

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

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