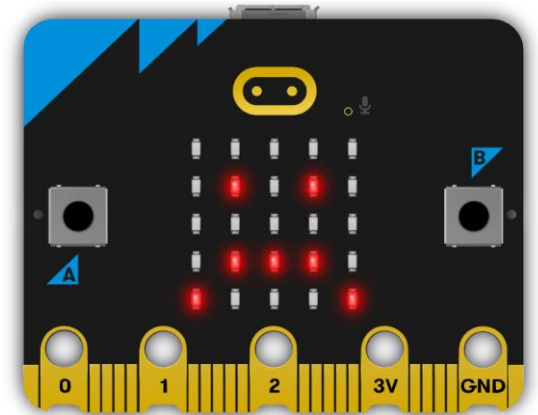
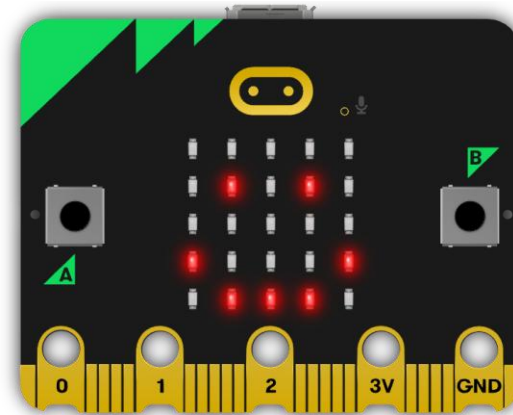




micro:bit

First lessons with MakeCode
and the micro:bit

Lesson 3 Buttons



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 Buttons.

Tutorials

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

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

The screenshot displays the Microsoft MakeCode editor for a micro:bit. The top navigation bar includes the Microsoft logo, the 'micro:bit' label, a mode selector currently set to 'Blocks', and a 'Sign In' button. On the left side, there is a 3D model of the micro:bit board with a green light bar. Below the model are icons for running, pausing, and other actions. A central block palette lists various categories: Basic, Input, Music, Led, Radio, Loops, Logic, Variables, Math, Extensions, and Advanced. Two blue blocks, 'on start' and 'forever', are placed on a grid workspace. At the bottom, there is a 'Download' button, a search bar containing 'Buttons', and a toolbar with various editing tools.

Click on the Input menu.

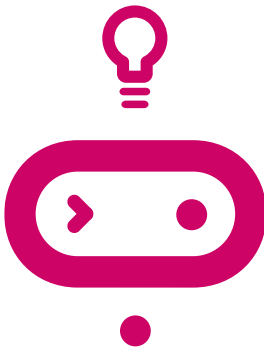
Drag out two 'on button A pressed' blocks.

The screenshot shows the Microsoft MakeCode editor interface for a micro:bit. The top bar includes the Microsoft logo, the micro:bit logo, and tabs for 'Blocks' and 'JavaScript'. The left sidebar shows a search bar and a menu with categories: Basic, Input, Music, Led, Radio, Loops, Logic, Variables, Math, Extensions, and Advanced. The 'Input' menu is currently open, displaying a list of blocks including 'on button A pressed', 'on shake', 'on pin P0 pressed', 'button A is pressed', 'acceleration (mg) x', 'pin P0 is pressed', 'light level', 'compass heading (°)', 'temperature (°C)', and 'is shake gesture'. The main workspace shows two 'on button A pressed' blocks. The second block is being edited, with the dropdown menu set to 'B', resulting in an 'on button B pressed' block. A text overlay on the right side of the workspace reads: 'Change the second 'on button A' block to 'on button B'.' The bottom bar features a 'Download' button, a 'Buttons' dropdown menu, and various tool icons.

