

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Year 7	<ul style="list-style-type: none"> Computer Systems E- Safety Password File Management Cloud Computing 	<ul style="list-style-type: none"> Hardware Input/Output devices Secondary Storage Role of CPU/RAM Embedded Systems 	<ul style="list-style-type: none"> Computational Thinking Abstraction Decomposition Pattern Recognition Algorithms 	<ul style="list-style-type: none"> Computational Thinking Application of Algorithms Debugging Solving Algorithmic problems 	<ul style="list-style-type: none"> Data Representation Why we need Binary Image Representation File Types Image Quality/Purpose 	<ul style="list-style-type: none"> Digital Literacy Project Digital Literacy project to produce a presentation on Hardware requirements
Year 8	<ul style="list-style-type: none"> Hardware CPU Cycle Factors Affecting Performance Virtual Memory Secondary Storage 	<ul style="list-style-type: none"> Networking LAN/WAN/PAN Network Hardware Connection factors Network Security (Firewall/Anto-malware) 	<ul style="list-style-type: none"> Computational Thinking Developing Algorithms Sequence, Selection, Iteration, Mathematical Operators Testing, Debugging Data Types 	<ul style="list-style-type: none"> Computational Thinking Application of computational thinking and algorithms Introduction to scripting e.g. Python 	<ul style="list-style-type: none"> Data Representation Units of data Binary Conversion Binary Addition Character Sets 	<ul style="list-style-type: none"> Digital Literacy Project Digital Literacy project to produce a presentation on previous terms learning
Year 9	<ul style="list-style-type: none"> Computational Thinking Algorithms, Decomposition, Abstraction Use of Blockly Programming (Scratch) to apply Computational Thinking 		<ul style="list-style-type: none"> Programming Application of computational thinking into creating scripted code (Python) Sequence, Selection, Iteration, Arrays, String Manipulation 		<ul style="list-style-type: none"> Programming Project System development life cycle Analyses and Design project (Flow-Charts) Routes for programming implementation Decision based Powerpoint - Blockly Programming- Scripted Programming (python) 	
Year 10	<ul style="list-style-type: none"> Boolean Logic Units Data Storage Designing, creating and refining algorithms 	<ul style="list-style-type: none"> Designing, creating and refining algorithms Programming Fundamentals Data Types 	<ul style="list-style-type: none"> Programming techniques Practical Programming Skills 	<ul style="list-style-type: none"> Binary – Characters – Images – Sound – Compression Architecture of CPU CPU performance 	<ul style="list-style-type: none"> Embedded Systems RAM/ROM/Cache Secondary Storage Networks and Topologies 	<ul style="list-style-type: none"> Wire and Wireless networks, protocols and layers Practical Programming revision
Year 11	<ul style="list-style-type: none"> Threats to systems and networks Operating systems Utility software Ethical, legal, cultural and environmental impact 	<ul style="list-style-type: none"> Defensive Design Testing Languages IDE – Integrated Development Environment 	<ul style="list-style-type: none"> Practical Programming Revision Searching and sorting Algorithms and Programming 	<ul style="list-style-type: none"> Theory revision Practical Programming Revision 	<ul style="list-style-type: none"> Theory revision Practical Programming Revision 	

As Steve Jobs said - "Everybody should learn to program a computer, because it teaches you how to think".

Students will develop their computational thinking skills, these skills develop students ability to think logically through problems by identifying and creating their own algorithms, realising that a big problem is actually a set of small problems by applying decomposition and stripping down complexity by abstracting out the key elements. These skills are transferable skills that allow students to think more critically and logically about problems. In turn these skills will empower students to write and debug programs using sequence, selection and iteration.

We'll look under the hood of devices, gaining an understanding of how a computer works via electronic impulses represented by binary, how these simple 1s and 0s can represent the photograph of a favourite picture and how those same impulses are sent via wires, through the air and across the world to read this.