Computing and IT Curriculum Map 2022-2023

Year 7

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Calendar Weeks / Teaching Weeks	**8 / 8**	**7 / 7**	**6 / 5**	**6 / 6**	**6 / 5**	**7 / 6**
Unit/s	**Working with Computers (7)**	**Online Safety (5)**	**Problem Solving (7)**		**Modelling Data (6)**	**Digital Creativity Project (5)**
Knowledge Organisers	Working with Computers	Online Safety				
Gamechanger Content		Bebras (1)				
Extracurricular Activities	Astro Pi Code Club	Spheros Heroes Club	Oxford Computing Challenge E-Sports Lego Robotics Club			National Museum of Computing
Assessment	Teacher Assessment	Teacher Assessment	BET Assessment w/c Jan 16 & Jan 23	Teacher Assessment	BET Assessment w/c May 8 & May 15	Teacher Assessment
National Curriculum Link	NC8 NC9	NC7 NC8	NC2 NC3 NC4 NC8		NC1 NC7	NC7 NC8 NC9
Key Skills & Knowledge	Logins / Passwords School IT Systems (Google Classroom, class charts) TextHelp E-mail Google & Internet Searching Word/Google Docs PPT/Google Sheets	E-Safety (profiles, privacy settings, who to turn to for help) Viruses Copyright laws	Basic CT terms (abstraction, decomposition, patterns) Algorithms using flowcharts Block-based programming Sequencing Iteration Selection Variable		Spreadsheets Formatting IF statements Conditional Formatting Drop down lists Basic Formulae (MIN, MAX, SUM, AVG)	Creating purposeful digital content
Suggested Activities	Impact of Technology Word / Google Docs Powerpoint / Google Slides	Gaining Support Word / Google Docs Powerpoint / Google Slides	BBC videos IDLE Repl Trinket.io Edublocks Blockly Lightbot Microbits Scratch		Quiz Modelling Data Millionaire Radio playlist Excel / Google Sheets	Sketch Up Websites Grand Designs / Skateboard Park All about me

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Year 7

Year 7 BET 1	Year 7 BET 2

• Multiple Choice and written answer questions on
  • Understand the need for strong passwords
  • Understand what makes a strong password
  • Rules regarding internet safety (do and don'ts, what to do if concerned)
  • E-safety (profiles, privacy settings, help)
  • Rules reading emails (appropriate content and length, include a subject, do not send to whole school, use of attachments)
  • Internet searching (understanding the results, how to narrow down a search)
  • Viruses, Copyright Laws
 	
• Practical Activity
  • Create a word document or presentation slide with specific formatted content
  • Share with teacher
	• Multiple Choice and written answer questions on
	  • All of Year 7 BET 1 Assessment content
	  • Understand the programming terms (sequence, selection, iteration, variable)
	  • Interpret block-based programs regardless of the programming language used.
	  • Computational Thinking
	
	• Practical Activity
	  • Create a word document or presentation slide with specific formatted content
	  • Share with teacher

Computing and IT Curriculum Map 2022-2023

Year 8

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Calendar Weeks / Teaching Weeks	8 / 8	7 / 6	6 / 6	6 / 5	6 / 6	7 / 6
Unit/s	Python Programming (7)	Digital Creativity Project (5)	Careers in Computing and IT (2)	Understanding Computer Systems (7)	App/Game Development (5)	Digital Creativity Project (5)
Knowledge Organisers	Python Programming					
Gamechanger Content		Bebras (1)				
Extracurricular Activities	Astro Pi Code Club	Spheros Heroes Club	E-Sports	Oxford Computing Challenge National Museum of Computing Lego Robotics Club		
Assessment	Teacher Assessment	BET Assessment w/c Nov 14 & Nov 21	Teacher Assessment	BET Assessment w/c Mar 20 & Mar 27	Teacher Assessment	Teacher Assessment
National Curriculum Link	NC2 NC3 NC4	NC7 NC8 NC9	NC3 NC7	NC5 NC6	NC2 NC3 NC4	NC6 NC7 NC8
Key Skills & Knowledge	Variables Sequence Iteration Selection & Boolean Logic	To create, re-use, revise and re-purpose digital artefacts for a given audience, with attention to trustworthiness, design and usability	Understand difference between CS and IT Understand different career choices with CS and IT	Computer Hardware Binary/decimal conversions and binary addition How instructions are stored and executed Software (Operating Systems & Applications) Searching/Sorting Algorithms (Binary and Bubble)	Use CT and programming to create an app for a given audience. Use of data structures and functions	To include an understanding of how data of various types (including text, sounds and pictures) can be represented and manipulated digitally
Suggested Activities	ChatBot Turtle Quiz Python Flags	Photoshop Cloud Computing Video editing Website creation		Human Computer Binary Treasure Hunt	Ready.io App Lab Apps For Good	Website Design – Game changers in Computing Video Editing Photoshop

Computing and IT Curriculum Map 2022-2023

Year 8

Year 8 BET 1	Year 8 BET 2

• Multiple Choice and written answer questions on
  • Year 7 IT curriculum content
  • Understand the use of variables in Python programming (how to create them, assign values and compare variables e.g. if (score == 10):
  • Understand the need for and how to implement functions
  • Understand the following Python keywords (print, input, if/elif/else, for, while, def)
  • Be able to follow a simple piece of Python code using the above keywords to work out the output
 	
• Practical Activity
  • Python programming
	• Multiple Choice and written answer questions on
	
	  • All of Year 8 BET 1 Assessment content
	  • Recognise and state the function of the main components in a computer (CPU, Motherboard, RAM, PSU, Heatsink, Hard Disk Drive)
	  • Binary/Decimal conversions and binary addition

National Curriculum Content

Subject content

Pupils should be taught to:

1. design, use and evaluate computational abstractions that model the state and behaviour of real-world problems and physical systems
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. 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
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]
5. understand the hardware and software components that make up computer systems, and how they communicate with one another and with other systems
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
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
8. create, re-use, revise and re-purpose digital artefacts for a given audience, with attention to trustworthiness, design, and usability
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.