Year 8 Computer Science	Emerging	Developing	Secure	Mastery
Hardware and software	Identify an example of a computer input and output. Identify an example of computer hardware. Identify different types of computer storage. Identify an example of an operating system. Identify an example of utility software.	Identify examples of computer inputs and outputs. Identify examples of computer hardware. Identify a range of storage devices within the 3 types of storage. Identify examples of operating systems. Identify examples of utility software.	Describe the purpose of different types of computer hardware. Describe the features of different types of computer storage. Describe the purpose of an operating system. Describe the purpose of utility software.	Describe the features of RAM and ROM. Select and justify a computer storage type and device for a given scenario. Describe how utility software helps a computer system.
Sequence and selection	Identify and describe an integer as a data type. Describe the term syntax error. Describe the term logic error. Identify different arithmetic and comparison operators. Identify the 3 programming constructs - sequence, selection and iteration. Identify an example of a flow diagram shape	Identify different data types. Describe the difference between syntax and logic errors. Select the correct boolean and comparison operator for a given problem. Describe the 3 programming constructs - sequence, selection and iteration. Describe the difference between the 2 types of iteration - count and condition loop.	Describe the use of different data types. Identify syntax and logic errors in code. Describe the use of 3 string manipulation techniques - length, upper/lower case and substring. Describe the use of different flow diagram shapes. Create code using different arithmetic and comparison operators.	Identify and describe the use of different data types from a given scenario. Refine and improve code by fixing syntax and logic errors. Describe the programming skill that applies for a flow diagram shape. Create code using a wide range of arithmetic and comparison operators. Create code with multiple selection statements.

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	Create code with outputs.	Identify 3 string manipulation techniques - length, upper/lower case and substring. Identify a range of examples of flow diagram shapes. Read and interpret code with 2 selection statements. Create code with inputs and outputs.	Identify programming constructs used in a given code. Read and interpret code with multiple selection statements. Create code with 2 selection statements.	Create code using the 3 string manipulation techniques - length, upper/lower case and substring.
Number systems	Identify the 2 values understood by a computer. Identify an example of a data unit. Identify binary or denary as a base system. Identify AND, OR and NOT as logic gates.	Identify a wide range of data units. Identify binary and denary as 2 different base systems. Describe the output of a logic gate and complete a truth table. Create a logic diagram using an AND, OR or NOT logic gate.	Describe capacities of different data units. Describe the output of different logic gates and complete truth tables. Convert between binary and denary base systems. Create logic diagrams using AND, OR and NOT logic gates.	Identify data capacity for different types of storage. Identify denary values for a given number of binary units. Identify binary units needed for a given denary value. Create logic diagrams using a combination of logic gates and complete truth tables.