

COMPUTING

	AUTUMN TERM 1	AUTUMN TERM 2	SPRING TERM 1	SPRING TERM 2	SUMMER TERM 1	SUMMER TERM 2
	Topics	Topics	Topics	Topics	Topics	Topics
YEAR 7	Networks and online platforms Health & Safety Word Processing Email	Introduction to spreadsheets Introduction to presentation software Project – Online safety	Programming in Scratch Sequence Selection Operators Iterations	Understanding Computers	Programming in Python (input, output, selection)	Programming in Python (iteration, searching algorithms)
YEAR 8	Databases Data types, database design, 'friends' database, Queries, forms and reports,	Databases 'countries' database, SQL Micro:bit Displaying text and images, variables and lists, iteration	Micro:bit accelerometer, music, networking, controlling external devices Websites (HTML/CSS) Intro to HTML and CSS Website design	Websites (HTML/CSS) Website development project	Python – next steps Iteration Lists Subroutines	Python- next steps Functions and return values Python project
YEAR 9	Introduction to spreadsheets (sorting, formulae, creating a model, charts and graphs, number patterns, 'what if?' Analysis)	Artificial Intelligence Logic Gates Representation of images Programming in Python Using a simulation to control 'real world' outputs Complex conditions	Programming in Python Data types Iteration Functions and return values	ROTATE GROUPS (February) Introduction to spreadsheets (sorting, formulae, creating a model, charts and graphs, number patterns, 'what if?' Analysis)	Artificial Intelligence Logic Gates Representation of images Programming in Python Using a simulation to control 'real world' outputs Complex conditions	Programming in Python Data types Iteration Functions and return values
YEAR 10	Algorithms Iteration Introduction to C# (input, output, data types)	Programming in C# (data types, selection, iteration)	Data types Programming in C# (arrays, subroutines) Searching and Sorting algorithms	Input and Output Problem Solving Representing Number Representing Text	C# strings Representation of image & sound	Extended programming activities Hardware

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<p>YEAR 11</p>	<p>12. Programming Languages 13. Computer Networks Programming in C#: File handling, Exception handling</p>	<p>13. Computer Networks 14. Cyber Security Mock exams</p>	<p>15. Ethical, Legal and Environmental Impacts 16. Databases/SQL</p>	<p>16. Databases/SQL Revision (theory and programming)</p>	<p>Revision</p>	
<p>YEAR 12</p>	<p>Computational thinking Finite State Machines Programming in C#</p>	<p>Programming in C#</p>	<p>Unit 2: Number systems, character coding, images, sound, compression, logic gates & Boolean algebra, Computer Architecture</p>	<p>Computer architecture Assembly language Consequences of Computing Communications and networks</p>	<p>Paper 1 prep (skeleton code) Object oriented programming NEA</p>	<p>Object-oriented programming Databases NEA</p>
<p>YEAR 13</p>	<p>Data structures Paper 1 programming tasks</p>	<p>Recursion, Big O, Searching & Sorting, Dijkstra, Limits of Computation, Mealy Machines, Turing Machines, OO Programming tasks</p>	<p>Regular Expressions, BNF, RPN, FP Binary, Structure of the Internet, OO Programming tasks</p>	<p>Internet Security, TCP/IP, Functional Programming, Paper 1 skeleton code tasks</p>	<p>Big Data, Interrupts, Revision: Paper 1 programming tasks, past paper questions</p>	