

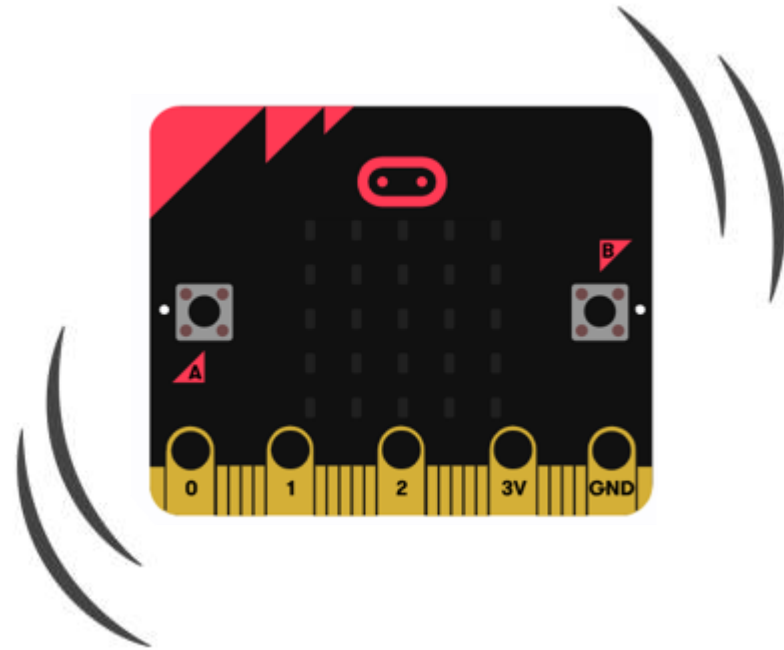


 micro:bit

First lessons with MakeCode
and the micro:bit

Lesson 4

Shake It



Open a new MakeCode project.

<https://makecode.microbit.org/>

Microsoft | micro:bit

Introduction to the BBC micro:bit

Show Instructions

My Projects [View All](#) [Import](#)

