

	Autumn 1	Autumn 2	Spring 1	Spring 1 & Spring 2	Summer 1	Summer 2
7	<p><b>Using Google apps</b> Students will take a baseline assessment. Students will learn how to use Google Drive and Classroom. They will then learn the key features of Google Docs, Slides and Forms, which they will use for all subjects from the start of year 7.</p> <p>KS3 BASELINE ASSESSMENT in first Weeks.</p>	<p><b>Data Representation &amp; Computational Thinking</b> Students will be introduced to the binary number system and also the main concepts of computational thinking (Decomposition, Pattern Recognition, Abstraction)</p> <p>KS3 Assessment based on unit.</p>		<p><b>Games Programming (Scratch)</b> The aim is for students to practice and learn computational thinking using practical programming. Students will revisit Scratch which they may have used at KS2. They will learn the basics of sequencing instructions, decomposition, pattern recognition and abstraction, KS2/3</p> <p>Assessment based on programming in Scratch</p>	<p><b>Esafety, Cybersecurity and Assessment Preparation</b> Students to learn about staying safe online and be introduced to the concepts of cyber security. Students will be prepared for their assessment.</p> <p>KS2/KS3 Final Summer Assessment based on all previous topics.</p>	<p><b>Computational thinking/Spreadsheets</b> Students to understand the important aspects of CT (Abstraction/Decomposition/Pattern recognition. Students to learn about the basics of spreadsheets. Including basic formula and formatting. Students gain an understanding of terms such as profit/loss, revenue, expenditure etc. Also the possibility of doing the BeBras Challenge.</p> <p>KS3 Assessment based on components -</p>
8	<p><b>Data Representation</b> Data Representation including Binary, HEX conversions, Binary addition, binary/logical shifts.</p> <p>KS3/4 Assessment based on data rep</p>	<p><b>AI - part 1</b> Introduction to Artificial Intelligence. Part 2 will be covered in year 9.</p> <p>Assessment based on first 6 lessons</p>	<p><b>Programming Intro to Python</b> Students are introduced to their first written programming language as opposed to graphical ones like Scratch. They will learn about data types, variables, selection and iteration. This unit of work will reinforce what students learned in year 7 (sequencing instructions, decomposition, pattern recognition and abstraction)</p> <p>KS3/4 Assessment based on programming concepts- Week starting 28th Feb</p>		<p><b>Cyber Security</b> Students will learn about the different forms of security in the computer industry. Types of attacks and how they can be protected against. Encryption and why it is useful, public key and private key etc.</p> <p>KS3/KS4 Assessment based on cyber security</p>	<p><b>Boolean Algebra/Logic Gates</b> Students revise all topics studied so far in preparation for end of year exam. Once the exams are over and feedback &amp; improvement has been completed they will get a chance to work on the hour of code.</p> <p>KS3 Assessment -Based on concepts of Boolean algebra. Leading into End of year assessments.</p>
9	<p><b>Data Representation (Number Systems)</b> Data Representation recap including Binary, HEX conversions, Students will also cover images, sound and compression in this unit</p> <p>KS3/4 Assessment on Number systems, compression, sound and images.</p>	<p><b>Hardware &amp; Software</b> Students go more in-depth learning about the characteristics of different types of primary and secondary memory. The FDE cycle is revised and the components of the CPU are described. The different categories of software are looked at.