

Materials

- Arduino Uno
- White LED
- 220 Ω Series Resistor
- Photoresistor

Background & Set-Up:

You will use an ohmmeter (or a multimeter on resistance setting) to measure the range of resistance values of your photoresistor. Once you understand the resistance range of the photoresistor, you can use it to calibrate your program so you can set the threshold to turn on the night light.

Goal:

We want to write a program that will turn on an LED when the ambient light in the room gets below a certain threshold. You will use a photoresistor to detect the ambient light. You will need to use the ADC to determine the value of the photoresistor to know how much light is present in the room. Once it gets dark enough, turn on the LED until it gets brighter again. Make sure you are sampling the ADC values to make sure there are no weird outlier values that need to be thrown out.