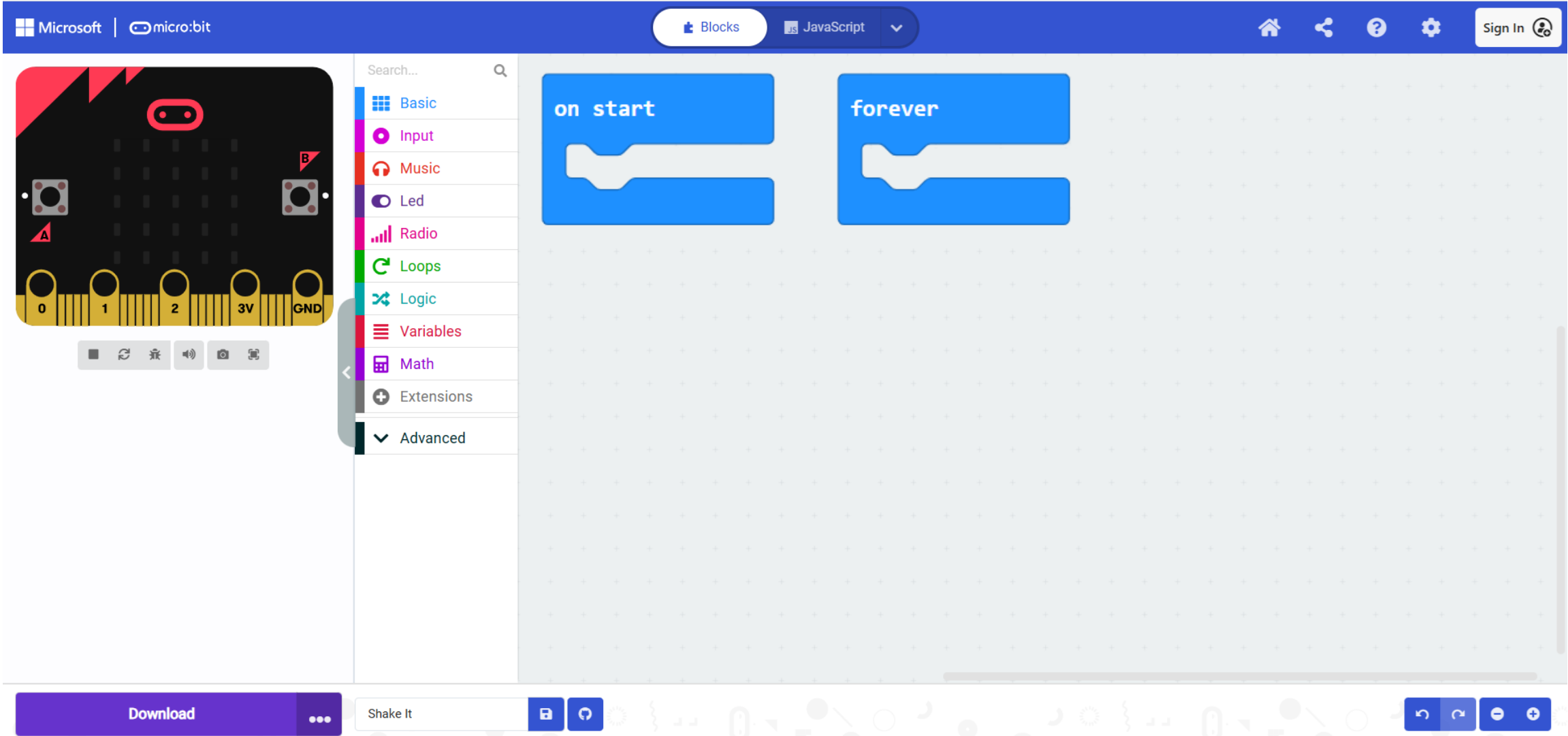
New Project

← Click here.
Name your new project Shake It.

