

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
9	<p>Topic: Intro into Computer systems</p> <p>Knowledge and skills</p> <ul style="list-style-type: none"> Intro – how does a computer work? Function of the CPU (Von Neumann architecture) Embedded systems. RAM, ROM and cache Fetch execute cycle using the CPU and RAM. 	<p>Topic: Storage</p> <p>Knowledge and skills</p> <ul style="list-style-type: none"> Secondary storage devices Units of data Binary to denary conversions and vice versa Character sets, ASCII and Unicode. The use of compression 	<p>Topic: Python Programming</p> <p>Knowledge and skills</p> <ul style="list-style-type: none"> Print Inputs Selection – How to use if statements effectively. 	<p>Topic: Python Programming</p> <p>Knowledge and skills</p> <ul style="list-style-type: none"> Iteration – for and while loops Lists File handling. Python project. 	<p>Topic: Networks</p> <p>Knowledge and skills</p> <ul style="list-style-type: none"> LAN and WAN Components that make up a networks The internet Identifying the Star and mesh topologies Modes of connection: Wired and wireless. Encryption 	<p>Topic: Ethics and the law</p> <p>Knowledge and skills</p> <ul style="list-style-type: none"> Introduction into Ethics Impact of IT on different industries. Laws that surround ICT

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10	<p>P1 Topic: Architecture of the CPU and primary storage</p> <p>Knowledge and skills</p> <ul style="list-style-type: none"> The fetch-execute cycle Functions of the components and registers of the Von Neumann architecture What affects the performance of the CPU? Primary storage <p>P2 Topic: Functions and gates</p> <p>Knowledge and skills</p> <ul style="list-style-type: none"> Recap of year 9 skills Functions and procedures Knowing when to use a function and procedure Nesting Binary logic AND, OR, NOT gates 	<p>P1 Topic: Secondary storage and Data</p> <p>Knowledge and skills</p> <ul style="list-style-type: none"> Common types of secondary storage Characteristics of secondary storage devices Data capacity and calculation of data capacity requirements Hex conversions Binary additions Binary shifts. <p>P2 Topic:</p> <p>Knowledge and skills</p> <ul style="list-style-type: none"> Built in libraries within Python If statements and case statements. For and while loops 2d Arrays 	<p>P1 Topic: Binary and Networks</p> <p>Knowledge and skills</p> <ul style="list-style-type: none"> Binary in images Binary in sounds Types of compression, Lossy and lossless P 2 P vs client server networks. Factors affecting network performance. Understanding the star and mesh topologies. The internet. IP addressing and MAC addressing. <p>P2 Topic: Pseudocode</p> <p>Knowledge and skills</p> <ul style="list-style-type: none"> How to write in pseudocode (OCR) Trace tables. SQL Searching records with SQL 	<p>P1 Topic: Networks and software</p> <p>Knowledge and skills</p> <ul style="list-style-type: none"> Standards and layers TCP/IP protocols. Forms of network attacks Preventing network attacks Functions of the OS Utility software Ethics and the laws <p>P2 Topic: Defensive design</p> <p>Knowledge and skills</p> <ul style="list-style-type: none"> Intro into defensive design Authentication Validation and verification methods Types of testing Test data. 	<p>P1 Topic: Getting ready for end of year exam</p> <p>Knowledge and skills</p> <ul style="list-style-type: none"> Creating revision resources Understanding the requirements of the exam Revisiting topic areas <p>P2 Topic: Programming project</p> <p>Knowledge and skills</p> <ul style="list-style-type: none"> Creating a programming solution for a given scenario released by the exam board. Applying all the python skills to this scenario using the SDLC. 	<p>P1 Topic: Getting ready for end of year exam</p> <p>Knowledge and skills</p> <ul style="list-style-type: none"> Creating revision resources Understanding the requirements of the exam Revisiting topic areas <p>P2 Topic: Programming project</p> <p>Knowledge and skills</p> <ul style="list-style-type: none"> Creating a programming solution for a given scenario released by the exam board. Applying all the python skills to this scenario using the SDLC.

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11	P1 Topic: Revisited topics 1	P1 Topic: Revisited topics 2	Revision stage 1	Revision stage 2	GCSE exams	GCSE exams

	<ul style="list-style-type: none"> • The fetch-execute cycle • Functions of the components and registers of the Von Neumann architecture • Cache memory <p>Knowledge and skills</p> <p>P2 Topic: Searches and sorts</p> <p>Knowledge and skills</p> <ul style="list-style-type: none"> • Applying pseudocode to the exam questions. • Sorts and searches • Writing code for the sorts and searches. • High/Low level languages • IDE's 	<p>Knowledge and skills</p> <ul style="list-style-type: none"> • Data capacity and calculation of data capacity requirements • Hex conversions • Binary additions • Binary shifts. • Standards and layers • TCP/IP protocols. <p>P2 Topic: Exam questions.</p> <p>Knowledge and skills</p> <ul style="list-style-type: none"> • Applying pseudocode to the exam questions. • Revision for paper 2 <p>Year 11 mocks will be completed in this term.</p>	<p>All knowledge and skills will be completed by this stage.</p> <p>Students will complete personalised revision addressing their weaker topic areas. This is to ensure they are completely ready for their GCSE examinations.</p>	<p>All knowledge and skills will be completed by this stage.</p> <p>Students will complete personalised revision addressing their weaker topic areas. This is to ensure they are completely ready for their GCSE examinations.</p>	<p>External GCSE exams</p>	<p>External GCSE exams</p>
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