

Day 2: Programming a Rainbow

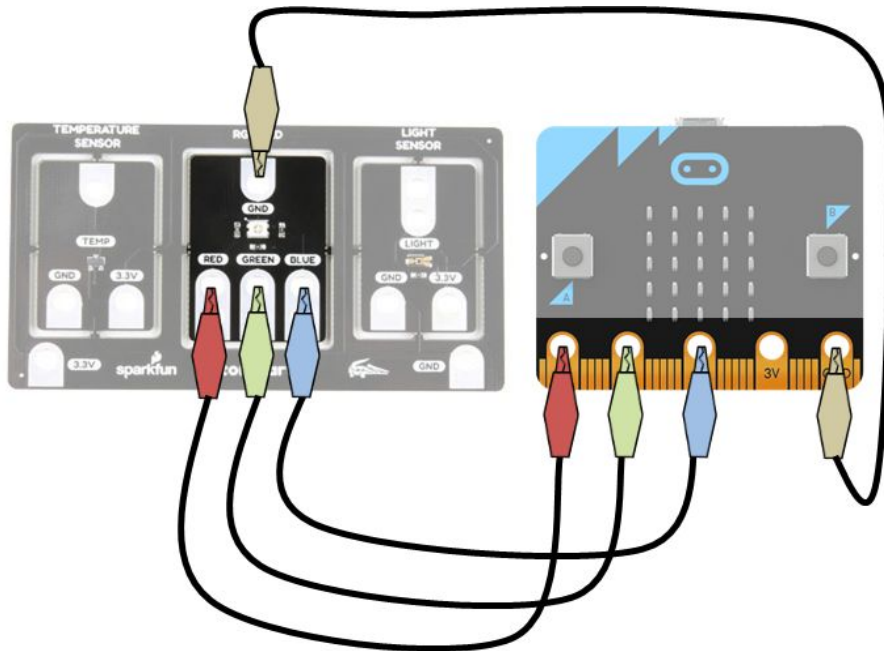
Remember that the three primary light colors are produced by sending all the electricity to only ONE leg of the LED. If we convert that amount of power into a number between 0 and 255, then we can make a chart like this one. What color will be produced in the last two rows?

RED leg	GREEN leg	BLUE leg	Color of light
255	0	0	red
0	255	0	
0	0	255	

Create this micro:bit program at makecode.microbit.org:

```
forever
  analog write pin P0 to 255
  analog write pin P1 to 0
  analog write pin P2 to 0
  pause (ms) 1000
  analog write pin P0 to 0
  analog write pin P1 to 255
  analog write pin P2 to 0
  pause (ms) 1000
  analog write pin P0 to 0
  analog write pin P1 to 0
  analog write pin P2 to 255
  pause (ms) 1000
```

Connect your micro:bit to the gator:starter board RGB LED like this:



Use your micro:bit to test different combinations of light to fill in the values in this LED programming chart. Each leg can have a value from 0 to 255.

RED leg value	GREEN leg value	BLUE leg value	Color of light
			yellow
			orange
			teal or blue/green
			pink
			purple
			white

It's Showtime!

To showcase your programming art, design a short light show. Your show must start by displaying the colors of the rainbow in order -- red, orange, yellow, green, blue, violet -- but after that, you can have your light do whatever you want it to. The light show should last at least 15 seconds.