

Computing

Programming B – Sensing Movement

Year 6

Summer 2

Key Knowledge

To create a program to run on a controllable device	<ul style="list-style-type: none"> - I can apply my knowledge of programming to a new environment - I can test my program on an emulator - I can transfer my program to a controllable device
To explain that selection can control the flow of a program	<ul style="list-style-type: none"> - I can determine the flow of a program using selection - I can identify examples of conditions in the real world - I can use a variable in an if, then, else statement to select the flow of a program
To update a variable with a user input	<ul style="list-style-type: none"> - I can experiment with different physical inputs - I can explain that if you read a variable, the value remains - I can use a condition to change a variable
To use an conditional statement to compare a variable to a value	<ul style="list-style-type: none"> - I can explain the importance of the order of conditions in else, if statements - I can modify a program to achieve a different outcome - I can use an operand (e.g. <=>) in an if, then statement
To design a project that uses inputs and outputs on a controllable device	<ul style="list-style-type: none"> - I can decide what variables to include in a project - I can design the algorithm for my project - I can design the program flow for my project
To develop a program to use inputs and outputs on a controllable device	<ul style="list-style-type: none"> - I can create a program based on my design - I can test my program against my design - I can use a range of approaches to find and fix bugs

Statutory requirements

- design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts
- use sequence, selection, and repetition in programs; work with variables and various forms of input and output
- use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs

Key vocabulary

Spelling	Definition
Variable	A variable is a placeholder in the memory of a computer and can hold one value at a time.
Algorithm	An algorithm is a precise sequence of instructions , or set of rules, for performing a task.
MicroBit	A piece of hardware used in programming – a physical input device.
Input	Data that is sent to a program to be processed
Output Device	A piece of hardware that is controlled by outputs from a computer
Selection	Part of a program where if a condition is met, then a set of commands is run

Possible experiences

- Investigate different hardware workshops, for example at the Science Museum.
- Get a deeper understanding of input and output devices by visiting [Inputs and outputs - BBC Bitesize](#).
- Read more about the history of hardware and how it has evolved over time, by following the link [From Lisa to Windows: The story of home computers | Science Museum](#)

Real world if, then, else

