

Home-School Learning Collaboration – Computing

Topics in this cycle: Introduction to Computer Science	Taught: Autumn 1	Year Group: 9
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 architecture of a computer? Identify the components within the CPU. Describe the 3 main elements can affect the performance of the CPU. Explain how the different parts of the CPU work together. How does a computer store data? Describe the different types of storage devices. Explain the difference between primary memory and secondary storage. Explain the advantages and disadvantages of the different storage devices. What is Computer Software? Explain the purpose of the computer software. Explain the difference between application and system software. Explain the purpose of the different types of system software. What is encryption and why is it important? Explain the definition of encryption. Explain the importance of keeping out data safe using suitable passwords. Explain how encryption keeps out data safe. How do full and incremental backups work? Explain the importance of backing up data to a secondary location. Explain the difference between a full and incremental backup. Identify which back up method is the most suitable depending on the situation. 		Notes/Information Computer Architecture Computer Architecture BBC Bitesize Memory and Storage Memory and Storage BBC Bitesize Computer Software Computer Software BBC Bitesize Passwords and Encryption Passwords and Encryption BBC Bitesize Data Backup Data Backup BBC Bitesize

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Key Vocabulary and Definitions To Be Learn		What Will The Assessment Look Like?
Software	a set of instructions, data or programs used to operate computers and execute specific tasks.	Extended writing – Justification of using a particular type of backup for a given scenario. End of Unit test: 35 minutes/25 marks <ul style="list-style-type: none"> • Short answer questions • Extended writing • 3 marks for SPAG
Backup	a copy of a file or other item of data made in case the original is lost or damaged.	
Incremental Backup	a copy of data that contains only those files which have been altered since the last backup.	
Full Backup	A complete copy of all the data in a system.	
Computer Architecture	The structure of a computer system that determines how its components interact with each other.	
CPU	Central Processing Unit -	Family Learning Opportunities
ALU	Arithmetic Logic Unit	Watch the following introduction to Computer Science video and create a mind map together with your family about the key concepts. Introduction to Computer Science Youtube Treehouse Devise a quiz on the introduction to computer science topics and test your family.
Cache	A piece of hardware that is used to store data temporarily.	
Clock Speed	The operating speed of a computer or its microprocessor, expressed in cycles per second.	
Cores	a core is a small CPU or processor built into a big CPU.	
Encryption	the process of converting information or data into a code, especially to prevent unauthorized access.	
Password	a string of characters that allows access to a computer system or service.	
Application Software	software designed to handle specific tasks for users.	
System Software	type of computer program that is designed to run a computer's hardware and application programs	