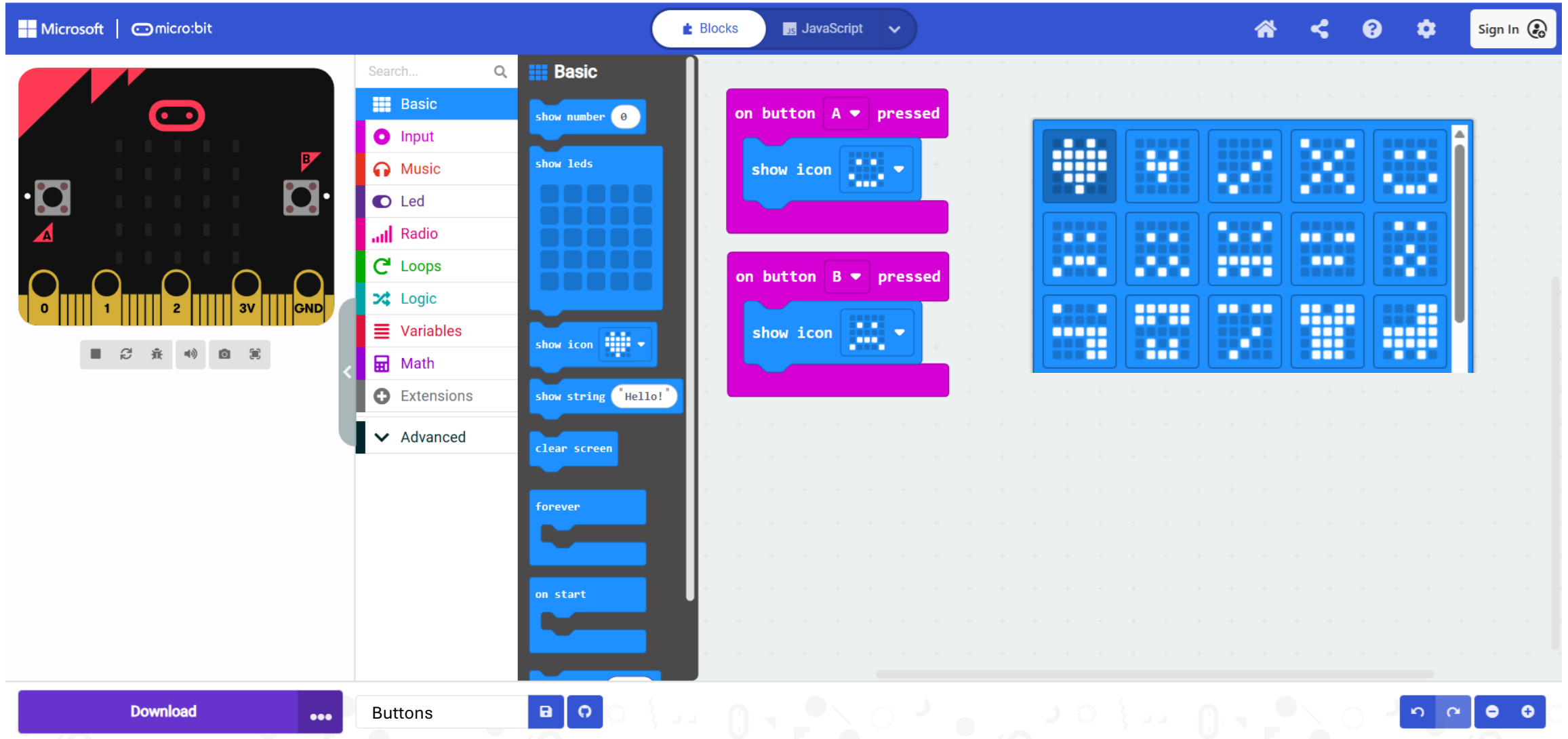
Introducing Micro:Bit Buttons



Watch this video: https://youtu.be/hnT0qHM3_hQ



Drag a 'show icon' block into the 'on button A' block.
Drag a 'show icon' block into the 'on button B' block.



Test your code using the simulator.
Press button A. Do you see a smile face?
Press button B. Do you see a frown face?

The image shows the Microsoft MakeCode micro:bit simulator interface. On the left, a virtual micro:bit board is displayed with two buttons labeled 'A' and 'B'. Red arrows point to these buttons. The central panel shows a block-based code editor with two event-driven blocks: 'on button A pressed' and 'on button B pressed'. Each block contains a 'show icon' block with a smiley face icon selected. The right panel shows a grid for visualizing the output. The top navigation bar includes 'Microsoft | micro:bit', 'Blocks | JavaScript', and 'Sign In'. The bottom bar features a 'Download' button, a 'Buttons' dropdown menu, and various simulation controls.

Download your code to the micro:bit device.

Follow the steps on the next page to complete the download.

