



# Y5 Knowledge Organiser – Programming 2: Micro:bit

Key vocabulary	
<b>.hex file</b>	A file type, that carries binary information.
<b>.zip file</b>	Multiple files that are bound together as a single file, to use less digital storage space.
<b>Bluetooth</b>	Device to device connectivity, for example sharing images between two smart phones.
<b>Code blocks</b>	A visual representation for a section of code that performs a certain job. They can be snapped together to build a program.
<b>Decompose</b>	To break something down into smaller chunks.
<b>Emulator</b>	A program or machine that is built to copy the way another computer system works.
<b>Feature</b>	Distinctive characteristics of something.
<b>Loop</b>	A repeated sequence of instructions.
<b>Micro:bit</b>	Created by the BBC, a small compact computer that you can code.
<b>Pedometer</b>	A device used to record the number of steps taken to calculate the distance travelled.
<b>Predict</b>	To make an educated guess, as to what might happen or occur as the result of something in the future.
<b>Systematic</b>	Doing something in an ordered way to achieve a specified goal.
<b>Tinker</b>	To explore and play with something to discover the key functions.
<b>Variable</b>	This could be a number or text, that can change each time the program is run and often in combination with selection to change the end result of the program.

**BBC Micro:bit Make code - Code blocks key:**

Basic

Input

Music

Led

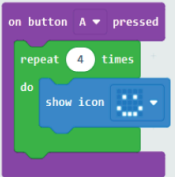
Radio


Loops

Logic

Variables

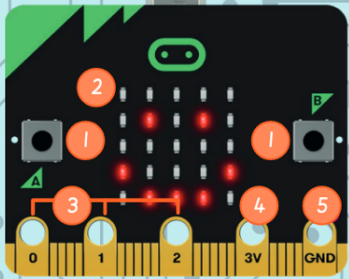
Math(s)



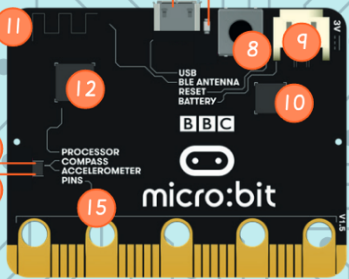


**BBC Micro:bit features:**

Front



Back



- 1 A and B buttons
- 2 LED display and light sensor
- 3 Pin: GPIO
- 4 Pin: 3 volt power
- 5 Pin: Ground
- 6 Micro USB socket
- 7 Single LED
- 8 Reset button
- 9 Battery socket
- 10 USB interface chip
- 11 Radio and Bluetooth antenna
- 12 Processor and temperature sensor
- 13 Compass
- 14 Accelerometer
- 15 Pins

© BBC Micro:bit

BBC Micro:bit - definition:  
is a **pocket-sized computer** that introduces you to how software and hardware work together.

The BBC Micro:bit has a wide-range of features for you to program and experiment with. It has an LED light display, buttons, sensors and many input/output features that, when programmed, let it interact with you and your world. Each feature can be included as part of an algorithm.

What I have learnt before	What I am learning now	What I will learn next
<ul style="list-style-type: none"> <li>To know that Scratch is a programming language and some of its basic functions.</li> <li>To understand how to use loops to improve programming.</li> <li>To understand how decomposition is used in programming.</li> <li>To understand that you can remix and adapt existing code.</li> <li>To understand that a variable is a value that can change (depending on conditions) and know that you can create them in Scratch.</li> </ul>	<ul style="list-style-type: none"> <li>To know that a Micro:bit is a programmable device.</li> <li>To know that Micro:bit uses a block coding language similar to Scratch.</li> <li>To understand and recognise coding structures including variables.</li> <li>To know what techniques to use to create a program for a specific purpose (including decomposition).</li> </ul>	<ul style="list-style-type: none"> <li>To know that there are text-based programming languages such as Logo and Python.</li> <li>To know that nested loops are loops inside of loops.</li> <li>To understand the use of random numbers and remix Python code.</li> <li>To understand that using loops can make the process of writing music simpler and more effective.</li> </ul>