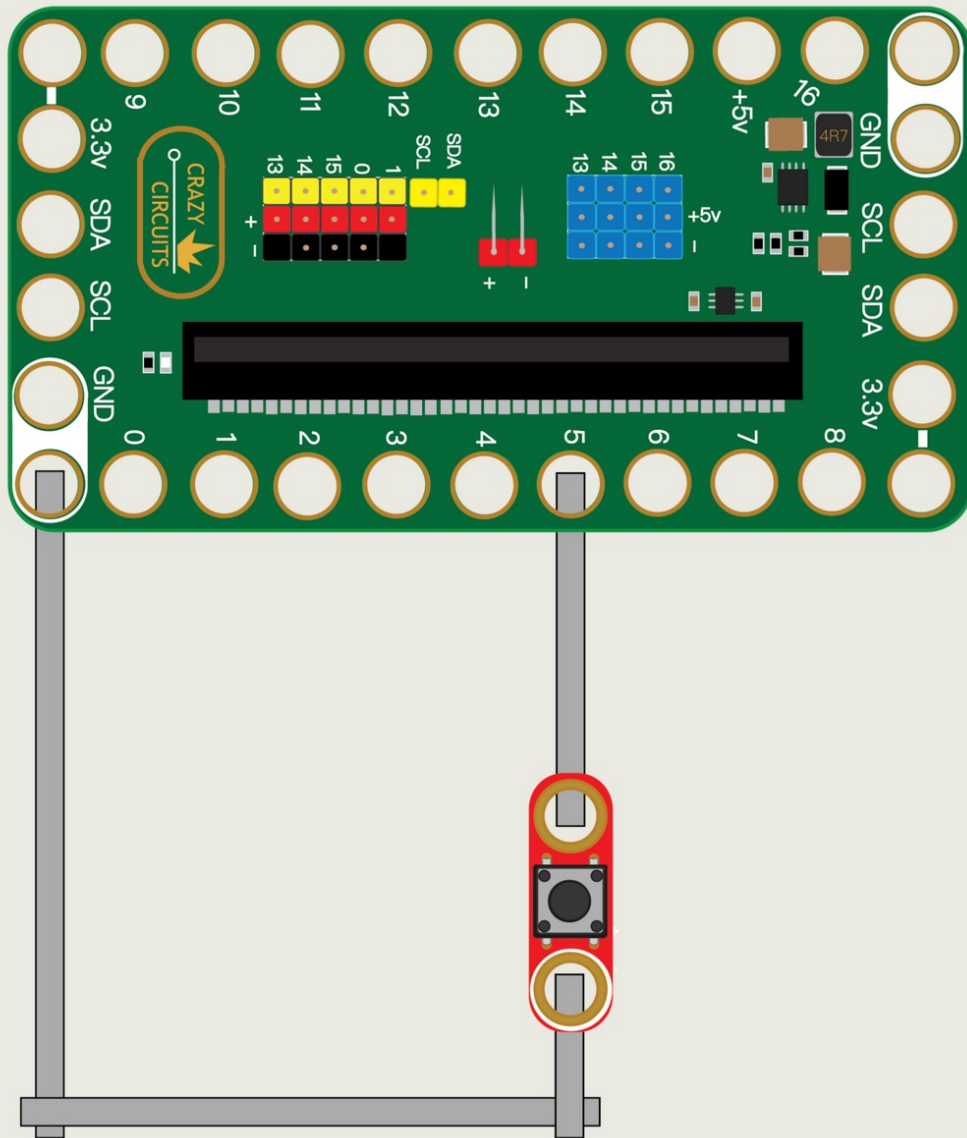




CH9-B - LED Matrix Counter Button V2

Program the built-in LED Matrix found on the micro:bit and control it with a pushbutton.

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INTRODUCTION

Program the built-in LED Matrix found on the micro:bit and control it with a pushbutton.

We'll explore how we can control the LED Matrix with a single pushbutton.



TOOLS:

