

## Computing: Curriculum Map 2020-21

Week	1	2	3	4	5	6	7	8	half term 1	9	10	11	12	13	14	15	T1 total	16	17	18	19	20	21	half term 2	22	23	24	25	26	T2 total	27	28	29	30	31	32	33	half term 3	34	35	36	37	38	39	T3 total	
Y 7	1	CAT Tests			1	1	1	1	half term 1	1	1	1	1	1	1	1	12	1	1	1	1	1	1	half term 2	1	1	1	1	1	1	11	1	1	1	1	1	1	half term 3	1	1	1	1	1	1	13	
Y 8	1	1	1	1	1	1	1	1		1	1	1	1	1	1	1	15	1	1	1	1	1	1		1	1	1	1	1	1	1	1	1	1	1	1	1		1	1	1	1	1	1	13	
Y 9	1	1	1	1	1	1	1	1		1	1	1	1	1	1	1	15	1	1	1	1	1	1		1	1	1	1	1	1	1	1	1	1	1	1	1		1	1	1	1	1	1	1	13
Y 10	5	5	5	5	5	5	5	5		5	5	5	5	5	5	2	37	5	5	5	5	5	5		5	5	5	5	5	2	27	5	5	5	5	5	5		5	5	5	5	5	5	30	
Y 11	5	5	5	5	5	5	5	5		5	5	5	5	5	5	2	37	5	5	5	5	5	5		5	5	5	5	5	2	27	5	5	5	5	5	5		5	5	5	5	5	5	5	15

	Term 1	Term 2	Term 3
	<b>Creative design</b>	<b>Programming</b>	<b>Computer Systems</b>
Year 7	My digital life, Comic strip creation	flowcharts, Microbit	Inside a computer, input and output, hardware and software
Year 8	Digital graphics, Photoshop	Computational thinking, Scratch game creation	data representation, logic gates
Year 9	Interactive multimedia	Algorithms, Python Programming	Computer networks, the Internet, website design

Creative iMedia											
Year 10	R082 - complete	R084: LO1 Research	R084: LO2 Plan	R084: LO3 Create	R084: LO4	R084 Intervention	R087: LO1 Research				
Year 11	R091 (exam prep for hwk)	R081 Exam prep	Complete coursework units								

Computer Science										
Year 10	1.3		1.4		1.5		1.6			Programming
Year 11	Paper 1		Paper 2			revision, paper practice				

## Key Stage 3 Curriculum:

Pupils should be taught to:

Strands	Link
design, use and evaluate computational abstractions that model the state and behaviour of real-world problems and physical systems	7.1 - using flowol to simulate real life scenarios
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	7.1 Flowol - Using flowcharts 9.2 Python - using algorithms
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	7.1 Scratch - using blocks 8.2 App for that - use of functions 9.2 Python - text based programming
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]	7.3 Understanding computers - use of binary 9.4 Logic gates - AND, OR, NOT
understand the hardware and software components that make up computer systems, and how they communicate with one another and with other systems	7.3 Understanding computers - hardware and software
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	7.3 Understanding computers - use of binary
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	7.4 Digital Literacy 8.2 Digital Graphics - use of Photoshop 8.3 Comic strip creation 9.1 Website design 9.3 Interactive multimedia
create, re-use, revise and re-purpose digital artefacts for a given audience, with attention to trustworthiness, design and usability	As above
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	7.1 In a digital world

## Key Stage 4 Curriculum:

KS4 - Creative iMedia	
Project/Unit	Outline
R081: Pre-production skills (externally assessed exam)	Understand the purpose & content Plan Pre-production documents Produce pre-production documents Review pre-production documents
R082: Digital Graphics (centre assessed task)	LO1 – Research LO2 – Plan LO3 – Create LO4 - Evaluate
R084: Storytelling with a comic strip (centre assessed task)	LO1 – Research LO2 – Plan LO3 – Create LO4 - Evaluate
R087: Creative interactive multimedia products (centre assessed task)	LO1 – Research LO2 – Plan LO3 – Create LO4 - Evaluate

KS4 - Computer Science	
Project/Unit	Outline
01: Computer Systems (externally assessed exam))	Systems Architecture Memory Storage Wired & wireless networks Network topologies, protocols and layers System security Ethical, legal, cultural and environmental concerns
02: Computational thinking, algorithms and programming (externally assessed exam)	Algorithms Programming techniques Producing robust programmes Computational logic Translators and facilities of languages Data representation
Programming project (formal requirement)	Programming techniques Analysis Design Development Testing, evaluation and conclusions