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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  Environment  Order  Instructions  Data  Print  Command  GUI  IDLE  Python  shell | * To understand what a programming language is. * A computer program is a set of instructions these can also be called algorithms. | Questioning  Worksheet |
| **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  Environment  Order  Instructions  Data  Print  Integer  Command  Python  Variable  Algorithm  Debugging  Syntax error  Logic error  Boolean  Float  String | * 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 | Questioning  Worksheet |
| **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  Error  Statement  Print  Debug  Input  \n Command  Concatenation  String  Integer  Python 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  Error  Statement  function  Print  Debug  Input  \n Command  Concatenation  String  Integer  Python 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 | Questioning  Worksheet |
| **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  Error  Statement  function  Print  Debug  Input  \n Command  Concatenation  String  Integer  Python 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 | Questioning  Worksheet |
| **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 |