



INTRODUCTION

Use our Robotics Board to control a NeoPixel with a potentiometer.



TOOLS:

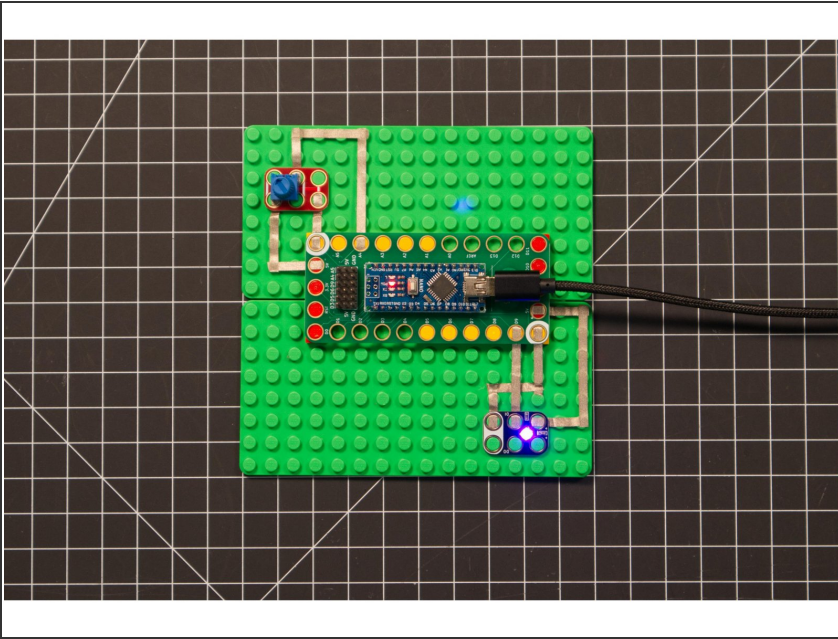
- [Scissors](#) (1)
- [Computer](#) (1)



PARTS:

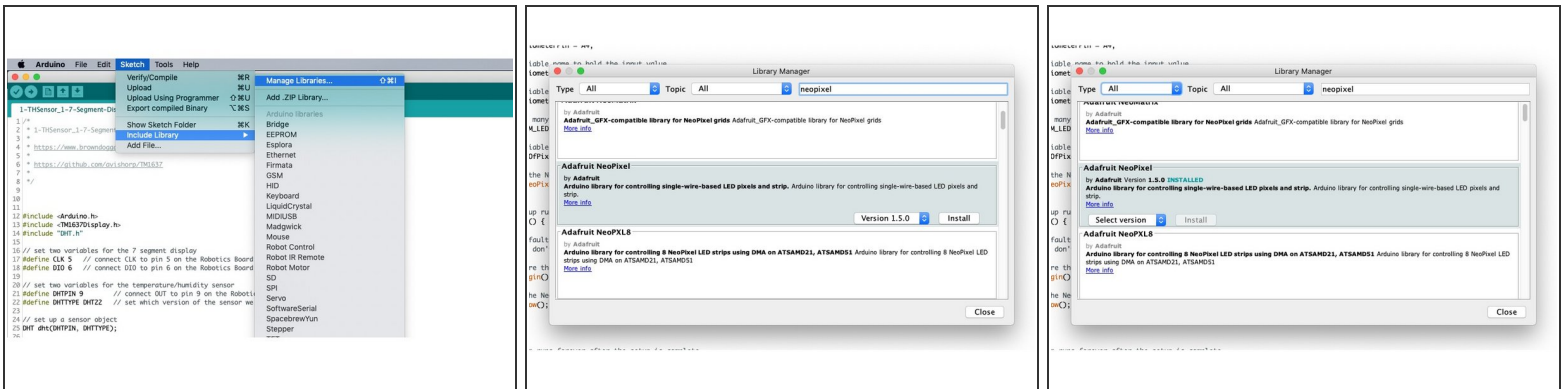
- [Crazy Circuits Robotics Board](#) (1)
- [Crazy Circuits Potentiometer Chip](#) (1)
- [NeoPixel Chip](#) (1)
- [Maker Tape 1/8th inch](#) (1)

