

Year: 7

Subject: Computer science

Spring Term		
Overarching Topic: Data representation & encryption		
What has come before and what comes later:		
	Core	Extension
The Big Questions (What questions will students be able to answer upon mastery of the topic?)	<ul style="list-style-type: none"> How is data represented by computers? Why do computers use binary? How do you convert between number systems? How are binary numbers added? What is encryption? Why is encryption important in a modern world? Where is encryption used? Why are some encryption techniques not very secure? Who was Alan Turning? How did Alan Turning change the world? What was the Enigma machine? 	<ul style="list-style-type: none"> Hexadecimal and its uses What is overflow? Selecting appropriate encryption for a given scenario Exploring modern encryption techniques Discussing the legal & moral obligations of technology firms and the encryption they use.
	Skill/Technique	How students will develop and demonstrate this
Key skills	Converting between base 10 & binary and vice versa Adding 2 4/8-bit binary numbers together	During assessments, classwork and homework, students will: <ul style="list-style-type: none"> Convert numbers between binary and decimal

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	Solving problems, spotting patterns, analysing text Project management and planning. Creating assets that are fit for purpose.	<ul style="list-style-type: none">• Add binary numbers together• encrypt / decrypt messages using a range of encryption techniques• Document their own views on if strong encryption should be legally allowed
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