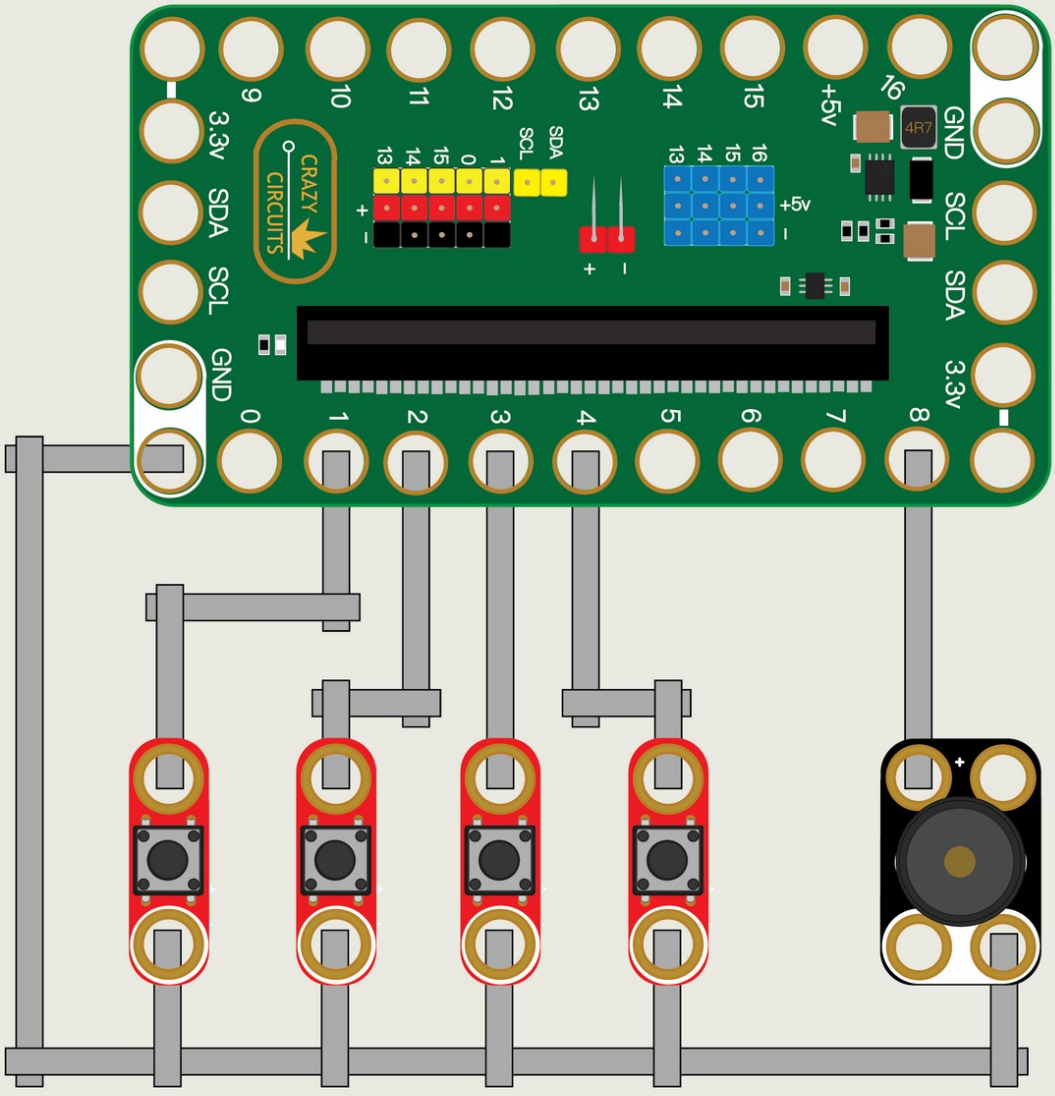
CH15-A - Piezo Piano

Connect four pushbuttons to a Bit Board and control a Piezo with code.

Written By: Pete Prodoehl



INTRODUCTION

Connect four Pushbuttons to a Bit Board and control a Piezo with code.

We'll explore how we can make sounds using a piezo speaker with four buttons.

TOOLS:

