

BBC micro:bit introduction

Resources required:

- BBC micro:bit
- USB A type (standard) to Micro USB cables (supplied with the micro:bit)
- Computer workstation running Windows or Mac OS X
- The workstations must be able to mount a USB drive (which is how the micro:bit appears) on the users desktop so they can copy a file on to it. You should test this before hand for the classroom you are in, some network configurations will prevent this from working.
- You do not need the batteries or the battery packs for this session.

Pre-requisites:

- Basic keyboard / mouse skills
- Basic Windows Explorer / Mac OS Finder file copy (drag & drop) skills
- Basic web browsing skills

Objectives:

- Concept: Introduction to the BBC micro:bit's key features
- Skills: Access & operate the simple programming editor
- Discovery: Explore the micro:bit's built in sensor types & the values they report

Sequence:

There is a video of the hardware overview and the programming activity at www.microbit-learning.co.uk which is where this document and other supporting materials comes from.

Distribute & Introduce Hardware

Startup:

1. Goto www.microbit.co.uk, plug in the micro:bit to the computer
2. Create Code, New Project for the Microsoft Block Editor

The quick start / student confidence taster:

1. Basic button, 'show string'
2. Run
3. Compile
4. Copy to device
5. Observe display.
6. Reset to redisplay

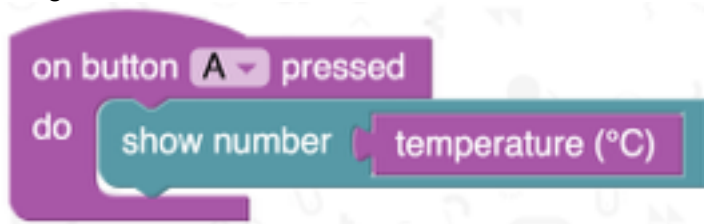
Repeat with different phrases in 'show string' until the prime skill of drag & drop on to the device has been understood.

Name the script:

1. Change script name
2. Click "My Scripts"

New script, use a sensor:

1. Create new Block Editor script
2. Select Input -> 'on button A pressed'
3. Select Basic -> 'show number'
4. Drag it inside the 'on button A pressed block'
5. Select Input -> 'temperature'
6. Drag it inside 'show number'.



7. Run & click on A button.
8. Compile, download, press A button

Discovery:

- Repeat with the light level, rotation, running time, acceleration (how the micro:bit is orientated) or compass.
- The running time is in ms - how many ms in a second?
- It is useful for future sessions if the students note the typical sensor values.

Going further:

- Try the button B to trigger the display - click the A on the block to change it to B.
- Display something when button A is pressed and something different when button B is pressed
- Try the on shake block and it's other options for screen or logo up/down.