Key Stage 3 Curriculum Map 2020-21

Term 3

Year Group: 8	Subject: Computing		
Focus/Topic	**Objectives**	**Key Skills/ UAE Links**	**Home Learning/ Recommended Reading**

Hardware, Software and Logic	• Logic Gates: To explore the basics of logic gate
	    o Understand what are the logic gates and where it is us
	    o Identify and explain the working of basic logic gates
	    o Create a truth table of basic logic gates
		• Understand and explain what is AND, OR and NOT gate
		 • Create truth tables for basic logic gates
		 ANALYSING- *Critical or logical*
			• MS Teams resources
			 • Digital worksheets

	• Logic circuits and truth tables: To explore the working with complex circuits
	    o Predict the output of complex logical circuits
	    o Create a truth table of complex logical circuits
		• Work with complex circuits involving more than one Logic gates
		 • Create a truth table for complex circuits
		 REALISING-Speed and accuracy
			• MS Teams resources
			 • Digital worksheets

	• Flowcharts: Understanding the working of flowcharts
	    o Explain what is a flowchart
	    o Identify shapes of flowcharts
	    o Predict the output of a flowchart
		• Understand what are the flowcharts
		 • Explain why we need one.
		 • Know different shapes used in the flowchart and understand scenarios where to use them correctly
		 ANALYSING-*Precision*
			• MS Teams resources
			 • Digital worksheets

	• Algorithms and flowcharts: To create flowcharts	• Creating flowcharts using correct symbols from the given algorithm	• MS Teams resources • Digital worksheets

	o Explain the relationship between algorithms and flowcharts o Create flowcharts from the given algorithm	**CREATING**- *Intellectual playfulness*	
	Assessment EOY or EoU		

Python Turtle	• Introduction to Python Turtle: To explore basic functions of python turtle
	  o Know basic turtle instruction
	  o Create programs using basic turtle instructions
		Understanding basic Turtle functions
		AGILE- *Enquiring*
			• MS Teams resources
			• Digital worksheets

	• Repeating Instruction: Exploring how to use loops in Python Turtle
	  o Explain what are loops and justify why we need them
	  o Create programs using for loop
		Explain loops and understand how to use one in turtle programming
		 CREATING-*Flexible thinking*
			• MS Teams resources
			• Digital worksheets

	• Using Variables: To explore the concept of variables in programming
	  o Demonstrate how a value is assigned to the variable.
	  o Create programs that collect input and provide an output.
		Know what are variables in Python
		Understand how to take user input
		META-THINKING-*Meta cognition*
			• MS Teams resources
			• Digital worksheets

	• Selection: How do programs made decisions
	  o Explain the purpose and layout of an IF statement
	  o Create programs that use selection statements
		Explain how decision are taken in programming
		 ANALYSING- *Critical or logical*
			• MS Teams resources
			• Digital worksheets

	• Subroutines: Understanding the working of subroutines and their usage
	  o Justify the need for subroutines
	  o Create programs using subroutine
		Understand what are subroutines and how to use them in Turtle programming
		ANALYSING-*Complex and multi-step problem solving*
			• MS Teams resources
			• Digital worksheets

	• Random Functions: The power of random within programming o Explain the need for the random function	Use random functions and link it with all previous knowledge to create programs **CREATING**- *Fluent thinking*	• MS Teams resources • Digital worksheets

	o Create programs using the random function		
Assessment			
Contingency			
Summer Break			