Key Vocabulary

accelerometer	A sensor that detects movement.
algorithm	A set of step-by-step instructions.
Bluetooth	A way that devices can be connected to each other. Typically, a Bluetooth connection will be wireless.
flashing	The process of transferring a program to a micro:bit. It is called flashing because the program is copied to the micro:bit's flash memory.
LED	This stands for **light-emitting diode**. The micro:bit display is made of 25 **LEDs**.
microphone	A piece of hardware that can be used to input audio.
processor	Sometimes called the 'brains' of a computer. The processor receives the inputs, runs the programs and gives outputs.
program	A set of instructions written in code that performs a given task.
touch sensor	A device capable of detecting when it is touched.
USB data cable	Allows the transfer of data between a computer and peripheral devices. USB is short for universal serial bus.

What Is a BBC micro:bit?

The BBC micro:bit is a pocket-sized computer. It has an LED light display, buttons, microphone, sensors and many input/output features. These features can be programmed and can let you physically interact with the world around you. There are many possibilities with the BBC micro:bit!

Error Codes

As with all technology, micro:bits can experience problems, although these are minor.

Luckily, if the micro:bit detects a fault, it will enter a 'panic' routine. In this 'panic' routine the micro:bit will display a sad face on the LED screen, followed by a number. The number corresponds to a specific error.

In all error cases, pressing the reset button on the back of the micro:bit will restart the program. Restarting the program will clear out the RAM memory.

If restarting the micro:bit does not resolve the error, there is more help and support on the micro:bit website.

How to Transfer Programs

Transferring Files via Desktop or Laptop Computer

To flash a program on to the micro:bit:

- download your program as a .hex file from the code editor to your desktop or laptop computer;

- drag and drop the .hex file on to the MICROBIT drive.

When the .hex file has been transferred to the MICROBIT drive, the MICROBIT drive will disconnect and reconnect as the micro:bit resets. The .hex file will not be visible on the MICROBIT drive but the program will be on the micro:bit.

Transferring Files via a Mobile Device

To flash a program on to the micro:bit:

- download the free micro:bit app to a mobile device;

- enable Bluetooth on your mobile device;

- follow the on-screen instructions.

What Features Does a BBC micro:bit have?
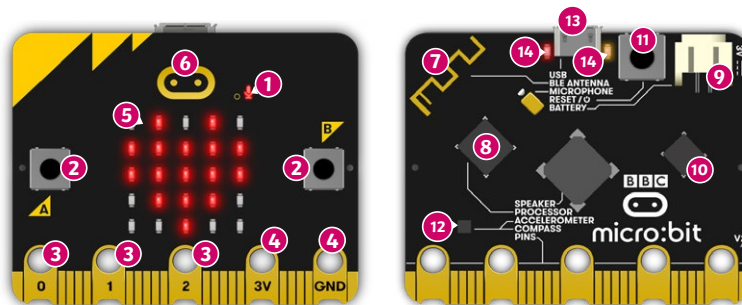
1. Microphone
2. A and B buttons
3. GPIO pins
4. 3V and GND pins
5. LED display and light sensor
6. Touch sensor
7. Radio and Bluetooth antenna
8. Processor
9. Battery socket
10. USB interface chip
11. Reset Button
12. Compass and Accelerometer
13. Micro USB socket
14. Single LEDs

How to Make the Cardboard Case
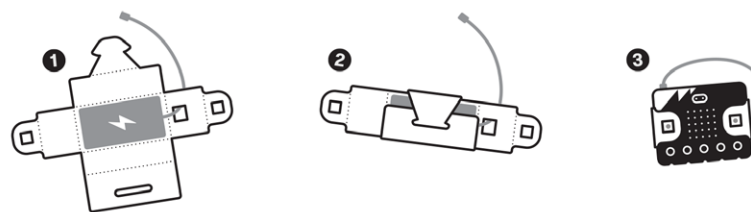
What Can I Make with a BBC micro:bit?

Here are just a few ideas of some micro:bit projects that you could create:

- beating heart
- step counter
- dice
- badge
- touch timer
- touch stopwatch
- clap-o-meter
- guitar
- tilt alarm
- reaction game

Connecting a BBC micro:bit

If you're using a desktop or laptop computer to connect to the micro:bit, you will need a micro USB data cable. If you're using a mobile device to connect to the micro:bit, you will need to connect them wirelessly through Bluetooth.