KS3 Computing @ HFCH

	Year 7	Year 8	Year 9
HT1 **9 lessons**	**7.1 Introduction to Computing** Students learn about the school network and how to access Satchel One and MS Teams. They also learn the basics of MS Word and MS PowerPoint.	**8.1 Inside a Computer** Students build on their knowledge of their introduction to Computing at HFCH by looking at the internal and external components of computers as well as embedded systems.	**9.1 Networks** Students build on their knowledge of computer components by learning about how computers connect to create networks and the advantages and disadvantages of networks including threats posed to networks
HT2 **12 lessons**	**7.2 Online Safety** Students build on the knowledge from KS2 about how to behave safely and appropriately online and what to do if they feel unsafe or experience issues. **7.3 Data Representation** Students learn how computers use binary to communicate and process data. They will learn how to convert binary to denary and denary to binary.	**8.2 Online Safety** Students build on their knowledge from Year 7 and look at different ways that being online can pose threats and dangers to people. **8.3 Data Representation** Students will build on their knowledge from Year 7 to add binary numbers and how to convert binary, denary and hexadecimal numbers. They will learn how logic gates represent inputs and outputs using binary.	**9.2 Cyber Security** Students build on their knowledge of networks and threats to networks by looking at how computers are used for criminal activity and how to keep computers and data secure.
HT3 **9 lessons**	**7.4 Algorithms & Logical Thinking (Flowol)** Students learn how to think logically to solve a problem. They learn how to use a flowchart to test their logic and then apply these skills to real world scenarios.	**8.4 Impact of Technology** Students build on their knowledge of Year 7 Technology in Society by looking at the environmental, legal and ethical issues related to technology	**9.3 Computational Thinking** Students will build on their knowledge of algorithms and programming from Year 7 & 8 by learning how data can be encrypted to prevent data theft, which also build on from Unit 9.2 Cyber Security.
HT4 **7 lessons**	**7.5 Block-based Programming (Scratch)** Students build on the knowledge from KS2 by developing their block programming skills and apply these skills to create a final classic game of Pong	**8.5 Block-based & Text-based Programming (EduBlocks)** Students build on their Year 7 knowledge and skills with their block-based programming and see how the blocks can be switch to text-based programs which will lead onto their text-based Python programming in Year 9.	**9.4 Text-based Programming: Introduction to Python** Unit 9.3 leads nicely into Unit 9.4 with students applying their computational thinking to develop text-based programs. Students also build on their Year 8 knowledge and skills with their block and text-based programming to develop more advanced skills.

HT5 **9 lessons**	**7.6 Technology in Society** Students learn how computers are used in society and how they help people in their everyday lives. The learn about the Internet of Things and Artificial Intelligence and other emerging technologies.	**8.6 Databases** Students learn the purpose of databases and how they are used in the real world. This unit forms links with programming by looking at data types and why they are necessary for databases. Students learn to search and sort databases as well as creating their own and entering data.	**9.5 Spreadsheets** Students learn the purpose of spreadsheets and how they are used in the real world. This unit forms links with their previous programming learning when using more advanced formulae such as IF statements and concatenation. They will also learn how to display data by creating charts.
HT6 **9 lessons**	**7.7 Graphics: Vector Images & Stop-motion Animation** Students learn to create images using vector tools. They learn how vector images are used in the real world and their benefits over bitmap or raster images. Students then learn about the history of animation and the skills required to create stop-motion animation.	**8.7 Graphics: Image manipulation** Students build upon their knowledge and skills using vector images by learning how to collect and manipulate images. They then use their skills to create a final product.	**9.6 Graphics: Publishing Skills** Students build on their knowledge from Years 7 & 8 by looking at how typography is used to create meaning as well as developing more advanced image manipulation skills which they will showcase when they create a final product.
Assessment and Feedback	Each topic will include Low Stake Quizzes throughout the half term, either electronically with instant feedback or on paper which will be self or peer marked. Towards the end of each topic there will be a written assessment conducted under controlled conditions that is marked by the teacher followed by adequate time for students to reflect on their performance and improve their answers. These scores along with teacher assessment are used to track progress within the department.		