Key Stage 3 – YEAR 7 COMPUTER SCIENCE AND ICT – 2021-2022
Curriculum Map for Students

	Autumn	Winter	Winter/Spring	Spring	Summer
Theme	**Unit 1 - The Safe and Legal Use of Computers**	**Unit 2 - Computational Thinking**	**Unit 3 - The History of Computer Science**	**Unit 4 - Data Representation: The Binary Number System**	**Unit 5 - Programming with Scratch**
Topic Overview	eSafety - be smart, keep safe, stay legal. What are the dangers and how should students deal with them?	Think, plan, do. Problem-solving and computational thinking skills for Computer Science and beyond.	Computer Science & ICT…what's the difference? Where did it come from and where is it going?	Just a BIT of Binary to introduce students to how all data is stored and processed within a computer.	Scratching the surface of programming with the development of applications and games.
Focus	Students will cover a variety of eSafety scenarios looking at the dangers of sharing too much information online. Students will then share their top tips for staying safe online. This will lead into the study of different legal implications of operating online such as Data Protection, Computer Misuse and Copyright acts.	Students will learn a variety of thinking skills that allow them to solve logical problems in a more structured way, this includes the creation of algorithms for everyday situations and flowcharts to present their solutions as a graphical set of steps. This will culminate with students using their skills to complete a series of increasingly challenging computational thinking tasks.	Students will learn about the history of Computer Science looking specifically at where terminology such as Computer, Computing and Computer Science originate from, the main people involved in the creation of the first every computer systems and inspirational people that have made significant contributions to the world of Computer Science.	Students will learn about the different units of data that can be stored inside a computer and how quantities of these binary digits represent all forms of data within a computer. Students will learn to convert denary numbers into binary and calculate the sum of binary addition calculations.	Students will learn about how to structure program code using the Scratch graphical user interface. Students will learn about the key programming constructs Sequence, Selection and Iteration and will use each of these tools to create a series of applications and games. Students will also learn about some elements of graphical design and how this affects the playability of basic games.
Assessment	*Students will produce a top 5 eSafety tips poster which will be assessed based on the quality of the eSafety suggestions provided and the aesthetic design used to present their information. Students will then sit a 45-minute online assessment consisting of a mix of multiple choice and short answer questions. Students will also be assessed based the quality of work within their workbooks against the I CAN statements for this topic.*	*Students will be assessed based on the quality of work within their workbooks against the I CAN statements for this topic. Students will also take part in the Bebras Challenge, a 40-minute challenge where they will answer a series of Computational Thinking questions. This is a national competition and students will receive either a Participation, Merit or Distinction certificate based on their overall score.*	*Students will be assessed through a piece of group work where student will create a timeline that shows the development of Computer Science throughout history. Students will complete a 45-minute online assessment consisting of a mix of multiple choice and short answer questions. Students will also be assessed based the quality of work within their workbooks against the I CAN statements for this topic.*	*Students will be assessed through a 50-minute online assessment consisting of multiple choice and short answer questions based on the conversions and calculations learned throughout this unit. Students will also be assessed based on the quality of work within their workbooks against the I CAN statements for this topic.*	*Students will be tasked with the creation of side-scrolling platform game. This will be assessed on both its programming complexity and the aesthetic design of the characters and backgrounds within their game.* *Students will have 5 lessons to create their games.*