Coopers' Coborn Key Stage 3 Computing Curriculum Map

Module Topics	A	B	C	D	E	F	G	H	I
7.1 Emails and Networks									■
7.2 Binary (Representation of numbers)				■					
7.3 Introduction to Python Programming	■		■						
7.4 DVD Covers							■	■	
7.5 Spreadsheet Modelling	■								
7.6 Scratch Programming	■		■						
8.1 Boolean Logic				■					
8.2 Technology					■				
8.3 Python Programming 1	■	■	■	■					
8.4 Databases							■		
8.5 E-safety and Google Forms									■
8.6 Searching and sorting algorithms		■							
8.7 Website Development							■	■	
9.1 The Bigger Picture (Laws, Environment, Ethics etc)									■
9.2 Networks and the Internet									■
9.3 Python Programming 2	■	■	■	■					
9.4 Computer Hardware					■	■			
9.5 Cybersecurity									■
9.6 Representation of data and sound using binary						■			
9.7 Word Processing, Spreadsheets, Presentation Software etc	■						■	■	
Bebras: Computational Thinking Competition (All years)		■							

A) Design, use and evaluate computational abstractions that model the state and behaviour of real-world problems and physical systems
- Year 7: Spreadsheet modelling
- Year 7: Scratch
- Year 7,8,9: Python Programming
- Year 9: Office Software (Spreadsheets)

B) 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
- Year 8: Sorting and searching
- Year 8,9: Python Programming
- All years: Bebras Competition

C) Use 2 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
- Year 7: Scratch
- Year 7,8,9: Python Programming

D) 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]
- Year 7: Binary numbers
- Year 8: Boolean Logic
- Year 8,9: Python Programming

E) Understand the hardware and software components that make up computer systems, and how they communicate with one another and with other systems
- Year 8: Technology
- Year 9: Hardware

F) 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
- Year 9: Hardware
- Year 9: Audio and visual representation in binary

G) 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
- Year 7: DVD Cover
- Year 8: Web Design, Databases
- Year 9: Office software

H) Create, reuse, revise and repurpose digital artefacts for a given audience, with attention to trustworthiness, design and usability
- Year 7: DVD Cover
- Year 8: Web Design
- Year 9: Office Software

I) 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
- Year 7: Email and networks
- Year 8: E-safety and Google Forms
- Year 9: Networks and E-safety/Cybersecurity/Bigger Picture