

Home-School Learning Collaboration – Computing



Topics in this cycle: Computer Processes	Taught: Spring 2	Year Group: 7
Key knowledge/concepts to be learnt ('Tell me about....')		Websites/blogs/YouTube links and further reading to deepen and consolidate learning
<ul style="list-style-type: none"> • What is the difference between computer hardware and software? Identify hardware devices and software programs. Describe the different type of computer hardware and software programs. Explain how different hardware devices and software programs can be used for different purposes. • How does the input, process, output cycle work in a computer system? Identify different input and output devices. Describe how input & output devices work together within a computer system. Explain the input, process, output cycle works using real world examples. • What is a CPU? Identify the different parts of a CPU. Describe the main features of a CPU. Explain how the Fetch-Decode-Execute cycle works. • How is data represented as Binary? Identify the 2 different number systems. Describe how data is represented as Binary. Explain how we convert between the Binary and Denary number system. • What is the method for Binary addition & Subtraction? Describe the rules for binary addition & subtraction. Explain the method for adding and subtracting two Binary numbers. • What are the advantages and disadvantages of different storage devices? Identify different data units. Describe the different types of storage. Explain the advantages and disadvantages of different storage devices. 		Notes/Information Software What is software? BBC Bitesize KS3 Computer Science Hardware and Software The CPU & Fetch-Decode-Execute Cycle The CPU & the Fetch-Decode-Execute Cycle BBC Bitesize KS3 Computer Science Hardware and Software Binary Data – Conversions & Adding Binary Numbers Binary Data BBC Bitesize KS3 Computer Science Data Representation Videos Hardware Types of Hardware Make It Easy Education YouTube Input, Process, Output CS Basics: Input, Process, Output Mr Matthews YouTube Storage Devices Storage Devices Simply Coding YouTube

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Key Vocabulary and Definitions To Be Learnt		What Will The Assessment Look Like?
Hardware	The physical components that a computer system requires to function	Extended writing – The advantages and disadvantages of different storage devices. End of Unit test: 35 minutes/25 marks <ul style="list-style-type: none"> • Short answer questions • Extended writing • 3 marks for SPAG
Software	A set of instructions, data, or programs used to operate a computer and carry out specific tasks.	
Data	information that is stored and processed digitally on a computer	
Process	Is a series of actions which are carried out to achieve a particular result.	
Input	Any information or data that is entered into or received by a computer.	
Output	How the computer presents the results of the process, such as text on a screen, printed materials, or sound from a speaker.	Family Learning Opportunities Binary conversion game – Try to complete as many levels as possible converting between Binary and Denary numbers as fast as you can. Binary Numbers Game Spin the wheel activity- Spin the wheel and take turns with your family explaining the use of the different hardware and software used by a computer. Spin The Wheel - Hardware & Software Devise a quiz on the advantages and disadvantages of different storage devices and test your family.
Binary	a numbering scheme in which there are only two possible values - 0 or 1	
Denary	is the number system most used by people. Containing the numbers 0 - 9	
Storage	the component of your computer that allows you to store and access data on a long-term basis	
Internal Device	Internal describes a device that's installed inside the computer	
External Device	Any device that is not housed inside the computer cabinet.	