Measuring Ambient Light with a Photoresistor
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Photoresistor in a Voltage Divider

A photoresistor, also called a photocell or light-dependent resistor (LDR), is a semiconductor that changes its electrical resistance when exposed to light. Figure 1 shows a photoresistor as one leg of a voltage divider circuit.

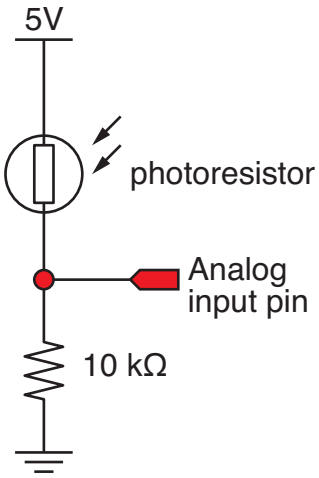

Figure 1: Photoresistor circuit. The analog input pin provides the signal that will be averaged.

The resistance of a photoresistor *decreases* as the light incident on the face of the photoresistor increases. By placing the photoresistor in the upper leg of a voltage divider, as in Figure 1, the output of the voltage divider increases when the light intensity increases.

Figure 2 shows the wiring of a photoresistor voltage divider to analog input pin 0 on an Arduino.

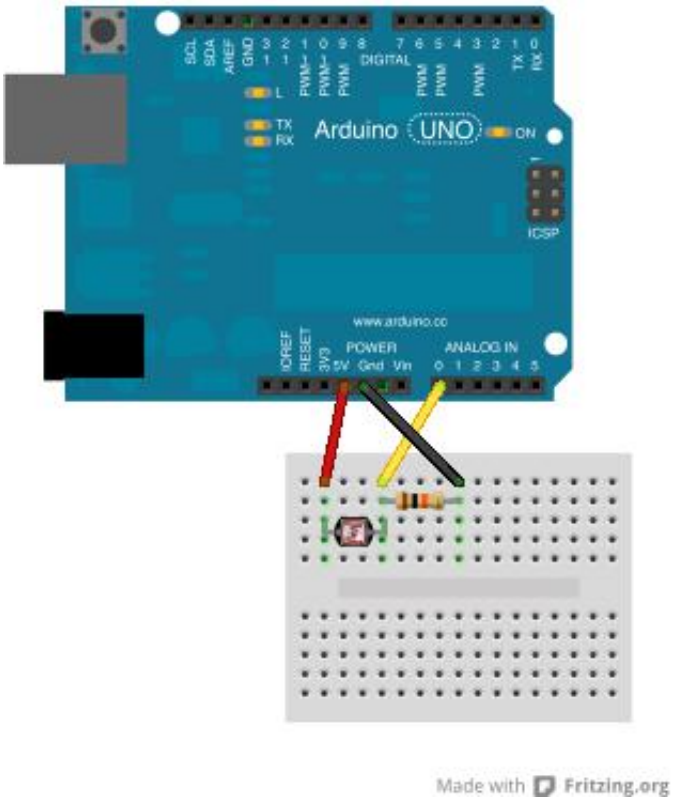

Figure 2: Arduino wiring of a voltage divider circuit for measuring photoresistor input.