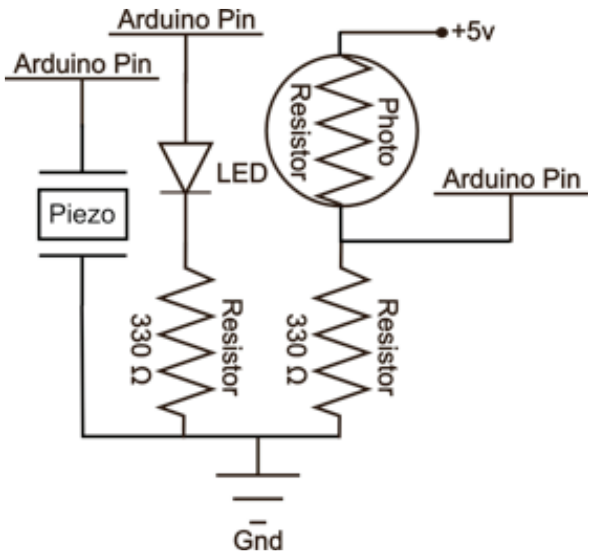
Name:
Date:

Circuit #6b Photo Resistor

1.

Now you are going to use your SIK to create an alarm system using analog and PWM signals. Upload the Circ9Expansion Code onto your Arduino and setup your breadboard according to the schematics below.

Circuit:



2.

This simple alarm is designed so that when something comes between the light source (LED) and the photoresistor the piezo element starts its annoying beeping. If you open your Serial communicator you will see it printing out a PWM value for the strength of the LED and an analog value for what the photoresistor sensor is receiving in the way of light. Without changing any of the code your alarm should work if you turn off the lights and pass your finger between the LED and the sensor.

What changes in this circuit and causes the alarm to go off? It's not just a lack of sunlight. Explain what is happening with the electricity. Write below and explain the exact variable that changes as well as the value that causes the alarm to be triggered.

3.

In order to make the alarm work during daylight you will need to be out of any direct lighting and you will need to change one of the values in the code. In the space below, write the line you changed in the code and explain why.

4.

What component in the SIK do you think you could use to physically change the sensitivity of the photoresistor so you don't have to change the code whenever the sunlight levels change? Explain how.