ST CATHERINE'S COLLEGE
A CHURCH OF ENGLAND ACADEMY

Learning overview for Computer Science			**Year group: 7**	
Term	**Key topics / scheme of work**	**What most pupils will learn** (Prior assessment may alter starting point & content)	**Key skills used**	**How will this learning be assessed?**
Unit 1	E-Safety Poster and esafety Scratch programming quiz	How to stay safe online. Focussing on trolling, cyberbullying, being a responsible digital citizen, how to report abuse, our digital footprints, using location and privacy settings. Students then code an e-safety quiz in Scratch to embed these skills.	Methods used to report concerns/abuse, collecting and organising data, using feedback from others, communicating safely online, navigating the web.	E-safety web quizzes, mid unit progress checks and E-safety Poster. Computational thinking challenges and Python quiz completion.
Unit 2	Programming a Scratch game	Students will skill build in Scratch then design, test and develop their own game 2 player game.	Creating efficient programs using their own variables, sequencing, selection and iteration. Testing and refining their programs based on peer- feedback.	Web quizzes, mid unit progress check test and end of unit test. Computational thinking challenges.
Unit 3	Physical coding using BBC microbits.	Students develop their Python coding skills using minicomputers. They follow a series of challenges exploring the different features of the microbit.	Writing algorithms and using flowcharts. Using if, elif and else, creating loops and variables. Using iteration in a For and While loop. Coding images. Refining programs to do creative things	Web quizzes, mid unit progress check test and end of unit test. Completion of coding challenges. Computational thinking challenges
Unit 4	Coding using flowcharts	How to recognise the main flowchart symbols and how to create flowcharts that solve computer control challenges.	Recognising the similarities between scratch, BBC micro bits and using flow charts to code. Understanding the three acceptable ways to code.	Completion of flowchart challenges, computational thinking challenges, mid unit progress checks and online quizzes.

Unit 5	Coding in Python	Students will develop their Python skills building on previous learning.	Developing their use of built in Python functions, the use of variables, lists, the use of the random function and how to identify syntax errors.	Completion of Python challenges, computational thinking challenges, mid unit progress checks and online quizzes.
Unit 6	Codebreaking!	Students will develop an understanding of encryption and code breaking with a view to developing their cybersecurity skills.	Computational thinking and problem solving, code breaking.	Completion of code breaking challenges, computational thinking challenges, mid unit progress checks and online quizzes.