Y5 computing overview 2019-20: We are cryptographers, We are game developers, Digital maps

Computing Activity	Desired Skills	Approaches to Developing Skills	Desired Knowledge and Understanding	Approaches to Developing Knowledge and Understanding	Curricula Materials	Assessed through		(T1 T2 T3)
						Exploring Responding Designing Creating Evaluating		
						Most children will be able to... (working at)	Some children will not yet be able to...(working towards)	Some children are confidently able to... (exceeding)
Algorithms and Programs	• Use sequence in programs • Use selection in programs • Work with various forms of input and output • Use repetition in programs • Work with variables • Use logical reasoning to explain how some simple algorithms work • Use sequence, selection, and repetition in programs	• Class/group tuition with technical guidance from the Switched On computing program	• Understanding what encryption is for and how it is used in modern technology • Understanding the process of making an original game using scratch • Understanding how to use maps online to find places	• Class teacher showing children existing examples • Group work on creating and developing their own work	**TERM1:** **Unit 5a We are cryptographers** • be familiar with semaphore and Morse code • understand the need for private information to be encrypted • encrypt and decrypt messages in simple ciphers • appreciate the need to use complex passwords and to keep them secure • have some understanding of how encryption works on the web.			
Databases	• Create and edit content on Wiki • Use internet services to create content that presents information • Use internet services to create and evaluate content that presents information • Design and create content	• Class/group tuition with reference to existing databases						
Using the internet	• Use search technologies effectively • Be discerning in evaluating digital content • Be discerning in evaluating digital content	• Class/group internet browsing, followed by reflective discussion		• Class teacher talk through programs and algorithms with opportunities to try different programs • Observing algorithms and debugging them	**TERM2:** **Unit 5b We are game developers** • create original artwork and sound for a game design and create a computer program for a computer game, which uses sequence, selection, repetition and variables • detect and correct errors in their computer game • use iterative development techniques (making and testing a series of small changes) to improve their game.			
Problem solving	• Solve problems by decomposing them into smaller parts • Design programs that accomplish specific goals • Write programs that accomplish specific goals • Debug programs that accomplish specific goals • Use logical reasoning to detect and correct errors in algorithms and programs	• Class, then group opportunities for problem solving						
Communicating	• Understand the opportunities networks offer for communication and collaboration • Use a variety of software (including internet services) to present information	• Observational opportunities to work as part of a group		• Teacher led creating and editing • Observing pre-existing master pieces and masters in the field	**TERM3:** **Unit 5c Digital maps** • Use different map websites to search for different locations in the world • Identify different land features from looking at maps and use them to find data about rivers • Browse the web for different maps			
SMSC	• Use technology safely, respectfully and responsibly; recognise acceptable/ unacceptable behaviour • To know how to seek help – where to go, and how to set privacy settings • Recognise acceptable/ unacceptable behaviour • Knowing how to find out about website or game policies	• Teacher guidance on safe internet use and introduction to supportive websites (NSPCC)						