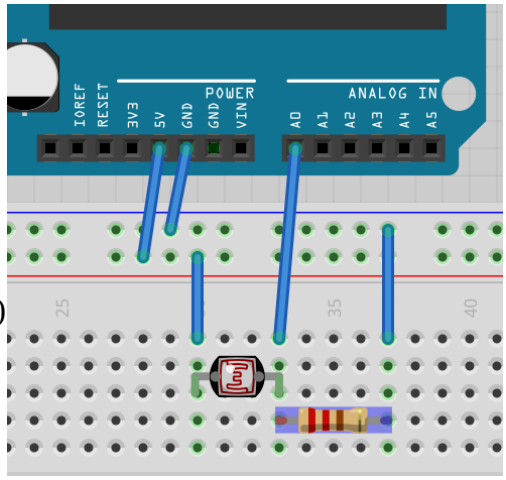
Sensing in Arduino

Discover
Give the Arduino a primative eye to sense ambient light.

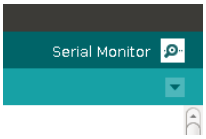


Learn
The LDR changes resistance with the amount of light, but the analogue input senses a change in voltage. To allow the resistor to change a voltage at an analogue pin, we can easily assemble what is called a “Voltage Divider”.

The wiring for the circuit shows the light dependant resistor (LDR) with +5V on one side and the resistor on the other side then connected to ground. In the middle where they join there will be a voltage that is divided between 5V and 0V depending on the values of the resistors.

Apply
Build the voltage divider with the LDR and resistor.
In the Arduino IDE, open the analogue input example: File → Examples → 03.Analog → AnalogInput.
Upload the sketch and look at the onboard LED 13 change with amount of light on the LDR.

Also try the basic example (File → Examples → 01.Basic → ReadAnalogVoltage), and look at it's output via the “Serial Monitor”.



Teach
Take some time with another to try understand what the code is doing.

Discover
Now you can combine the input and output to do some smarter logic (ARD3-InOut).