



Base Station Walk-back with the BBC Micro:bit

For this activity, you will need to use a BBC Micro:bit and a AAA battery holder with suitable connector. You can purchase these as a kit from Rapid Electronics (order code 75-0116) – or separately from several suppliers.

You will need to connect the battery holder to the micro:bit and insert 2 AAA batteries (not included). Advice on how to attach the device to clothing can be found here <http://make.techwillsaveus.com/bbc-microbit/activities/badge-adaptor>

To add to the code, you can use the micro:bit website <http://microbit.org/code/>. You will need a micro-USB cable and a computer connected to the internet.

Pressing buttons A and B together will reset to counter.

The screenshot shows the BBC Micro:bit code editor interface. On the left, a script titled 'Step Counter Mission X' is displayed with the following code:

```
script Step Counter Mission X
function main ()
  steps := 0
  basic → show number(steps, 150)
  input → on shake do
    steps := steps + 1
    basic → show number(steps, 150)
    basic → pause(100)
  end
  input → on button pressed(A+B) do
    steps := 0
    basic → show number(steps, 150)
    basic → pause(100)
  end
end function
```

On the right, a live view of the BBC Micro:bit is shown. The LED matrix displays the number '0'. The acceleration sensor shows the following values: x: -1200, y: 188, z: 0. The buttons A and B are visible, and the text 'SHAKE' and 'A+B' is displayed below the matrix. The Microsoft Touch Develop logo is in the bottom right corner.

Using the stepometer for the Base Station Walk-back activity

- Measure the distance across your classroom or hall
- Walk from one side to the other and count the number of steps
- Divide the total distance by the number of steps to calculate your stride length
- Wear the stepometer for the Base Station Walk-back and calculate the total distance you have travelled by multiplying the number of steps