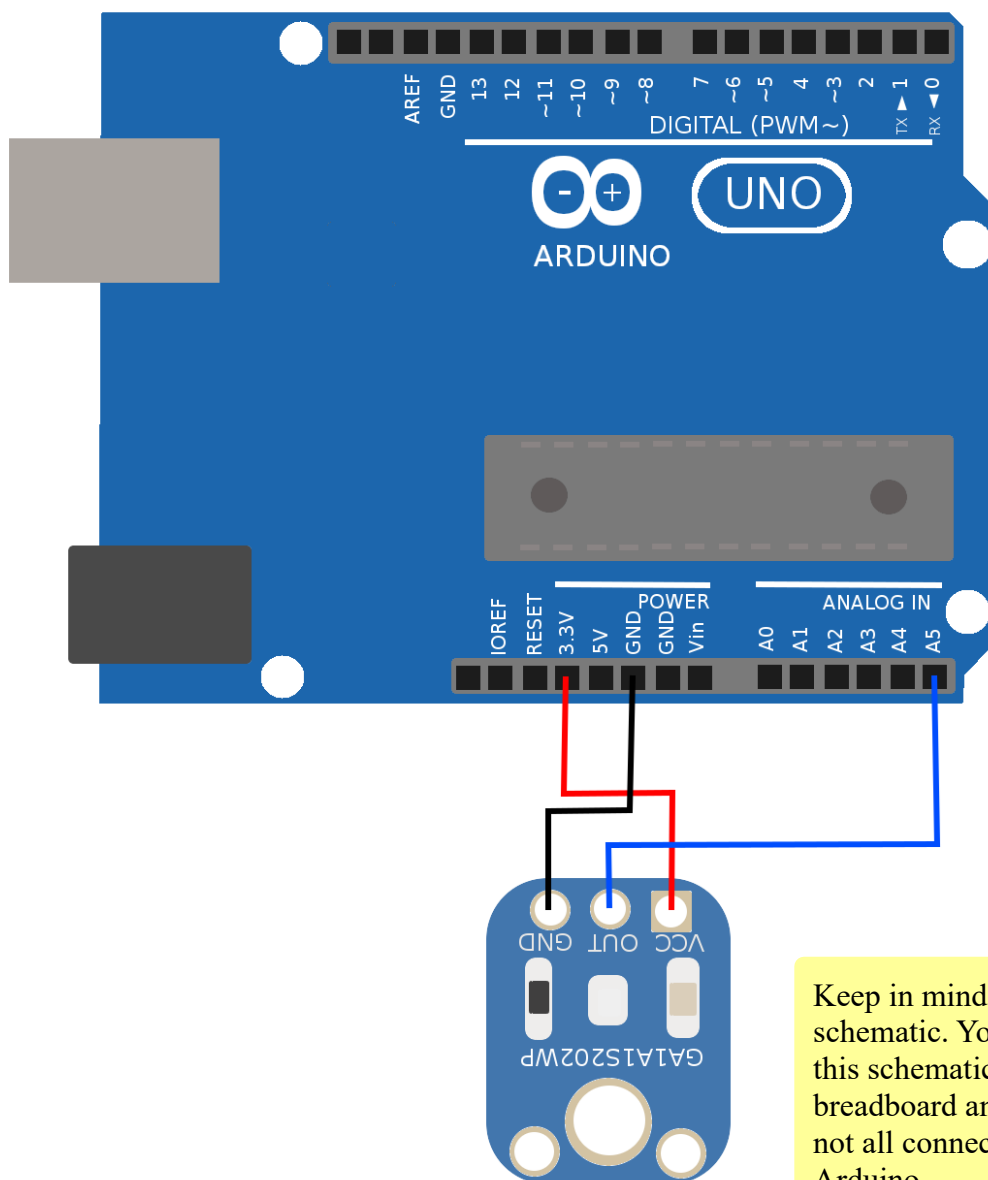


Wiring and Testing the Light Sensor

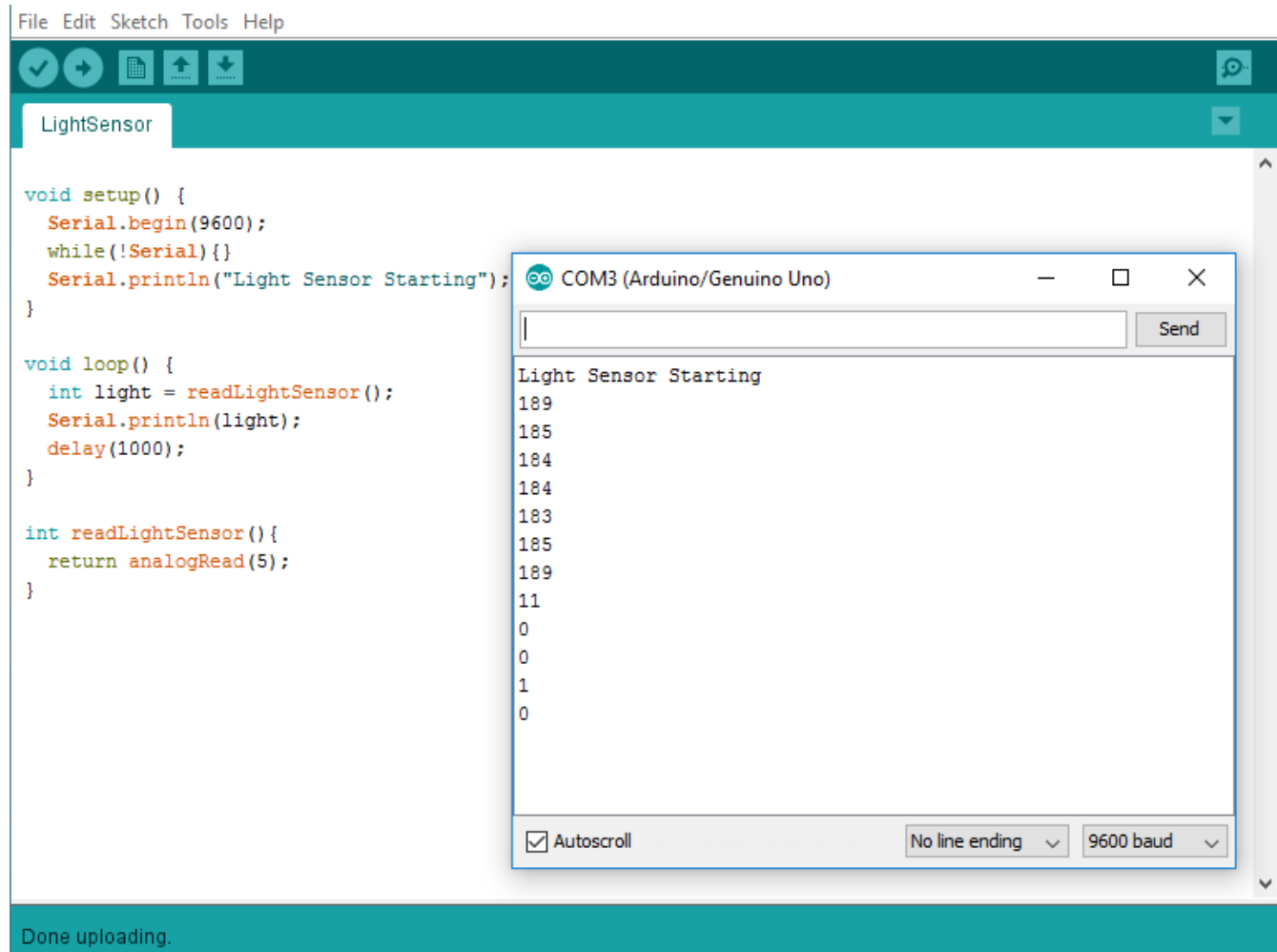
Wiring

The first step of working with the light sensor is to wire it and connect it to the Arduino. The light sensor has three pins: VCC (power), OUT (data), and GND(ground). Power should be connected to the 3.3V out pin on the Arduino. Ground should be connected to the GND pin. The data pin is the one that will vary based on how much light the sensor is reading. We connect this to one of our analog pins; we've arbitrarily selected pin 5.



Testing

With the wiring complete, open the included sketch called 'Light Sensor.' Upload that sketch, and you should see that a reading from the light sensor printed to the screen every second. Put your finger over the sensor and see that the number goes down. If it doesn't, you might need to double-check your wiring.



The screenshot shows the Arduino IDE interface. The sketch editor displays the 'LightSensor' code, which includes a setup function to initialize serial communication at 9600 baud, a loop function to read the light sensor and print the value every 1000ms, and a helper function to read the analog sensor value. The serial monitor, connected to COM3, shows the output of the sketch, including the startup message and a series of numerical readings that decrease as a finger is placed over the sensor. The status bar at the bottom indicates 'Done uploading.'

