



St Matthew's RC High School

Key Stage 4 Curriculum Plan 2016/17

Subject: Computer Science

Yr	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
10	<p>Unit 1 Algorithms</p> <p>Theoretical unit covering all of Section 3.1 of the AQA GCSE (9-1) Computer Science specification.</p> <ul style="list-style-type: none"> algorithms decomposition abstraction Flowcharts pseudocode searching, explaining the binary and linear searching methods, sorting (bubble and merge sorts) 		<p>Unit 2a & 2b Programming</p> <p>It covers the AQA GCSE (9-1) Computer Science specification 8520, Sections 3.2.1 to 3.2.9.</p> <ul style="list-style-type: none"> data types arithmetic operations Sequence, selection and iteration arrays and records reading from and writing to a text file 		<p>Unit 3 Data Representation</p> <p>It is a theoretical unit covering the latest AQA Computer Science specification 8520.</p> <ul style="list-style-type: none"> The conversion of integers from denary to binary binary addition of three numbers and binary shifts hexadecimal numbers and character encoding (with practical programming) Representation of images and sound lossy compression techniques used for images, sound and video, and lossless techniques such as RLE and Huffman encoding. 	

11	Unit 4 Computer systems <ul style="list-style-type: none"> • Boolean logic • Software • Systems architecture 	Unit 5 Fundamentals of Computer Networks <ul style="list-style-type: none"> • Computer Networks • Network topologies • Network security • Protocols and layers 	Controlled Assessment 20% of the overall GCSE	Unit 6 Fundamentals of Cyber security <ul style="list-style-type: none"> • Cyber security threats • Social engineering • Malicious code • Detecting and preventing security threats 	Unit 7 Ethical, legal and environmental impacts <ul style="list-style-type: none"> • Ethical, legal and environmental impacts
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