

Week 1 - Introduction

Core Knowledge

- **Variables:** A variable is a storage location for values, these values may change whilst the program is running.
- **Sequence:** The order in which code is executed in.
- **Selection:** Using logical tests to change the flow of the sequence.
- **Iteration:** Using loops to repeat sequence of codes.
- **Edublocks:** Edublocks is a free application available online that was created by a 12 year old to help others learn code.

Key Literacy Variable

Definition - A variable is something that can be changed and is a storage location for data.

Associated terms - String, Integer, Changeable, Float, Boolean

- The student inputted his number and stored it as a variable.
- The If Statement changed the value of the variable

Week 2 - Using Selection

Core Knowledge

- **Selection:** Also known as an IF statement is what we call the function that is part of the selection category. This allows us to change the flow of the code based on What If questions.
- **User Input:** User input is how the user of the software can input data into a program and change its variables.
- **Comparison operators:** comparison operators allow you to compare two different variables.. Some examples are > (greater than). < (less than) and == (Equals to).

Key Literacy Selection

Definition - The use of logic commands to change the flow of a program.

Associated terms - Choice, Pick, Choose, Change, Input

- He used selection to change the flow of his code.
- The head girl was chosen from the selection of students.

Week 3 - Arithmetic Operators

Core Knowledge

- **Integer:** An integer is what we call a variable that holds within it ONLY whole numbers.
- **Arithmetic Operators:** A mathematical function that is used to perform a calculation, e.g. add, subtract, multiply and divide.
- **Casting:** casting is the conversion of one data type into another such as turning a string into an integer for the purpose of storing data correctly.

Key Literacy Integer

Definition: An integer is what we call a variable that holds within it ONLY whole numbers.

Associated terms: Changeable, Whole number, Digit, Variable

- The student stored their age in their program as an integer.
- An integer cannot have a decimal place.

Week 4 - Turtle Module

Core Knowledge

- **Module:** A module is a file containing a set of functions you want to include in your application.
- **Turtle Module:** The turtle module can draw intricate shapes using programs that repeat simple moves.
- **Loop:** A loop is a piece of code that will repeat itself forever or until a certain condition is met.

Key Literacy Sequence

Definition - The order in which code is executed in.

Associated terms - Order, Flow, Execute, Counting, Series

- The student's code was executed in the correct sequence.
- The images were shown in sequence.

Week 5 - Variables and Lists

Core Knowledge

- **List (array):** A list which is also known as an array is a list of data items within the code.
- **Random Module:** Module which allows the program to generate a random number/option.

Key Literacy Iteration

Definition - The repetition or looping of a piece of code.

Associated terms - Loop, Repeating, Repetition, Infinite

- The student was using iteration to make their code run forever.
- Using iteration allows a programmer to repeat sections of code until a condition is met.

Week 6 - Turtle Flags

Key Project Skills

These following skills will be required for your flag project. Previous lessons will help you to recall the skills you need to successfully complete the project.

- Import the **Turtle Module**
- Demonstrate use of **sequencing**
- Incorporate the use of **Variables**
- Include a form of **Iteration**
- Include a **Lists**

Key Literacy Array

Definition - A list which is also known as an array is a list of data items within the code.

Associated terms - List, Multiple, Ordering, arrangement

- The student decided to put all of his integers into an array.
- The array contained a list of her classmate's names.



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