

Prior Learning (Y5):

Learners will be introduced to a microcontroller (Crumble controller) and learn how to connect and program it to control components. Learners will be introduced to conditions as a means of controlling the flow of actions in a program. Learners will make use of their knowledge of repetition and conditions when introduced to the concept of selection (through the 'if...then...' structure) and write algorithms and programs that utilise this concept.

Key Vocabulary

Vocabulary to use from previous learning: Algorithm, program, command, debug, logical reasoning, sequence, repetition, decompose, count-controlled loops, infinite loops, selection, conditions

Variables	A variable can be set and changed throughout the running of a program.
Code	The symbolic arrangement of data or instructions in a computer program or the set of such instructions

Key Unit Specific Vocabulary:

Micro: Bit; Emulator; Accelerometer; Inputs; Outputs; Design; Compass; Step Counter; Controllable Device;

Key Questions:

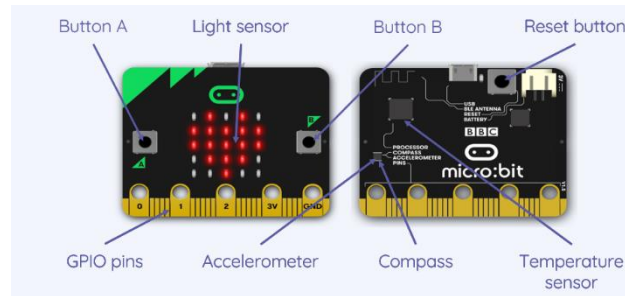
- How can I create a program to run on a controllable device?
- How can selection control the flow of a program?
- How to update a variable with a user input?
- How to use a conditional statement to compare a variable to a value?
- How to design and develop a program that uses inputs and outputs on a controllable device?

Year 6 Programming

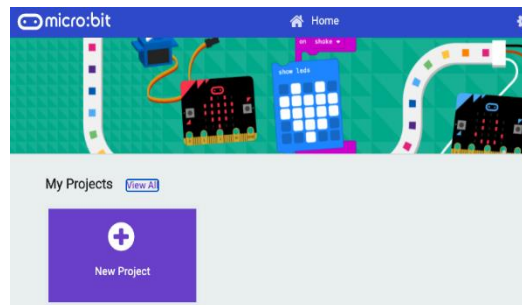
Current Learning (Y6):

Learners the opportunity to use all of the constructs previously taught in a different, but still familiar environment, while also utilising a physical device — the micro: bit. The unit begins with a simple program for learners to build in and test in the programming environment, before transferring it to their micro: bit.

Inputs on a micro:bit



The micro:bit Programming Environment



To program the micro:bit, we use a programming environment called '**Makecode**'

We can use programming blocks to create a code that can be transferred on to the micro:bit itself.

Future Learning (Y7):

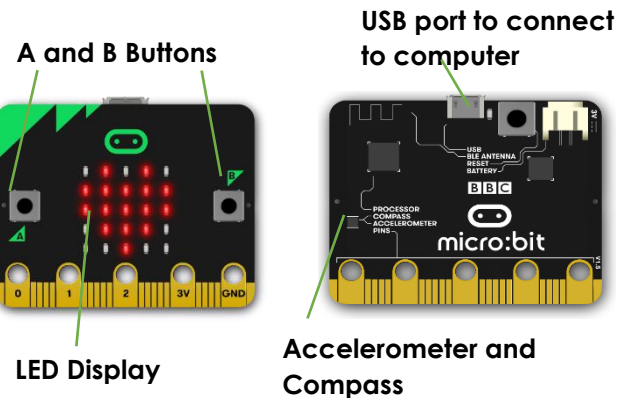
To build learners' confidence and knowledge of the key programming constructs. The main programming concepts covered in this unit are sequencing, variables, selection, and count-controlled iteration.

Micro:Bits

The micro:Bit is a tiny computer.

You can write programs for the micro:bit on your computer and then transfer them to the micro:bit to be run.

Parts of a micro:Bit



You connect the micro:bit using a USB cable.

