		Autumn		Spring		Summer	
		7 Weeks	8 Weeks	6 Weeks	6 Weeks	6 Weeks	7 Weeks
Year 7	Unit	Online Safety	Networks: from semaphores to the Internet	Gaining support for a cause	Scratch Programming part 1	Scratch Programming part 2	Spreadsheets
	Assessment	Summative assessment	Summative assessment	Summative assessment	Summative assessment	MFL Quiz program	Summative assessment
	Skills/Content	Folders, Cloud storage, Email, Cyber bullying, communicating online & iPad	Networks & protocols, hardware, wired & wireless, Internet & services, The World Wide Web	Word processing, licensing, sources & credibility, promoting a cause blogs,	Sequencing, variables, selection, operators, count controlled, solving a problem	Sub routines, Predicting outcomes, PRIMM, Condition controlled, Lists	Calculations, collecting data, functions, sorting and filtering data
Year 8	Unit	Online Safety & Design Vector Graphics	Computing Systems	Developing for the web	Representations: from clay to silicone	Mobile App Development	Intro to Python Programming
	Assessment	Summative assessment, showcasing projects	Summative assessment	Summative assessment	Summative assessment,	Summative assessment	Summative assessment
	Skills/Content	Shapes, logos, vector graphics, combining shapes, monochrome icons, under the hood, rendering	Calculating machines, hardware components, operating systems, logic gates & circuits, thinking machines, artificial intelligence	Fake news, image sharing/ website building, images, shortcuts, CSS, searching, indexing pages, navigation	Binary representations, encoding & decoding messages, binary digits, numbers, quantities	Problem solving, project management, block-based programming, errors, decomposition,	Numbers, selection, nested selection, iteration,
Year 9	Unit	Programming - Python	Bebras & Data Science	Data Science & Data representation	Data representation & Cyber security	Cyber Security	Impacts of Technology
	Assessment	Python programs end of unit MCQs	Bebras problem solving competition	Data science end of unit MCQs	Data representation end of unit MCQs	Cyber Security end of unit MCQs & Year 9 summative exam	Impacts of technology end of unit MCQs
	Skills/Content	Lists, selection, iteration while and for loops, mini projects	Data science and statistics, visualisations, gathering and managing data in a project, PPDAC cycle and data cleansing	Representation, colour & pixels, colour depth, vector graphics. Sound, sampling, sample frequency, sample size, Audio editing, compression	Representation, colour & pixels, colour depth, vector graphics. Sound, sampling, sample frequency, sample size, Audio editing, compression	Cost of cybercrime, non-automated, automated, design as defence, testing, solutions	Law, cultural, privacy & surveillance, environmental, ethical impacts
Year 10	Unit	Programming Computational thinking, Searching Algorithms, Sorting Algorithms	Programming Sorting Algorithms, Systems Software Computer Systems	Programming Computer Systems – Von Neuman Architecture & FDE, Languages, Memory, Secondary Storage, Specs	Programming Computer Systems programming, Logic Gates Data Representation - numbers	Advanced Programming Data Representation – Hexadecimal, Text, Bitmap Images Revision & exams	Advanced Programming - String handling & Arrays Data Representation – Vector images, Sounds, storage, compression Networking, client server and hardware

	Assessment	Interim test	Interim test	Interim test	Interim Assessment	Exams/ Programming Project	Programming Project
	Skills/Content	Sequencing Computational thinking Searching and Sorting Sequencing, randomisation Searching & sorting algorithms	Selection, nested selection & Iteration Operating systems & utilities CPU concepts & embedded systems	Iteration, trace tables and Data validation, Von Neuman/FDE Cycle, registers, CPU performance, main memory & storage Data Selecting storage devices, Specs	Pseudocode, Functions sub routines, Scope, Testing Representations, Number bases & Binary maths	Advanced program creation, Defensive design & testing Hexadecimal, Text & Bitmap Images	String handling & Lists
Year 11	**Unit**	Advanced Programming – 2d Lists, Working with files Networks	Advanced Programming – All skills Impacts of technology	Systems software & Utilities Recap & Revision	Recap & Revision	Recap & Revision	
	Assessment	Interim test	Exams	Interim test	Exam questions practice	Exam questions practice	
	Skills/Content	Cost of cybercrime, non-automated, automated, design as defence, testing, solutions Real world networks Networks & servers, Internet & www, protocols. IP suite & packet switching, network performance, Hosting, TCP/IP and OSI models	Ethical & Cultural, Law, data protection, copyright, freedom of info act, computer misuse Law, cultural, privacy & surveillance, environmental, ethical impacts Logic gates	All	All	All	

KS3 descriptors – All covered in both Year 7 and 8 (all each year)

3.1 - design, use and evaluate computational abstractions that model the state and behaviour of real-world problems and physical systems

3.2 - understand several key algorithms that reflect computational thinking [for example, ones for sorting and searching]; use logical reasoning to compare the utility of alternative algorithms for the same problem

3.3 - use two or more programming languages, at least one of which is textual, to solve a variety of computational problems; make appropriate use of data structures [for example, lists, tables or arrays]; design and develop modular programs that use procedures or functions

3.4 - understand simple Boolean logic [for example, AND, OR and NOT] and some of its uses in circuits and programming; understand how numbers can be represented in binary, and be able to carry out simple operations on binary numbers [for example, binary addition, and conversion between binary and decimal]

3.5 - understand the hardware and software components that make up computer systems, and how they communicate with one another and with other systems

3.6 - understand how instructions are stored and executed within a computer system; understand how data of various types (including text, sounds and pictures) can be represented and manipulated digitally, in the form of binary digits

3.7 - undertake creative projects that involve selecting, using, and combining multiple applications, preferably across a range of devices, to achieve challenging goals, including collecting and analysing data and meeting the needs of known users

3.8 - create, re-use, revise and re-purpose digital artefacts for a given audience, with attention to trustworthiness, design and usability

3.9 - understand a range of ways to use technology safely, respectfully, responsibly and securely, including protecting their online identity and privacy; recognise inappropriate content, contact and conduct and know how to report concerns

KS4 Descriptors – Developing in Year 9, affirming in Year 10 & 11

4.1 - develop their capability, creativity and knowledge in computer science, digital media and information technology

4.2 - develop and apply their analytic, problem-solving, design, and computational thinking skills

4.3 - understand how changes in technology affect safety, including new ways to protect their online privacy and identity, and how to identify and report a range of concerns.

Teach Computing Taxonomy		
Abbreviation	**Strand**	**Description**
NW	Networks	Understand how networks can be used to retrieve and share information, and how they come with associated risks
CM	Creating Media	Select and create a range of media including text, images, sounds, and video
DI	Data & Information	Understand how data is stored, organised, and used to represent real-world artefacts and scenarios
DD	Design & Development	Understand the activities involved in planning, creating, and evaluating computing artefacts
CS	Computing Systems	Understand what a computer is, and how its constituent parts function together as a whole
IT	Impact of Technology	Understand how individuals, systems, and society as a whole interact with computer systems
AL	Algorithms	Be able to comprehend, design, create, and evaluate algorithms
PG	Programming	Create software to allow computers to solve problems
ET	Effective Use of tools	Use software tools to support computing work
SS	Safety & Security	Understand risks when using technology, and how to protect individuals and systems