Step 1 — Build the Circuit



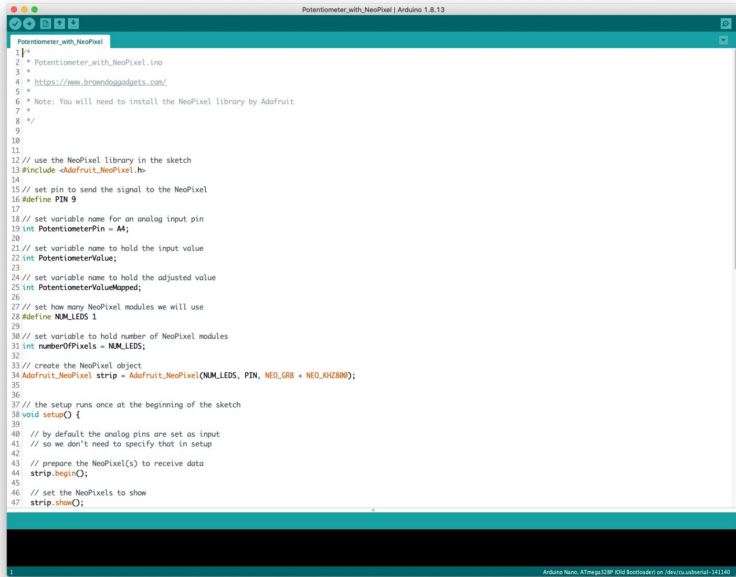
- Build the circuit as shown in the diagram using the components specified.

Step 2 — Install NeoPixel library



- Install and launch the Arduino software.
- Click on the **Sketch** menu, select **Include Library**, and then **Manage Libraries...**
- On the top right side type **NeoPixel** and it will show the results in the bottom of the window. We want the **Adafruit NeoPixel** library by **Adafruit**. Click the **Install** button.
- The library will be downloaded and **installed**, and then show the word **Installed** along with the version number.
- If you are done installing libraries click the **Close** button in the lower right corner.
- (These instructions can also be found in the PDF file **Installing-NeoPixel-Arduino-Library.pdf**)

Step 3 — Upload the Code

A screenshot of the Arduino IDE interface. The title bar reads 'Potentiometer with NeoPixel | Arduino 1.8.13'. The code editor shows the following code:

```
1 //
2 * Potentiometer_with_NeoPixel.ino
3
4 * https://www.browndoggadgets.com/
5
6 * Note: You will need to install the NeoPixel library by Adafruit
7 *
8 */
9
10
11
12 // use the NeoPixel library in the sketch
13 #include <Adafruit_NeoPixel.h>
14
15 // set pin to send the signal to the NeoPixel
16 #define PIN 9
17
18 // set variable name for an analog input pin
19 int PotentiometerPin = A4;
20
21 // set variable name to hold the input value
22 int PotentiometerValue;
23
24 // set variable name to hold the adjusted value
25 int PotentiometerValueMapped;
26
27 // set how many NeoPixel modules we will use
28 #define NUM_LEDS 1
29
30 // set variable to hold number of NeoPixel modules
31 int numberOfPixels = NUM_LEDS;
32
33 // create the NeoPixel object
34 Adafruit_NeoPixel strip = Adafruit_NeoPixel(NUM_LEDS, PIN, NEO_GRB + NEO_KHZ800);
35
36
37 // the setup runs once at the beginning of the sketch
38 void setup() {
39
40 // by default the analog pins are set as input
41 // so we don't need to specify that in setup
42
43 // prepare the NeoPixel(s) to receive data
44 strip.begin();
45
46 // set the NeoPixels to show
47 strip.show();
48 }
```

- Upload the Arduino sketch to the Robotics Board.
- You can find the code here:
<https://github.com/BrownDogGadgets/Progr...>