

SUBJECT NAME COMPUTER SCIENCE



ALDER
Community High School

YEAR GROUP 10

Topic 1.2 Memory and Storage		
Autumn Term 1	Composites - The purpose of primary storage including RAM, ROM and Virtual Memory - Compare common types of secondary storage including Optical, Magnetic and Solid State - Understand how data is stored including ability to calculate capacity and file sizes - Demonstrate how numbers are stored using denary, binary, binary shifts and hexadecimal - Explain how characters are represented including ASCII and Unicode - Discuss how images are stored using pixels, metadata, colour depth and resolution - Describe how sound can be sampled in digital form and the effect of sample rate, duration and bit depth - Understand the need for data compression including comparing lossy and lossless compression	Key Vocabulary - Secondary Storage, Optical Disk, Optical Drive, Magnetic Storage, Solid State Drive - Nibble, Bit, Byte, Kilobyte, Megabyte, Gigabyte, Terabyte, Petabyte - Denary, Binary, Overflow, Hexadecimal - Character Set, ASCII, Unicode - Pixel, Metadata, Colour depth, Resolution - Sample Rate, Sample Interval - Compression, Lossy, Lossless
	Assessment AFL used throughout lessons in the form of whiteboards and code calling. Mid-point MCQ test to inform planning and reteach of misconceptions also end of topic assessment.	ILS Revision Knowledge drop, flash cards, condense it, mind map, mnemonics
	How to help at home Use ILS strategies to ask questions on what they have studied in lesson. Check retrieval of the knowledge using the knowledge organisers. Ensure revision is completed on the retrieval grids.	Use the web links to support with wider understanding Wider reading KS3 Computer Science - BBC Bitesize



	SMSC - Innovations and progression of technology - Achievements of past individuals Career opportunities within Computer Science Computer Science use within business	Careers Links Network manager, Software developer, technician
Autumn 2	Topic – 1.1 Systems Architecture	
	Composites - Purpose of the CPU - Common CPU components and their function - Von Neumann architecture - How common characteristics of CPUs affect their performance - The purpose and characteristics of embedded systems - Examples of embedded systems	Key Vocabulary - CPU - MAR - MDR - Program Counter - Accumulator - ALU - CU - Cache - Fetch and Execute Cycle - Clock Speed - Cores - Embedded Systems
	Assessment AFL used throughout lessons in the form of whiteboards and code calling. Mid-point MCQ test to inform planning and reteach of misconceptions also end of topic assessment.	Homework /ILS Knowledge drop, flash cards, condense it, mind map, mnemonics
	How to help at home Use ILS strategies to ask questions on what they have studied in lesson. Check retrieval of the knowledge using the knowledge organisers. Ensure revision is completed on the retrieval grids. Use the web links to support with wider understanding	Wider reading KS3 Computer Science - BBC Bitesize



	SMSC	Careers Links Network manager, Software developer, technician
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Our curriculum overviews are currently being revised to align with recent updates to teaching sequences and assessment planning. Once published, they will outline the key composite knowledge in each topic subject. We expect to share these with parents shortly and thank you for your patience during this update.