

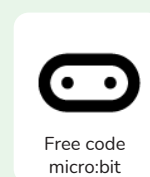
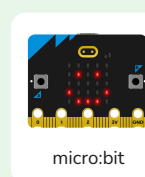
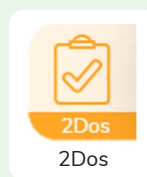
Unit: 3.10

micro:bit

Key Learning

- To understand that the micro:bit is a tiny computer which needs code to make it work.
- To use Free code micro:bit to make code that the micro:bit can understand and then transfer it to the micro:bit.
- To code a micro:bit to show animations on its LEDs.
- To recognise the key inputs and outputs such as accelerometer and LED display.
- To create code that generates sound outputs based on different movement gestures.

Key Resources



Key Vocabulary

Accelerometer

A sensor that detects movement.

Animation

The process of adding movement to still objects.

Data

A collect of information, especially facts or numbers, obtained by observation, questions or measurements.

Gestures

A type of input where the mico:bit is moved in different ways such as tilting, dropping, shaking.

Hardware

A physical device like a computer or a micro:bit that is told what to do by computer programs (software).

Image

A graphic representation of something on a computer screen.

Infinite loop

A loop that runs forever.

Input

Information going into the computer. For example, moving a mouse, using keyboard and tilting device.

LED

Light emitting diode - the micro:bit display is made of 25 LEDs.

Output

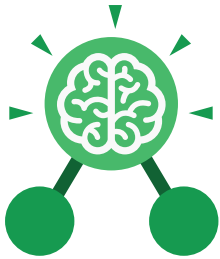
Data sent from a computer such as information shown on the LED display or sound.

Program

A set of instructions written in code that performs a given task.

Repeat

This command can be used to make a block of commands run a set number of times or forever.



Unit: 3.10

micro:bit

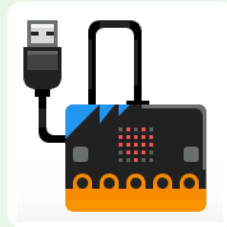
Key Images



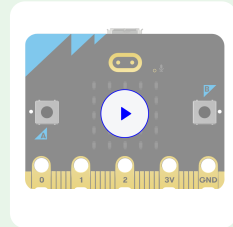
Open, close or share a file.



Save your work.



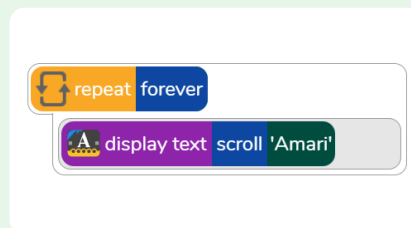
USB transfer.



Test code using simulator.



An event block.



Repeat block.

Key Questions

What does a repeat forever loop do?

A repeat forever loop can keep code running forever. This might be useful in situations such as making an image or text appear on the micro:bit. An example of this could be creating a basic animation where there are several images that need to continually alternate.

What inputs does a micro:bit have?

The micro:bit has quite a few different inputs. Some of the inputs that will be used in our learning are the buttons on the device and gestures. Buttons are simply pressed and will do something if code has been written for them. Gestures use the micro:bit's accelerometer to detect movement such as shaking and tilting.

What outputs does a micro:bit have?

The micro:bit is able to output sounds and images/text on a display. Sounds are produced from a small speaker. It's display is made up of 25 LEDs. Text and simple images can be outputted to this display. The micro:bit will only output if code is written for it to do so.