```
void setup() {  
  Serial.begin(9600);  
  while(!Serial){}  
  Serial.println("Light Sensor Starting");  
}  
  
void loop() {  
  int light = readLightSensor();  
  Serial.println(light);  
  delay(1000);  
}  
  
int readLightSensor(){  
  return analogRead(5);  
}
```

COM3 (Arduino/Genuino Uno)

Light Sensor Starting
189
185
184
184
183
185
189
11
0
0
1
0

☒ Autoscroll No line ending 9600 baud

Done uploading.

Code Walkthrough

```
void setup() {  
  Serial.begin(9600);  
  while(!Serial){}  
  Serial.println("Light Sensor Starting");  
}
```

Here we set up the serial connection, wait for it to be ready, and give a brief statement showing we're starting the light sensor sketch.

```
void loop() {  
  int light = readLightSensor();  
  Serial.println(light);  
  delay(1000);  
}
```

Here we create a new variable of type integer, which we call light, and we assign a value using a function called readLightSensor. We wait for 1000 milliseconds (1 second) before repeating the process.

```
int readLightSensor() {  
  return analogRead(5);  
}
```

Here we have a function that encapsulates the reading of the light sensor. This contains the information that the sensor is attached to analog pin 5; and abstracts away that information so we don't need to know it in the future when we make calls to this function.