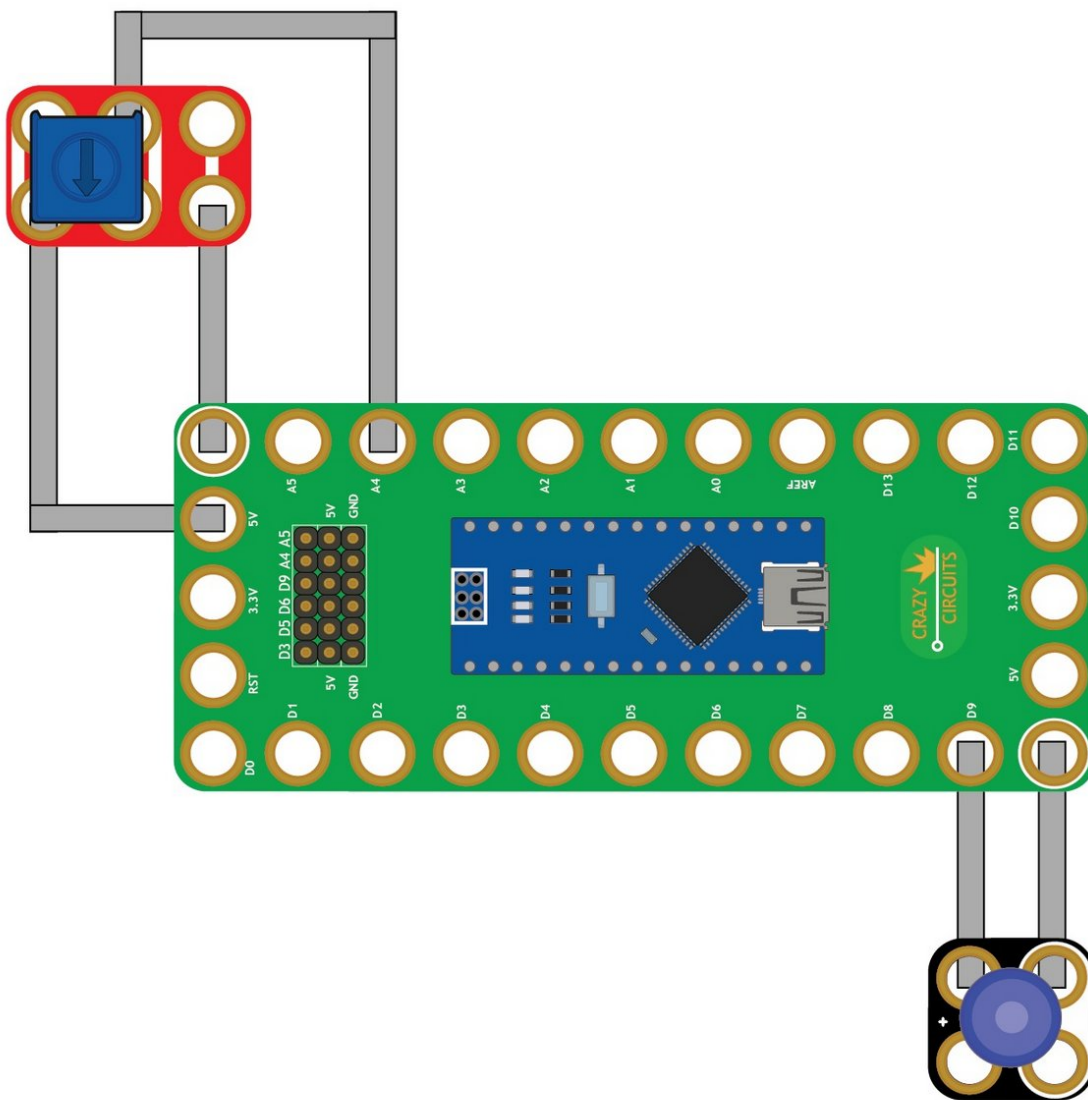




# 05 - Potentiometer with LED

Use our Programming 101 kit to control an LED with a potentiometer.

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## INTRODUCTION

Use our Robotics Board to control an LED with a potentiometer.



### TOOLS:

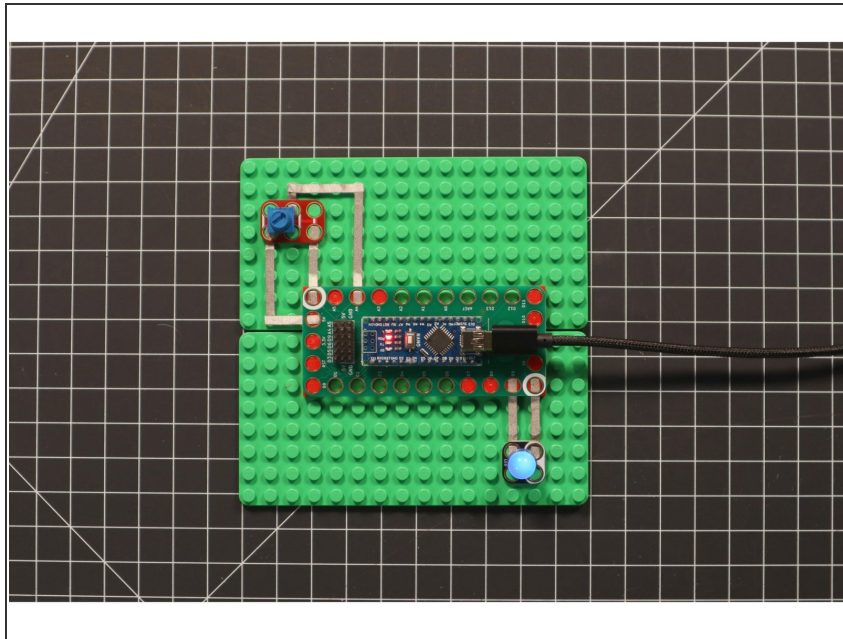
- [Scissors](#) (1)
- [Computer](#) (1)



### PARTS:

- [Crazy Circuits Robotics Board](#) (1)
- [Crazy Circuits Potentiometer Chip](#) (1)
- [Crazy Circuits LED 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 — Upload the Code

```

Potentiometer_with_LED | Arduino 1.8.13
1 # Potentiometer_with_LED.ino
2 #
3 # https://www.browndoggadgets.com/
4 #
5 #
6 #
7 #
8 #
9 #
10 // set variable name for an analog input pin
11 int PotentiometerPin = A0;
12
13 // set variable name to hold the input value
14 int PotentiometerValue;
15
16 // set variable name to hold the adjusted value
17 int PotentiometerValueMapped;
18
19 // set variable name for a digital output pin with Pulse Width Modulation
20 // pins 3, 5, 6, 9, 10, 11 support PWM
21 int LEDpin = 5;
22
23
24 // the setup runs once at the beginning of the sketch
25 void setup() {
26
27 // analog pins are set to input by default but
28 // we still need to set the LED pin for output
29 pinMode(LEDpin, OUTPUT);
30
31 }
32
33
34 // the loop runs forever after the setup is complete
35 void loop() {
36
37 // by default the analog pins are set as input
38 // so we don't need to specify that in setup
39
40 // assign the value of input using analogRead on the pin
41 PotentiometerValue = analogRead(PotentiometerPin);
42
43 // use the map function to set scale of 0-1023 to scale of 0-255
44 PotentiometerValueMapped = map(PotentiometerValue, 0, 1023, 0, 255);
45
46 // write the value between 0-255 to the PWM pin
47 digitalWrite(LEDpin, PotentiometerValueMapped);
48
49 }

```

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