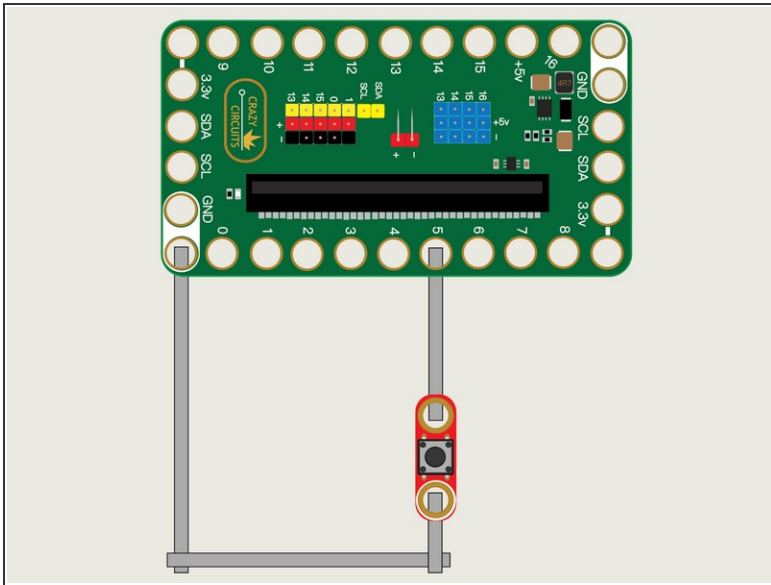
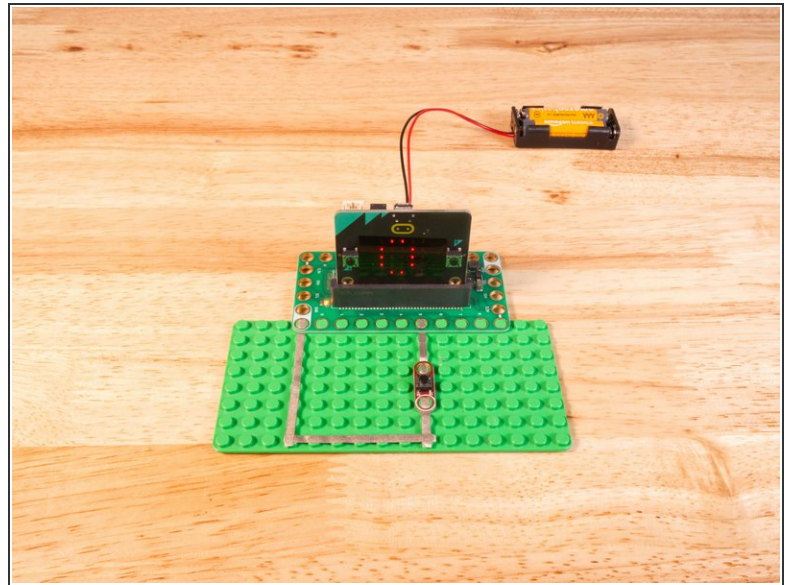
- [Computer](#) (1)
- [Scissors](#) (1)



PARTS:

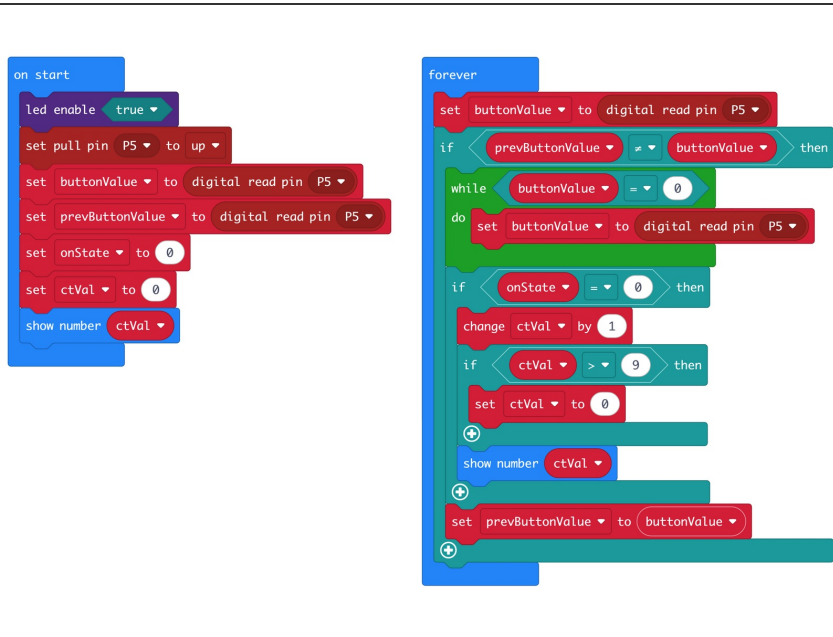
- [Crazy Circuits Bit Board](#) (1)
- [micro:bit](#) (1)
- [Maker Tape](#) (1)
1/8" Wide
- [Standard Pushbutton Chip](#) (1)

