Tech Studio 01 – RGB LED

Working with Coloured RGB LED

Start a new project in TinkerCAD

Initial Steps:

- Create a “PERSONAL” account on www.tinkercad.com
- In the Dashboard, select “Circuits” > Create new Circuit

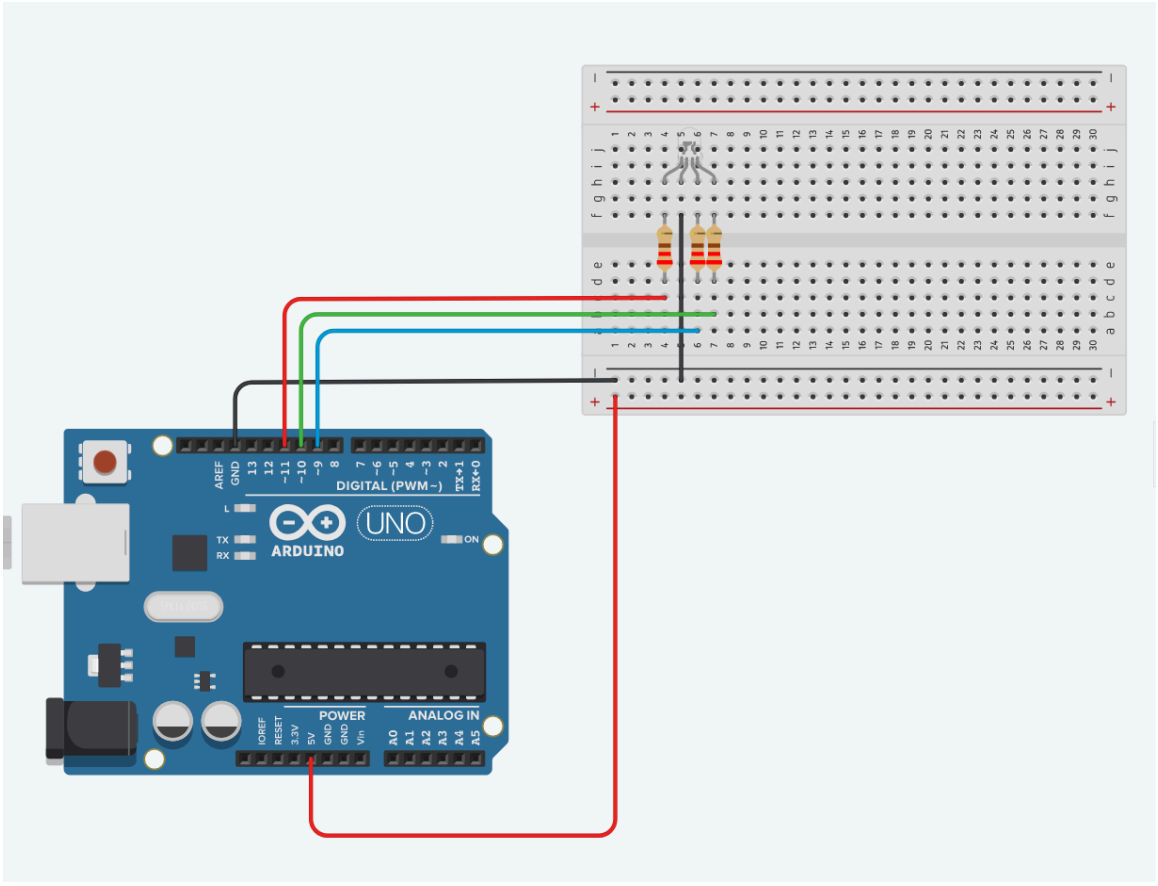
Basic Components:

- Arduino Board
- Breadboard
- RGB LED (clear LED with four (4) pins)

Making Coloured Lights

Instead of using four separate LEDs, you can combine them into one using an RGB LED. The pins on the LED correspond with a colour. Colour is controlled by using a RGB values (0,0,0)

The code to make this work will use an array function.



The Code

```
int red_light_pin= 11;
int green_light_pin = 10;
int blue_light_pin = 9;

void setup() {
  pinMode(red_light_pin, OUTPUT);
  pinMode(green_light_pin, OUTPUT);
  pinMode(blue_light_pin, OUTPUT);
}

void loop() {
  RGB_color(255, 0, 0); // Red
  delay(1000);
  RGB_color(0, 255, 0); // Green
  delay(1000);
  RGB_color(0, 0, 255); // Blue
  delay(1000);
  RGB_color(255, 255, 125); // Raspberry
  delay(1000);
  RGB_color(0, 255, 255); // Cyan
  delay(1000);
  RGB_color(255, 0, 255); // Magenta
  delay(1000);
  RGB_color(255, 255, 0); // Yellow
  delay(1000);
  RGB_color(255, 255, 255); // White
  delay(1000);
}
void RGB_color(int red_light_value, int green_light_value, int blue_light_value)
 {
  analogWrite(red_light_pin, red_light_value);
  analogWrite(green_light_pin, green_light_value);
  analogWrite(blue_light_pin, blue_light_value);
}
```