CODING CHALLENGES

ADD MORE COLORS: You can create many more colors with the RGB LED. Use the `analogWrite()` function to blend different values of red, green and blue together to make even more colors. You can divide the potentiometer value and make more nested **if** statements so that you can have more colors as you twist the knob.

MULTI-COLOR BLINK: Try using delays and multiple color functions to have your RGB LED change between multiple colors when it is dark.

CHANGE THE THRESHOLD: Try setting your threshold variable by reading the value of a potentiometer. By turning the potentiometer, you can then change the threshold level and adjust your night-light for different rooms.

FADING THE LED: Use `analogWrite()` to get your LED to pulse gently or smoothly transition between colors.

TROUBLESHOOTING

The LED never turns on or off	Open the Serial Monitor and make sure that your photoresistor is returning values between 0 and 1023. Cover the photoresistor; the values should change. If they do not change, check your circuit. Make sure that your threshold variable sits in between the value that the photoresistor reads when it is bright and the value when it is dark (e.g., bright = 850, dark = 600, threshold = 700).
My LED doesn't show the colors that I expect	Make sure that all three of the pins driving your RGB LED are set to `OUTPUT`, using the `pinMode()` command in the setup section of the code. Then make sure that each leg of the LED is wired properly.
Nothing is printing in the Serial Monitor	Try unplugging your USB cable and plugging it back in. In the Arduino IDE, go to **Tools** > **Port**, and select the right port.

You've completed Circuit 1D!

Continue to Project 2 to explore using buzzers to make sound.