Step 1 — Connect the Button



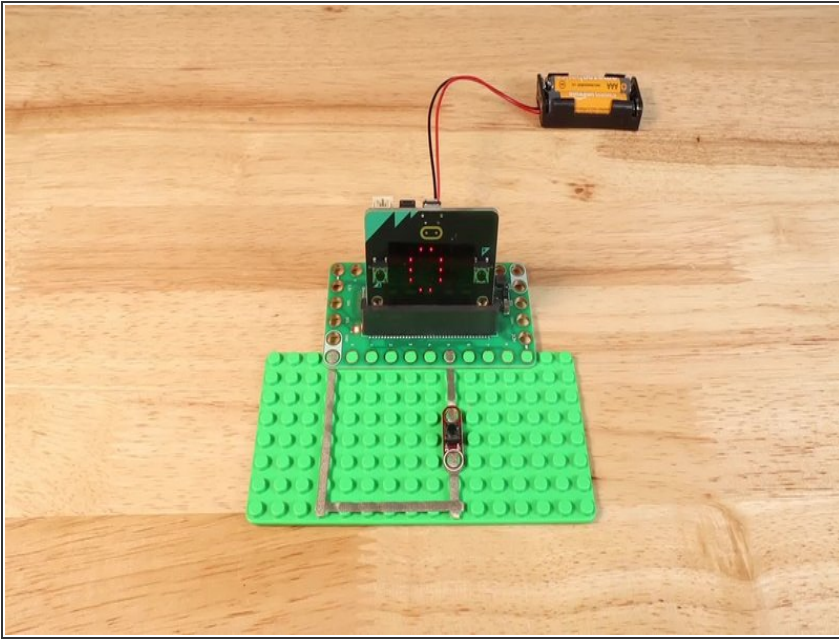
- We'll use **Maker Tape** to connect the Button to the Bit Board on a LEGO baseplate.
- We'll connect our **Button** to **Pin 5** and to **Ground (GND)**.
- ☑ You'll notice the **Ground** on the Bit Board (as well as the LED and other Crazy Circuits components we'll use) is color coded **White**.
- ☑ While some components have **Polarity** our **Button** does not. If you connect it the other way around *it will still work fine*.

Step 2 — Load the Code



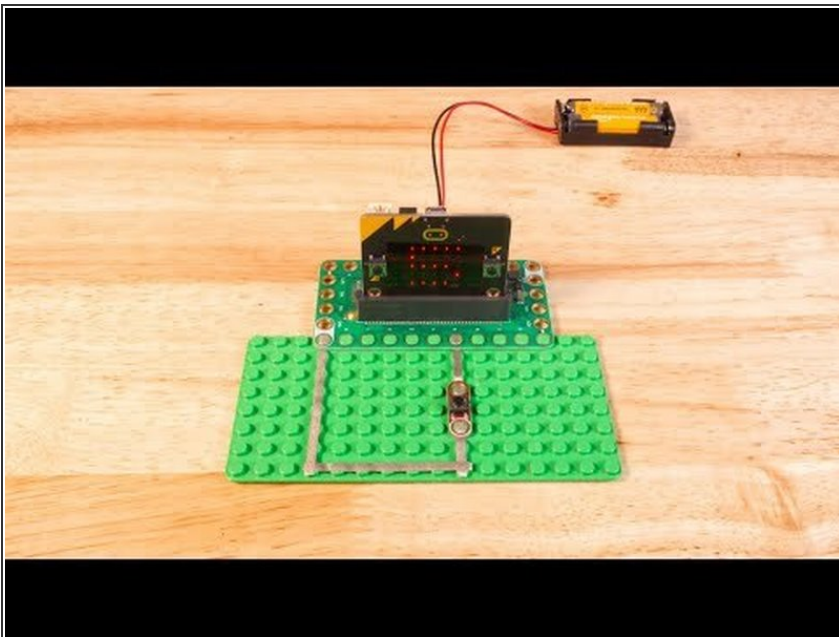
- If you've never used a micro:bit before you'll want to check out this guide: [Bit Board V2 Setup and Use](#)
- We're going to load the following code for our **LED Matrix Counter Button V2** program: https://makecode.microbit.org/_Htb6Yc6xd...
- Our code will change the number displayed on the LED Matrix when the button is pressed.
- If the button is pressed *more than 9* times the count will be reset to **0**.
- ⓘ While the micro:bit **can** display two-digit numbers they scroll horizontally across the screen, making them difficult to read.
- *Note that this version will not allow for holding the button down to keep incrementing the number.*

Step 3 — Test it Out!



- Once the code is loaded it should start running immediately.
- ① You can power the micro:bit via the USB cable you used to load the code or you can use a battery pack plugged into the Bit Board.
- The LED Matrix will show **0**, and with each button press the number will increase by one.
- Try holding down the button... this time the number will not keep incrementing!

Step 4 — Follow Along



- Follow along with our recorded Live Stream!
- ① You can watch the full video of us walking through this project, along with explaining and exploring the code:
<https://youtube.com/live/geFYVuV-DI8>