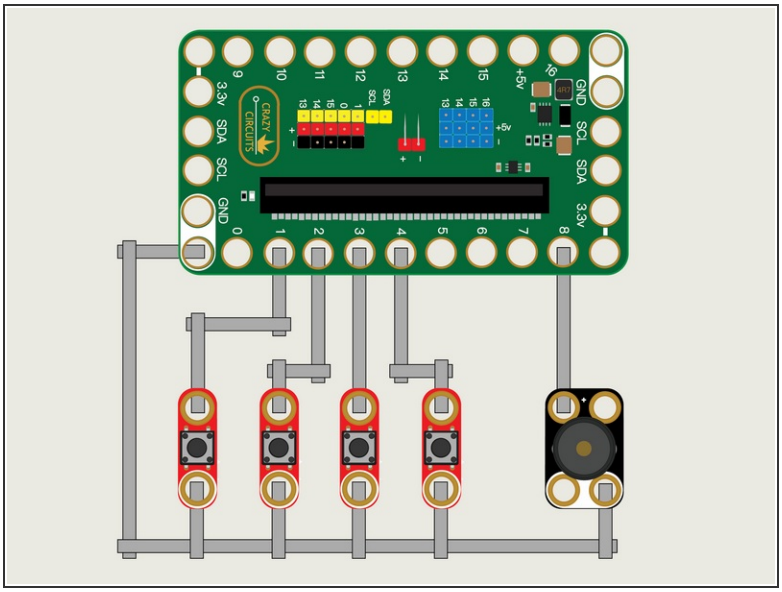
- Computer (1)
- Scissors (1)

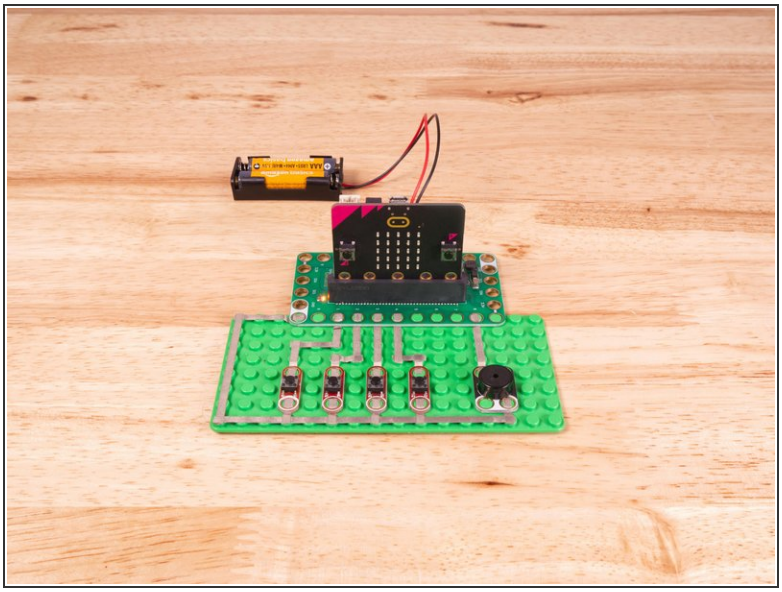
PARTS:

- Crazy Circuits Bit Board (1)
- micro:bit (1)
- Maker Tape (1)
  1/8" Wide
- Crazy Circuits Piezo Speaker Chip (1)
- Standard Pushbutton Chip (4)

© 2025

Step 1 — Connect the Piezo and Buttons

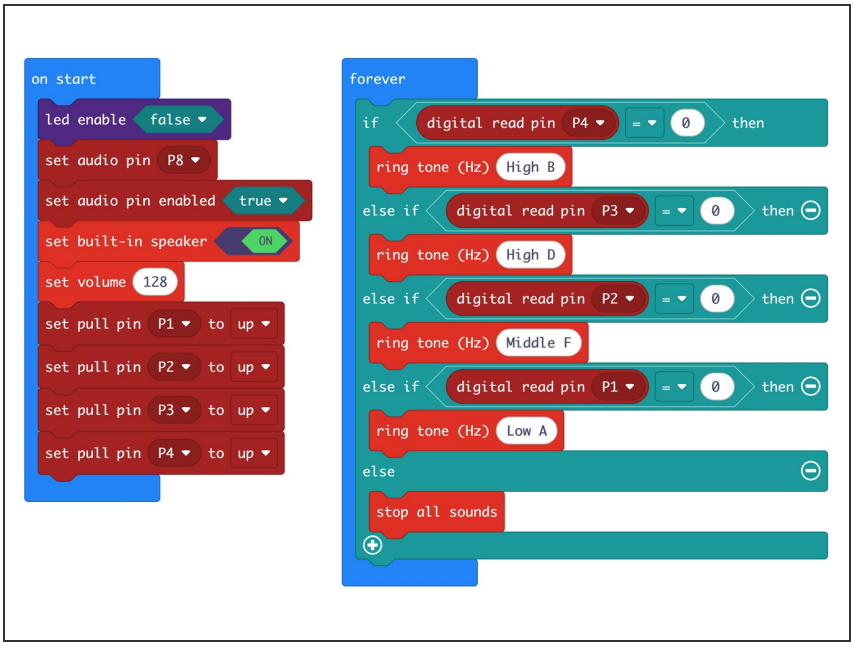




- We'll use **Maker Tape** to connect the four Buttons and the Piezo to the Bit Board on a LEGO baseplate.
- Connect **Buttons** to **Pin 1**, **Pin 2**, **Pin 3**, and **Pin 4**. Each will also connect to **Ground** (GND).
- The Piezo will connect to **Pin 8** and to **Ground** (GND).

