KS3-4 Curriculum Map: COMPUTING/ICT

	AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
Year 7	PC Basics Core Ideas: Basic understanding of how the computer works. Basic understanding of networks. Introduction to binary. Safety	Introduction to Photoshop Core Ideas: Introduction to basic skills.	Flowol Core Ideas: Using correct shapes for flow charts. Create algorithms for problems using flowcharts. Use of decisions. Use of Subprograms	Introduction to Programming Core Ideas: Basic programming concepts.	E-safety Core Ideas: Understand how to use digital technology safely, respectfully, responsibly and securely.	Introduction to Python Turtle Core Ideas: Use of text based programming concepts to solve a variety of computational problems.
	Core Skills: Computational thinking, problem solving, communication, creativity, digital literacy, e-safety					
Year 8	Python Core Ideas: Use of text based programming to solve a variety of computational problems.	Photoshop Core Ideas: Developing photoshop skills.	Networks Core Ideas: Types of networks. Network topologies. Wired and wireless networks. Network security	Spreadsheets Core Ideas: Introduction to Spreadsheets.	Data representation Core Ideas: Binary conversions. Binary addition. Hexadecimal. Images. Boolean Logic. Character sets	Media Production Core Ideas: Pre-production techniques. Post production techniques (evaluation and editing)
	Core Skills: Computational thinking, problem solving, communication, creativity, digital literacy, e-safety					
Year 9	Algorithms/Computational thinking Core Ideas: Abstraction and decomposition. Using Flow charts. Sorting algorithms. Searching algorithms	Python Core Ideas: Developing skills using text based programming concepts to solve a variety of computational problems.	Photoshop Core Ideas: Further development of skills.	Digital Literacy Core Ideas: Collecting and analysing reliable and relevant data. Selecting appropriate software. Combining multiple applications	Animation Core Ideas: Stop frame animation. Use tools to create a stop frame animation. Text tools to animate text	Cybercrime Core Ideas: Computer Misuse Act. Malware. Social engineering.
	Core Skills: Computational thinking, problem solving, communication, creativity, digital literacy, e-safety					
Year 10	2.2 Programming fundamentals 1.2 Memory and Storage Core Ideas: 2.2 Programming fundamentals. 1.2 Units of data. Data storage.	1.2 Memory and Storage 2.2 Programming fundamentals 2.4 Boolean Logic 2.1 Algorithms Core Ideas: 1.2 Data storage 2.2 Additional programming techniques. 2.4 Boolean Logic. 2.1 Designing, creating and refining algorithms	2.1 Algorithms 2.2 Programming fundamentals Core Ideas: 2.1 Searching and sorting algorithms. 2.2 Additional programming techniques (functions)	2.2 Programming fundamentals 2.1 Systems Architecture Core Ideas: 2.2 Additional programming techniques 2.1 Architecture of the PC. CPU performance. Embedded systems. Primary, Secondary storage	1.3 Computer networks 1.4 Network security Core Ideas: 1.3 Network and Topologies. Wired and wireless networks, protocols and layers 1.4 Threats to computer systems and networks. Identifying and preventing vulnerabilities	1.5 Operating systems 1.6 Ethical, legal, cultural,environmental issues of digital technology 2.2 Programming fundamentals Core Ideas: 1.5 Operating systems. Utility software 1.6 Ethical, legal, cultural and environmental issues 2.2 Programming project
	Core Skills: Computational thinking, problem solving, logical reasoning, communication					
Year 11	2.2 Programming	2.2 Programming	1.3 Computer networks,	1.2 Memory and storage	Revision	NA

	fundamentals 2.3 Producing robust programs Core Ideas: 2.2 Additional programming techniques 2.3 Defensive design. Testing. Languages. IDE	fundamentals 2.1 Algorithms 2.3 Producing robust programs 2.4 Boolean logic 2.5 Programming languages and Integrated Development Environment Core Ideas: 2.2 Programming fundamentals 2.1 Computational thinking. Designing, creating, refining algorithms. Searching and sorting algorithms 2.4 Boolean logic	connections and protocols 1.4 Network security 1.5 Systems software 1.1 Systems architecture 1.2 Memory and storage Core Ideas: 1.3 Network topologies. Wired, and wireless networks, protocols and layers 1.4 Network security 1.5 Operating systems. Utility software 1.2 Primary, Secondary storage	1.6 Ethical, legal, cultural,environmental issues of digital technology Core Ideas: 1.2 Binary and hexadecimal conversions. Binary addition and shifts. Images and sounds. Character sets. Compression 1.6 Legal and ethical issues		
	Core Skills: Computational thinking, problem solving, logical reasoning, communication					