</p> <p>KS3/4 Assessment on HW and SW</p>		<p><b>Programming (Python Next Steps)</b> Students carry on from what they learned in year 8.. They will learn about data types, variables, selection and iteration. This unit of work will reinforce what students learned in year 8 (sequencing instructions, decomposition, pattern recognition and abstraction) and add some topics like reading and writing to files</p> <p>KS3/4 Assessment based on programming next steps.</p>		<p><b>AI part 2</b> Students carry on from what they learned in yr 8 (AI part 1) looking at how Artificial Intelligence is becoming part of our everyday lives.</p> <p>KS3/4 Assessment based on AI full unit including topics covered in yr 8</p>
10	<p><b>1.1 Systems architecture</b> <b>2.1 Algorithms</b> <b>2.4 Boolean logic</b></p> <ul style="list-style-type: none"> <li>• Boolean Logic</li> <li>• Data Storage</li> <li>• Algorithms</li> </ul> <p>KS4 OCR new Computer Science (J277)</p> <p>Assessment based on past paper questions for this topic- Week starting 4th Oct</p>	<p><b>2.2 Programming fundamentals</b></p> <ul style="list-style-type: none"> <li>• Data Types</li> <li>• Programming Fundamentals</li> <li>• Programming Skills</li> </ul> <p>KS4 OCR new Computer Science (J277)</p> <p>Assessment based on past paper questions for this topic</p> <p>End of Unit Assessment 15th November</p>	<p><b>2.2 Programming fundamentals</b></p> <ul style="list-style-type: none"> <li>• Additional Programming Techniques</li> <li>• Programming Skills</li> </ul> <p>KS4 OCR new Computer Science (J277)</p> <p>Assessment based on past paper questions for this topic</p> <p>End of Unit Assessment 17th January</p>	<p><b>1.2 Memory and storage</b> <b>1.1 Systems architecture</b></p> <ul style="list-style-type: none"> <li>• Data Storage Sound</li> <li>• Data Storage Images</li> <li>• Data Storage Characters</li> <li>• Compression</li> <li>• The CPU</li> </ul> <p>KS4 OCR new Computer Science (J277)</p> <p>Assessment based on past paper questions for this topic</p> <p>End of Unit Assessment 7th March</p>	<p><b>1.1 Systems architecture</b> <b>1.2 Memory and storage</b> <b>1.3 Computer networks, connections and protocols</b></p> <ul style="list-style-type: none"> <li>• Embedded Systems</li> <li>• Primary &amp; Secondary Storage</li> <li>• Networks &amp; Topologies</li> </ul> <p>KS4 OCR new Computer Science (J277)</p> <p>Assessment based on past paper questions for this topic</p> <p>End of Unit Assessment 9th May</p>	<p><b>1.3 Computer networks, connections and protocols</b></p> <ul style="list-style-type: none"> <li>• Wired &amp; Wireless Networks</li> <li>• Protocols &amp; Layers</li> <li>• Programming Skills</li> </ul> <p>KS4 OCR new Computer Science (J277)</p> <p>Assessment based on past paper questions for this topic</p> <p>End of Unit Assessment 27th June</p>
11	<p><b>1.4 Network security</b> <b>1.5 Systems software</b> <b>1.6 Ethical, legal, cultural and environmental impacts of digital technology</b></p> <ul style="list-style-type: none"> <li>• Types of Threats</li> <li>• Identifying and Preventing Vulnerabilities</li> <li>• Operating Systems</li> <li>• Utility Systems</li> <li>• Ethical, Legal, Cultural &amp; Environmental Impacts</li> </ul>	<p><b>2.3 Producing robust programs</b> <b>2.5 Programming languages and Integrated Development Environments</b></p> <ul style="list-style-type: none"> <li>• Defensive Design</li> <li>• Testing</li> <li>• Languages</li> <li>• The IDE</li> </ul> <p>KS4 OCR new Computer Science (J277)</p>	<p><b>2.1 Algorithms</b></p> <ul style="list-style-type: none"> <li>• Searching &amp; Sorting Algorithms</li> <li>• Searching &amp; Sorting Practical Programming Skills</li> </ul> <p>KS4 OCR new Computer Science (J277)</p> <p>Assessment - PPE</p>	<p><b>Revision</b> KS4 OCR new Computer Science (J277)</p>	<p><b>Revision &amp; Exams</b> KS4 OCR new Computer Science (J277)</p>	