KS3 curriculum map

|  | **Topic** | **Key concept – what do I want the students to learn from this unit?** | **What knowledge will they acquire?** |
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| **YEAR 7 OVERVIEW** | | | |
| **Unit 1** | **Computing Fundamentals** | E-safety and digital literacy (working practice) | * 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. |
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| **Unit 2 -** | **Programming with Flowol** | Algorithmic thinking and digital literacy | * design, use and evaluate computational abstractions that model the state and behaviour of real-world problems and physical systems |
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| **Unit 3** | **Computational Thinking** | That to reach a successful conclusion a person has to work through 4 elements that make up the concept of computational thinking. | * design, use and evaluate computational abstractions that model the state and behaviour of real-world problems and physical systems * 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 |
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| **Unit 4** | **Binary / Boolean** | How to convert denary to binary, how to add in binary, how pixels are used to represent images | * 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] * 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 |