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**Knowledge Rich Curriculum Plan**

Year 8 - Topic 3: Text based programming



| **Lesson/Learning Sequence**  | **Intended Knowledge:***Students will know that… Students will know how to…* | **Tiered Vocabulary**  | **Prior Knowledge:***In order to know this… Students need to already know that…* | **Assessment**  |
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| **1 – introduction to programming**  | * You will be able to use the print function to present information to the screen
* You will be able to use the new line function and discuss why it is important
* You will be able to use and explain why comments in code are useful
* You will be able to explain the difference between a syntax and logic error
 | Programming EnvironmentOrderInstructions Data Print Command GUI IDLEPythonshell | * To understand what a programming language is.
* A computer program is a set of instructions these can also be called algorithms.
 | QuestioningWorksheet |
| **2 variable** | * Enter data into a spreadsheet and identify cell references correctly
* Use different formulae for addition, subtraction, multiplication division
* Understand how to use brackets to change the order of calculation
 | Programming EnvironmentOrderInstructions Data Print IntegerCommand PythonVariable Algorithm Debugging Syntax errorLogic errorBoolean FloatString  | * You can use the print function to present information to the screen
* You can be able to use and explain comments in code
* You understand the difference between a syntax error and a logic error
 | QuestioningWorksheet |
| **3 – app creation** | * You will be able to evaluate your code to explain how you have debugged any errors.
* You will be able to use your Python code to create an IF statement and use concatenation to include user input.
* You will be able to use your Python code to create random numbers and attach them to an IF statement.
* To be able to fully create your program Using if, elif and else
 | Data Evaluate ErrorStatement PrintDebug Input\n CommandConcatenationStringIntegerPython idle | * You will understand what a variable is
* You will be able to demonstrate using the input function
* You will be able to describe what is meant by concatenation
* Fully understand the meaning of syntax and logic errors
* Understand the reasoning of the debugging section and how to properly address those errors
 | Questioning Worksheet |
| **4 – app creation continued**  | * To be able to fully create your program Using if, elif and else
* To be able to comment on your code, explaining the function of each section
 | Data Evaluate ErrorStatement functionPrintDebug Input\n CommandConcatenationStringIntegerPython idle | * To be able too use Print Function, Random Numbers and IF Statements.
* be able to demonstrate using the input function
* be able to use why comments in code are useful
* Fully understand the meaning of syntax and logic errors
* Understand the reasoning of the debugging section and how to properly address those errors
 | QuestioningWorksheet |
| **5 – writing to a file**  | * To understand how to be able to write to and from a file within python idle 3.7
 | Data Evaluate ErrorStatement functionPrintDebug Input\n CommandConcatenationStringIntegerPython idle | * Program to be complete
* To be able too use Print Function, Random Numbers and IF Statements.
* be able to demonstrate using the input function
* be able to use why comments in code are useful
* Fully understand the meaning of syntax and logic errors
* Understand the reasoning of the debugging section and how to properly address those errors
 | QuestioningWorksheet |
| **6** | * Students will know how to answer the end of unit assessment using their prior knowledge.
* Students will know how to improve on their work from previous lessons in the unit.
 | Students will need to use all of the vocabulary from the previous lessons. | * Students need to know all of the intended knowledge from the previous lessons in the unit.
 | End of Unit Assessment |