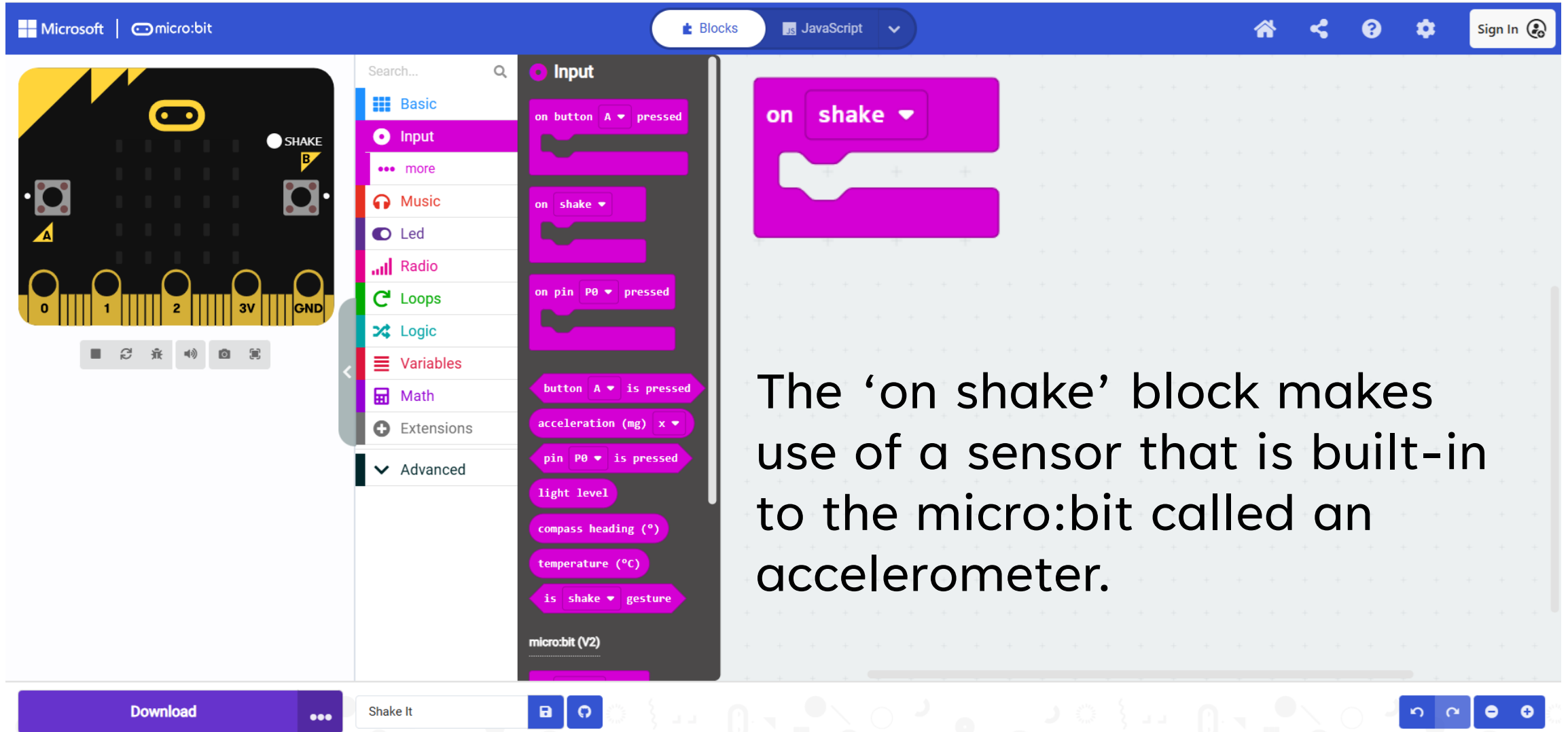
Tutorials

- New? Start Here **Flashing Heart**
- Name Tag**
- Smiley Buttons**
- Dice**
- Love Meter**
- Micro Chat**

Remove the 'on start' and 'forever' blocks.



Click on the Input blocks menu.
Drag out the 'on shake' block.



The screenshot shows the Microsoft MakeCode editor interface for a micro:bit. The top navigation bar includes the Microsoft logo, the micro:bit logo, and tabs for 'Blocks' and 'JavaScript'. On the left, there is a visual representation of the micro:bit board with pins labeled 0, 1, 2, 3V, and GND, and buttons labeled A and B. A central menu is open, displaying a search bar and a list of block categories: Basic, Input, Music, Led, Radio, Loops, Logic, Variables, Math, Extensions, and Advanced. The 'Input' category is selected, showing a list of blocks: 'on button A pressed', 'on shake', 'on pin P0 pressed', 'button A is pressed', 'acceleration (mg)', 'pin P0 is pressed', 'light level', 'compass heading (°)', 'temperature (°C)', and 'is shake gesture'. The 'on shake' block is highlighted in the workspace. The workspace also contains a 'Download' button and a 'Shake It' button. The bottom right corner features a toolbar with various icons for editing and execution.

The 'on shake' block makes use of a sensor that is built-in to the micro:bit called an accelerometer.

Introducing The Accelerometer



Watch this video: <https://youtu.be/UT35ODxvmS0>



Drag a 'show number' block into the 'on shake' block.

Microsoft | micro:bit

Blocks JavaScript

Search...

Basic

- Basic
- Input
- Music
- Led
- Radio
- Loops
- Logic
- Variables
- Math
- Extensions
- Advanced

show number 0

show leds

show icon

show string "Hello!"

clear screen

forever

on start

on shake

show number 0

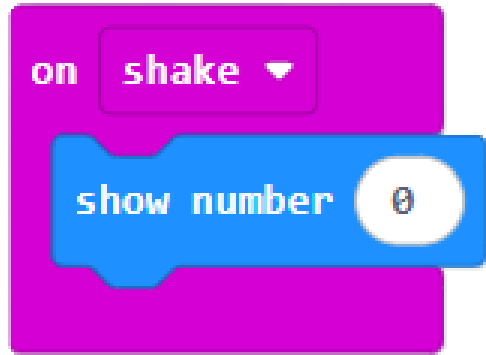
Click here.

Click Download.

Download

Shake It

Think about how your micro:bit code works.



- The 'on shake' block makes something happen when you shake the micro:bit.
- The 'show number' block makes an image of a number appear on the LED display output.

Shake the micro:bit device. Does a zero appear?

Would it be possible to create a code that allowed other numbers to appear?

Would it be possible to create a code that allowed random numbers to appear?

Drag a 'pick random' block into the 'show number' block.
Change the random values to read "1 to 6".

The screenshot shows the Microsoft MakeCode editor interface for a micro:bit. The top navigation bar includes the Microsoft logo, the text 'micro:bit', and tabs for 'Blocks' and 'JavaScript'. On the left, there is a visual representation of the micro:bit board. The central workspace is divided into a block palette on the left and a workspace on the right. The 'Math' category is selected in the palette, and the 'pick random' block is being dragged into the 'show number' block in the workspace. The 'pick random' block is configured with the values '1' and '6'. Below the workspace, a purple 'Download' button is highlighted with a red arrow and the text 'Click here.' To the right of the workspace, the text 'Download your code.' is displayed.

Test Your Code

Shake the micro:bit device.

What happens?

How could this code be used for something purposeful?



Show Mr. Desmond how your micro:bit device works.

Show a friend your micro:bit device in action and play a number guessing game with them.

Change the on shake to on tilt left.

Create a new micro:bit code sequence for tilt left.



Create a new micro:bit code sequences for tilt right.

Show Mr. Desmond your new programs.

On the same piece of paper you used from Lesson 3 explain the purpose of having and using the micro:bit accelerometer.

Show Mr. Desmond your work.

