High Tunstall College of Science Curriculum Intent

Topic:	Application of Computational Thinking Topic 1 and Topic 6: Problem Solving with Programming ***Basics of Programming***	Year:	10	Half Term:	1

	Progress		
Key Ideas	**R**	**A**	**G**
I can use arithmetic operators			
I can use variables in algorithms and programs			
I understand the term decomposition			
I understand the term algorithm			
I understand programs must be written in the correct sequence			
I can interpret error messages			
I can recognise the data types; int, real(float), char, string			
I can define the term variable			
I can create variables with appropriate names (using camelCase)			
I can use a variable to store data and recall the contents of a variable			
I can translate code into a flowchart algorithm			
I can represent algorithms as flowcharts			
I can translate a flowchart algorithm into code			

Lesson	Learning Focus	Assessment	Key words
1	define the term 'program' use an Integrated Development Environment (IDE) to work with a Python program use arithmetic operators use variables in algorithms and programs	Evidence in Teams End of topic assessment	Algorithm, Arithmetic, BIDMAS, Deterministic, Integrated Development Environment (IDE), Operators, Program, Programming Language, Syntax
2	define the term 'decomposition' define the term 'algorithm' define the term 'sequence' and use sequence in algorithms and program code interpret error messages	Evidence in Teams End of topic assessment	Algorithm, Comments, Decomposition, Errors, Sequence, Interpret
3	recognise primitive data types (int, real(float), char, string) define the term 'variable' create variables of all types with meaningful names view contents of memory (variable) in IDE.	Evidence in Teams End of topic assessment	Boolean, camelCase, Char, Data types, Float, Integer, String, TypeError, Variable
4	take input and create output define the term 'runtime error' find and fix runtime errors use primitive data types (int, real, char, string).	Evidence in Teams End of topic assessment	Assignment, Data types, Errors, Input, Prompt, Runtime, Runtime error, Type conversion, Value Error
5	translate code into flowchart symbols represent an algorithm in a flowchart translate a flowchart into code	Evidence in Teams End of topic assessment	Algorithm, Constant, Flow, Flowchart, Input, Output, Process, Symbol, Terminator,
6	Revision lesson All of the above	Evidence in Teams End of topic assessment	All of the above
7	End of topic Assessment	End of topic assessment	All of the above
8	Assessment feedback lesson	Evidence in Teams	All of the above