networks?</li> <li>How can I identify and prevent vulnerabilities in a network</li> </ul>
Links to prior learning	<ul style="list-style-type: none"> <li>Year 7- under the hood of a computer, Micro:bits, small basic</li> </ul>	<ul style="list-style-type: none"> <li>Year 7- IT skills, E-safety, under the hood of a computer, how the web works</li> </ul>	<ul style="list-style-type: none"> <li>Year 7- E-safety, Micro:bits, small basic</li> </ul>	<ul style="list-style-type: none"> <li>Year 7- under the hood of a computer, video &amp; sound editing, networks</li> </ul>	<ul style="list-style-type: none"> <li>Year 7- IT skills, E-safety, under the hood of a computer, video &amp; sound editing</li> </ul>	<ul style="list-style-type: none"> <li>Year 7- E-safety, how the web works</li> </ul>
Assessment	<ul style="list-style-type: none"> <li>End of topic test</li> </ul>	<ul style="list-style-type: none"> <li>End of topic test</li> </ul>	<ul style="list-style-type: none"> <li>Theory test</li> <li>Practical test</li> </ul>	<ul style="list-style-type: none"> <li>Theory test</li> </ul>	<ul style="list-style-type: none"> <li>Creation of a multimedia product to meet a brief</li> <li>End of topic test</li> </ul>	<ul style="list-style-type: none"> <li>Mid unit assessment</li> <li>End of topic test</li> </ul>