The screenshot displays the Microsoft MakeCode editor for a micro:bit. The top navigation bar includes the Microsoft logo, 'micro:bit', and tabs for 'Blocks' and 'JavaScript'. On the left, a virtual micro:bit board is shown with a search bar and a block palette containing categories like Basic, Input, Music, Led, Radio, Loops, Logic, Variables, Math, and Extensions. The main workspace contains two event-driven blocks: 'on button A pressed' and 'on button B pressed', each followed by a 'show icon' block. At the bottom left, a purple 'Download' button is highlighted with a red arrow and the text 'Click here.'.

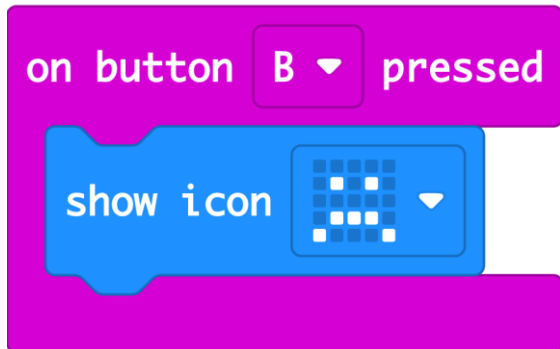
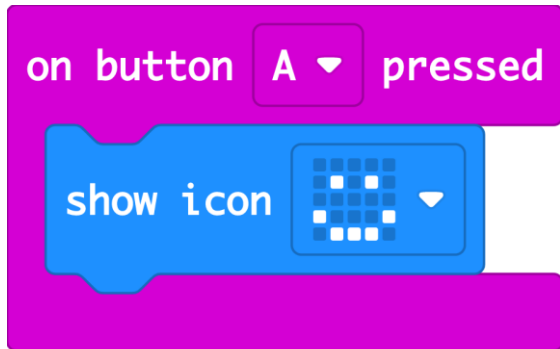
Step-by-step Guide To Download Your Code To Micro:Bit

- 1) Connect. Plug your micro:bit device into the Chromebook with a USB cable; it will appear as a new drive named MICROBIT in your Files app.
- 2) Code & Download. In MakeCode, build your program and click the purple Download button. Do not PAIR. Click the blue Download as File button. This saves a “_____.hex” file (e.g., microbit-program.hex) to your Chromebook’s Google Drive or Google Files.
- 3) Locate File. Open the Files app (the blue folder icon) and find your downloaded “_____.hex” with the files in your Google Drive or with the files in your Google Files.
- 4) Drag & Drop. Click and drag the “_____.hex” file directly onto the MICROBIT drive.
- 5) Transfer. The MICROBIT drive will momentarily disappear as the code is transferred to the micro:bit device. Look for the blinking lights on the micro:bit and an on-screen message showing you the status of your download.
- 6) Run. Your program will start automatically on the micro:bit once the transfer is complete.

Need help? Watch a video to help you with these steps to download your code to the micro:bit from a Chromebook.

<https://www.youtube.com/watch?v=9V2oAsB3F8s>

Think about how your micro:bit code works.



- The 'on button A pressed' block makes something happen when you press input button A.
- The 'show icon' block makes an image appear on the LED display output. You can choose different built-in images.
- The 'on button B pressed' block makes something happen when you press input button B.
- Different outputs happen on the LED display when you press different button inputs.

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



```
on button A pressed
  show icon [smiley face]
```

```
on button B pressed
  show icon [sad face]
```

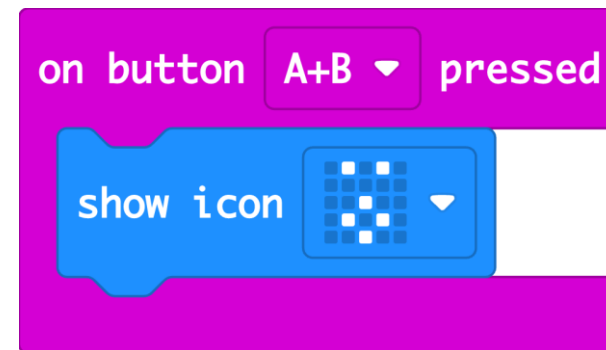


Create new micro:bit button code sequences.
Show Mr. Desmond your new programs.

Create your own image animations using the
'show leds' block and combine them with
'show icon' images.



Add more images to your program when you press
A + B input buttons together.



On a piece of paper explain the purpose of having and using the micro:bit buttons.

Show Mr. Desmond your work.

