

KEVICC KS3 Curriculum:	Subject: Computer Science	Key terms and vocabulary. Which words will be explicitly taught & how frequently will understanding be checked? How will assimilation of new vocab be checked? Binary Denary Hexadecimal ASCII Unicode Pixel Resolution Colour Depth Compression Run Length Encoding Sampling Analogue Sampling rate Sampling resolution Lossy compression Lossless compression Used in context during lessons and understanding checked in end of unit assessment
Year: 9 Term: 3	Topic: Data Representation	
What is the essential knowledge from this unit? What do students need to remember and understand? <ul style="list-style-type: none">• Be able to explain why computers use the binary number system• Be able to convert between binary and denary numbers• Be able add binary numbers• Understand hex numbers are and be able to convert between binary and hex• Understand how characters can be represented in binary form• Understand how the character coding systems ASCII and Unicode work• Be able to compare the pros and cons of these two coding system• Understand the term pixel resolution in relation to bitmap images• Understand the term colour depth in relation to bitmap images• Be able to calculate the file size of a bitmap image• Understand how Run Length Encoding can be used to compress image data• Be able to describe how computers store sound using sampling• Understand the terms sampling rate and sampling resolution• Be able to calculate the file size of a sound file• Understand how sound files can be compressed in either lossy or lossless formats• Understand the pros and cons of using lossy or lossless compression		
What prior learning supports understanding of this content? <ul style="list-style-type: none">• Year 8 unit on How Computers Work	How does this content link to future learning? <ul style="list-style-type: none">• Essential learning for students going on to take GCSE Computer Science course	
Reading: <i>Where in the unit are students supported to read complex academic text?</i> <ul style="list-style-type: none">• Students will be directed to read age-appropriate content from BBC Bitesize pages and other relevant online sources	Writing: <i>Independent writing tasks and how they are structured</i> <ul style="list-style-type: none">• Short written answers to worksheet questions• Extended written descriptions using key words as prompts	
Key assessments: <i>How will students review the information learned?</i> <i>How will feedback be seen?</i> <ul style="list-style-type: none">• Students will get short personalised feedback (mainly verbal) on individual tasks• End of unit assessment in penultimate lesson, with final lesson used to give feedback and enable corrections/improvements		