☒ You'll notice the **Ground** on the Bit Board (as well as the Piezo, Buttons, and other Crazy Circuits components we'll use) is color coded **White**.

Step 2 — Load the Code



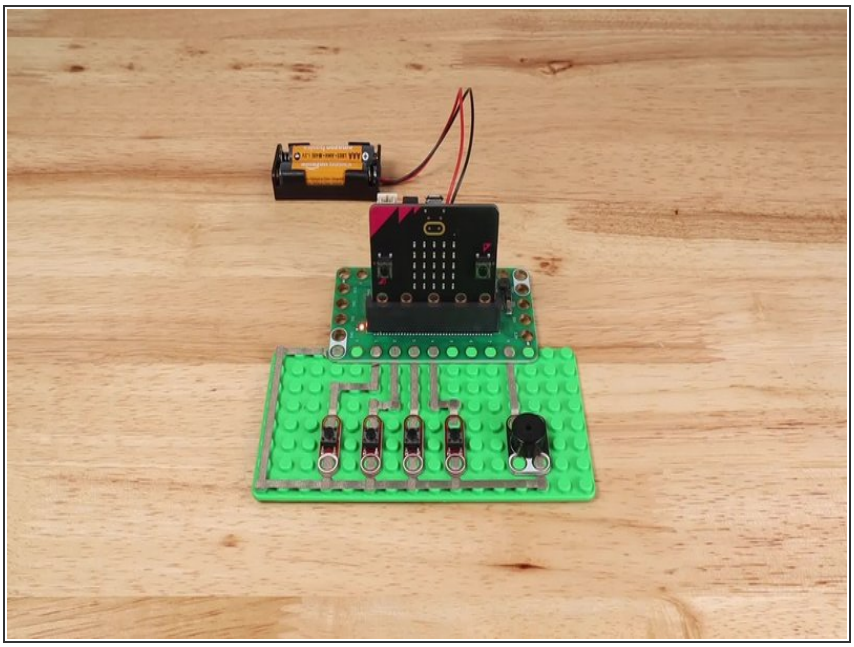
- If you've never used a micro:bit before you'll want to check out this guide: [Bit Board V2 Setup and Use]

- We're going to load the following code for our **Piezo Piano** program: [https://makecode.microbit.org/_UtD0Dh3X3...]

⚠ The micro:bit (since the release of version V2) has included a built-in piezo speaker on the back. You can use the built-in Piezo on a V2 micro:bit or connect a Crazy Circuits Piezo with Maker Tape as we've shown in this guide.

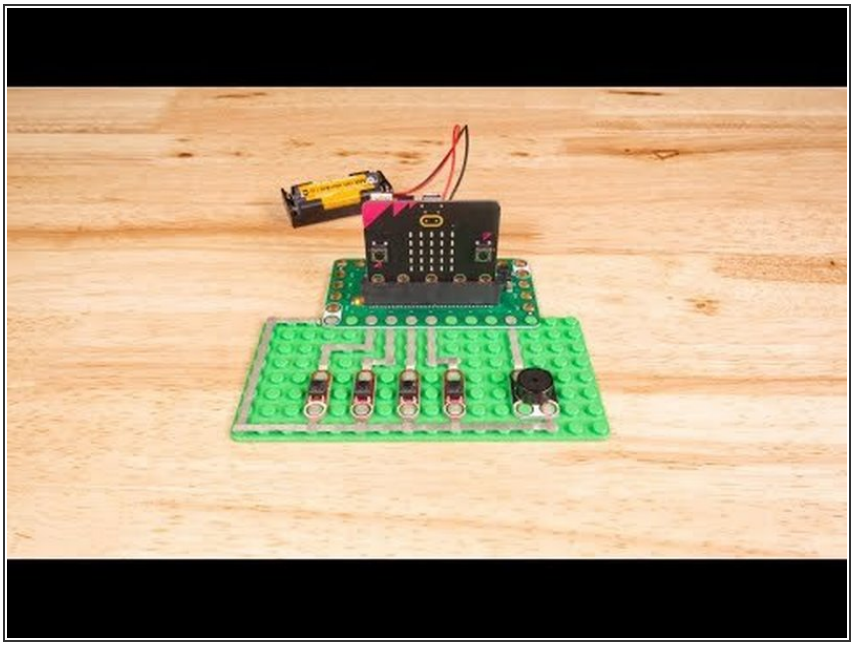
- Each button will play a different tone when held down.

Step 3 — Test it Out!



- Once the code is loaded it should start running immediately.
- ⓘ 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.
- This is just a simple piano with each button playing a different tone. (Feel free to change the tones!)

Step 4 — Follow Along



- Follow along with our recorded Live Stream!
- ⓘ You can watch the full video of us walking through this project, along with explaining and exploring the code: https://youtube.com/live/c5Dt9VZ0Rnk