Key Stage 3 Curriculum Map 2020-21

Term 1

Year Group: 9	Subject: Computing		
Focus/Topic	**Objectives**	**Key Skills/ UAE Links**	**Home Learning/ Recommended Reading**
• Induction, curriculum orientation and expectations			
• Baseline assessments			

• Understanding Computers	• Elements of a Computer
	
	   o Distinguish between hardware and software
	
	   o Identify input, output and storage devices
	
	   o Name at least five pieces of software
	
	   o Understand what happens at the "Process" stage
	
	   o Suggest appropriate input and output devices for a given scenario
		• Identify the difference between various software types and storage devices
		• Select most appropriate and the most effective devices for real world purposes
			• MS Teams resources

	• The CPU
	
	   o Draw a block diagram of the main components of a computer: input, processor, output and storage
	
	   o Explain what main memory is used for
	
	   o Distinguish between main memory and permanent storage devices
		• Recall aspects of CPU
		• Purpose of main memory and its effect on PC
		• FEC and its link to the CPU
			• MS Teams resources

	o Name the three stages in the Fetch Execute Cycle o Define Hz, MHz and GHz and state how these relate to the speed of the processor		
	• ROM and RAM o Identify the types of primary memory. o Differentiate between RAM and ROM o Explain the need for virtual memory.	• Identify primary memory • Compare and contract • Describe the purpose and workings of virtual memory	• MS Teams resources
	• Understanding binary o State why all data is represented in binary in a computer o Understand that a particular bit pattern may represent, for example, an instruction to do something, a letter, a number or a tiny piece of a graphical image o Define a Bit, Byte, Kb, Mb and Gb o State how many different characters can be represented using 8 bits	• Understand why and how binary is use • How does measurements of units link to binary • How binary is used to store various data types	• MS Teams resources
	• Binary conversions o Convert integers to binary numbers o Convert binary numbers to integers	• Covert from various number systems to others • Covert binary to "text" •	• MS Teams resources

	o Look up from a table the bit pattern for a given character o Give examples of alphanumeric characters and special symbols that can be represented in ASCII o Show that a bit pattern can represent either a character or a decimal number		
Half Term			
• Understanding Computers	• Mathematics using binary o Add two binary numbers (each less than 7 binary digits) o Multiply a binary number by 2 o Identify a binary number as being odd or even	• Ability to perform calculation in binary.	• MS Teams resources
	• Storage devices o State the typical capacities, strengths and weaknesses of different storage devices o Describe how data is stored on a CD o Describe how 0s and 1s are represented by pits and lands on a CD o Name three types of optical storage device	• Understand why we have various storage devices and when each is most suitable • Understand basic workings of CD	• MS Teams resources
	• Assessment		
• Textual based programming – Small Basic	• Abstraction and Decomposition	• Flowcharts • Abstraction • Decomposition	• One Drive • Small Basic

	• Understand how to use abstraction and decomposition. o Creating flowcharts		
	• Flowcharts and Errors o Demonstrate how to create flowcharts and spot errors	• Flowcharts • Error checking • Data flow	• One Drive • Small Basic
	• Introduction to Small Basic o Understating how to store, recall and display data	• WriteLine • variable • assignment • Background colour	• One Drive • Small Basic
	• Numbers and Naming Conventions o Demonstrate using naming conventions and numbers in the correct way	• Datatypes • Naming conventions • Basic sums	• Small Basic
Winter Break			