

BROOK MEAD ACADEMY – COMPUTER SCIENCE CURRICULUM

	<b>Year 7</b>	<b>Year 8</b>	<b>Year 9</b>
<b>HT1</b>	<p>Introduction to Brook Mead and Computing:</p> <ul style="list-style-type: none"> <li>• Introduction to Brook Mead</li> <li>• Reading Comprehension tests</li> <li>• Understanding the school network</li> <li>• Required portals for homework</li> <li>• Email usage at Brook Mead</li> </ul>	<p>Laws of Computing:</p> <ul style="list-style-type: none"> <li>• Computer Misuse Act <ul style="list-style-type: none"> <li>◦ Hackers</li> <li>◦ Viruses</li> </ul> </li> <li>• Data Protection Act</li> <li>• Copyright Designs and Patents Act</li> <li>• Health and Safety at Work Act</li> </ul>	<p>Cyber Security:</p> <ul style="list-style-type: none"> <li>• Why systems are attacked.</li> <li>• Internal and External threats to a system</li> <li>• Data level Protection</li> <li>• Device Hardening</li> <li>• Ethical and Moral issues</li> </ul>
<b>HT2</b>	<p>Algorithms:</p> <ul style="list-style-type: none"> <li>• Computational Thinking</li> <li>• Algorithms</li> <li>• Flowcharts and their uses</li> </ul>	<p>Python Programming:</p> <ul style="list-style-type: none"> <li>• Data Types</li> <li>• Arithmetic Operations</li> <li>• Selection</li> <li>• Iteration</li> <li>• Project-Based Assessment</li> <li>• Functions and Procedures</li> </ul> <p>Algorithms: 5 LESSONS</p> <ul style="list-style-type: none"> <li>• Pseudocode</li> <li>• Computational Thinking</li> </ul>	<p>Computer Systems:</p> <ul style="list-style-type: none"> <li>• Von Newman Architecture</li> <li>• Embedded Systems</li> <li>• Secondary Storage</li> <li>• Compression</li> <li>• Assembly Language and Registers</li> </ul> <ul style="list-style-type: none"> <li>• Christmas Exam</li> </ul> <p>Python Programming:</p> <ul style="list-style-type: none"> <li>• Data Types</li> <li>• Arithmetic Operations</li> <li>• Selection</li> <li>• Iteration</li> <li>• Readability and Efficiency of code</li> <li>• Project-Based Assessment</li> </ul>
<b>HT3</b>	<p>E-Safety:</p> <ul style="list-style-type: none"> <li>• Introduction to E-Safety and CEOP</li> <li>• Social Media and Digital Footprints</li> <li>• Cyberbullying and its impacts</li> <li>• Internet Dangers and Grooming</li> <li>• Sexting, Trolling and Staying Safe Online</li> <li>• Safer Internet Day</li> </ul>	<p>Computer Systems:</p> <ul style="list-style-type: none"> <li>• Operating Systems</li> <li>• Hardware, software, and peripherals</li> <li>• Storing and executing programs</li> <li>• Utility software</li> </ul>	<p>Continue Python Programming</p> <p>Algorithms:</p> <ul style="list-style-type: none"> <li>• Computational Thinking</li> <li>• Algorithms</li> <li>• Pseudocode</li> <li>• Searching and Sorting Algorithms</li> </ul>

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	Mid-Point Exam before Half-Term		
<b>HT4</b>	<p>Block-Based Programming:</p> <ul style="list-style-type: none"> <li>• Programming Etiquette and basics</li> <li>• Sequence, selection, and iteration</li> </ul>	<p>Data Representation:</p> <ul style="list-style-type: none"> <li>• Binary Addition</li> <li>• Hexadecimal</li> <li>• Image representation</li> </ul> <p>Mid-Point Exam before Easter</p>	<p>Networks and Protocols:</p> <ul style="list-style-type: none"> <li>• Different Network types</li> <li>• Connecting to networks</li> <li>• Network Hardware</li> <li>• Importance of Protocols</li> </ul>
<b>HT5</b>	<p>Computer Systems and Networks:</p> <ul style="list-style-type: none"> <li>• What is a computer?</li> <li>• Input, Output and Processes</li> <li>• CPU and the FDE Cycle</li> <li>• Storage</li> <li>• LAN and WAN</li> </ul>	<p>Finish Data Representation</p> <p>Cloud Computing:</p> <ul style="list-style-type: none"> <li>• Introduction to Cloud Computing</li> <li>• Cloud Storage</li> <li>• Cloud Software</li> <li>• Use in Society</li> <li>• Risks of Cloud Computing aka Computer Misuse Act</li> </ul>	<p>Data Representation:</p> <ul style="list-style-type: none"> <li>• Logic Gates <ul style="list-style-type: none"> <li>○ Logic Circuits</li> <li>○ Boolean Logic</li> <li>○ Truth Tables</li> </ul> </li> <li>• Binary Shifts</li> <li>• Sound Representation</li> </ul>
<b>HT6</b>	<p>Data Representation:</p> <ul style="list-style-type: none"> <li>• What is Binary?</li> <li>• Binary to Denary</li> <li>• Denary to Binary</li> <li>• ASCII and Unicode</li> </ul> <p>End of Year assessment</p>	<p>Impact of Technology</p> <ul style="list-style-type: none"> <li>• Technology for Good</li> <li>• AI</li> <li>• Issues</li> <li>• Careers</li> </ul> <p>End of Year Assessment</p>	<p>Computing Project</p> <p>Scholars are asked to create a presentation or a piece of code in Micro: Bit or Python about anything that they have learnt in the last 3 years.</p> <p>End of Year Assessment</p>