Subject: Computer Science – 2022 KS4 Curriculum Mapping

	Year 10	Year 11
Cycle 1	• What are the three principles of computational thinking and how are they used to define and refine problems? • How can we design, create and refine algorithms? • What are the programming fundamentals?	• How are networks connected and what are the rules for sending and receiving data? • What threats are posed to computer systems and networks?
	• How can additional programming techniques be used to create more complex programs? Most weeks will have at least one programming lesson after this point through to the end of year 11.	• How do you limit the threats posed to computer systems and networks? • What is the purpose and functionality of system software? • What is the impact of ethical, legal, cultural and environmental issues on technology?
Cycle 2	• How can we use Boolean logic to solve problems? • How is data stored in a computer and how can data be used to represent characters, images and sound?	• What issues should a programmer consider to ensure that a program caters for all users? • What is the purpose of testing and how can testing be used to improve programs?
	• What is the architecture of the CPU and what affects their performance? • What are embedded systems and what are their typical characteristics?	• What are the characteristics and purposes of different does the integrated Development Environment (IDE) do to help programmers? • How can you sort and search through data sets?
Cycle 3	• How do different types of memory work in a computer and why are they needed? • What characteristics do common types of storage device have?	• Theory and practical revision lessons
	• How do we send and receive data over different networks like LANs, WANs and the internet?	• Exam Period