Home-School Learning Collaboration – Computing

Topics in this cycle: Data representation	Taught: Spring1	Year Group: 9

Key knowledge/concepts to be learnt ('Tell me about….')	Websites/blogs/YouTube links and further reading to deepen and consolidate learning
• **What are different number systems?** What is your age in binary? What is your age in hexadecimal? How can we convert between denary and other number systems? • **How many bits is a smartphone? What about a Personal Computer?** If a machine has more bits, what difference does that make to its function? • **What affects the quality of an image?** What is colour depth? What is resolution? How do these affect the file size of an image?	**Video clips** What is the point of hexadecimal? https://www.youtube.com/watch?v=ViRR7qoeMpU Image quality https://www.youtube.com/watch?v=Jcgg7jq1W3o **Tools** Binary converter https://www.rapidtables.com/convert/number/decimal-to-binary.html

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Key Vocabulary and Definitions To Be Learnt	
Bit	A 'bit' is a Binary Digit. A Binary Digit is the smallest unit of data a computer can store. Each 'bit' is represented using either a 1 (true) or 0 (false).
Byte	8 bits.
Colour depth	Many images need to use colours. To add colour, more bits are required for each pixel. The number of bits determines the range of colours. This is known as an image's colour depth.
Pixel	The smallest element of an image. Each pixel has a specific colour, represented by a specific binary code.

What Will The Assessment Look Like?

Optional: Research and write a 300 word article on the differences between digital and 35mm photographs. If you want, you could try talking to an older student, who studies GCSE Photography. Mr Daniel (in DT) might also be able to help.

May/June assessment as part of Assessment Week:

- 50 marks
- 3 sections. Section A is short answers, Sections B and C require longer answers for unstructured questions

Family Learning Opportunities

Research the following with a parent/carer:

What was the first image ever digitised?

What was the first image ever sent via email?

What is a meme and what is the most famous 'meme'?