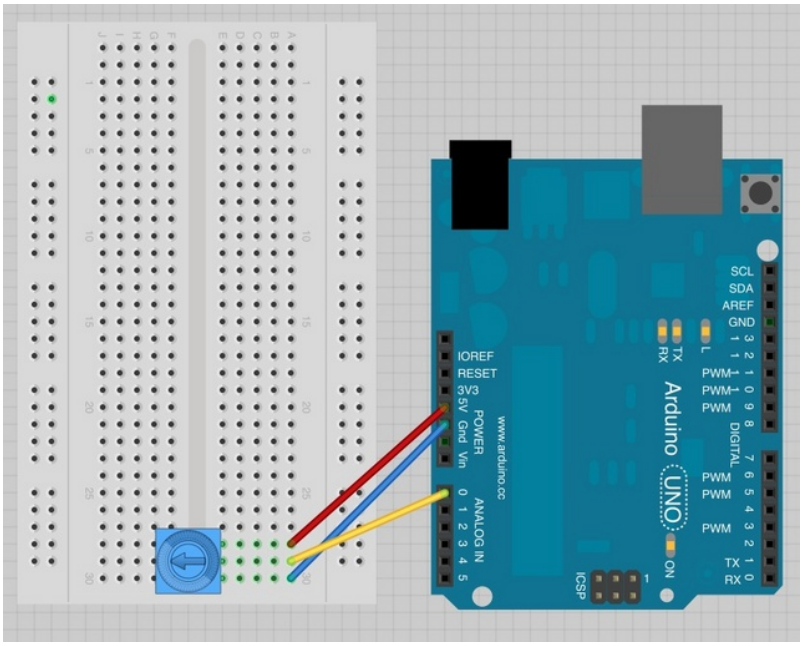
An Experiment

Before we go ahead and use the LEDs, you can try a little experiment using just the variable resistor also known as a **potentiometer** (often called a 'pot' for short) and the Arduino Serial Monitor.

Connect up your breadboard as shown below:



Load the following sketch onto your Arduino.

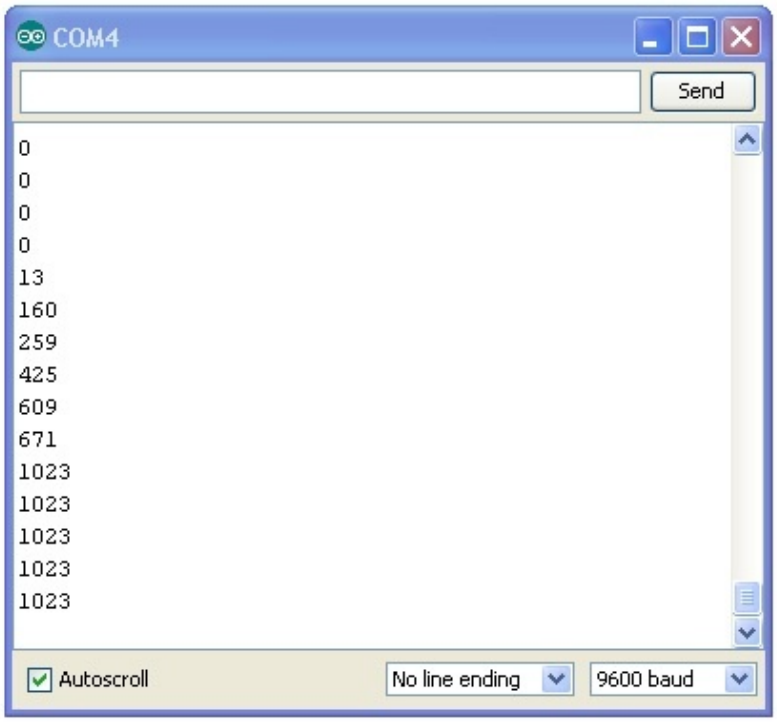
```
/*
Adafruit Arduino - Lesson 8. Analog Inputs
*/

int potPin = 0;

void setup()
{
  Serial.begin(9600);
}

void loop()
{
  int reading  = analogRead(potPin);
  Serial.println(reading);
  delay(500);
}
```

Now open the Serial Monitor, and you will see a stream of numbers appearing.



Turn the knob on the variable resistor and you will see the number change between 0 and 1023.

The Serial Monitor is displaying the analog reading value from A0 using the line:

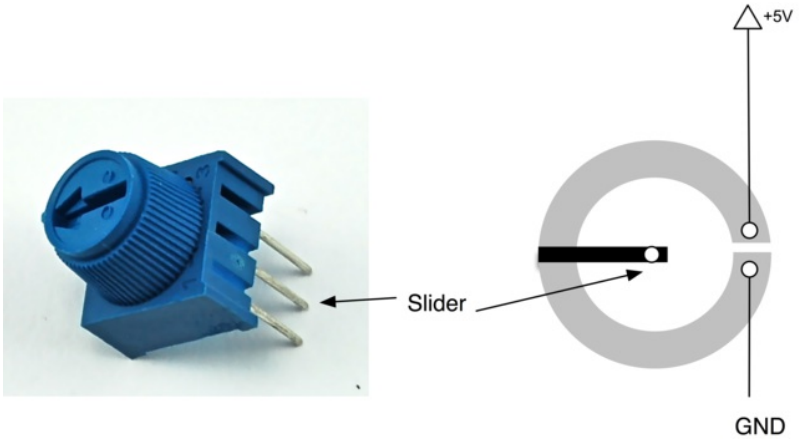
```
int reading  = analogRead(potPin);
```

The voltage at A0 is being transformed into a number between 0 and 1023.

Variable Resistors (Pots)

For historical reasons, variable resistors are often called 'pots' which is short for 'potentiometers'.

In our experiment with the Serial Monitor, the pot is somehow varying the voltage at A0 and the little test sketch is converting this voltage into a number between 0 and 1023.



Your pot has a circular 'track' that acts as a resistor, in our case it's a 10 kΩ resistor. However, the difference with a pot, is that there is also a middle connection called the 'slider'. This connection is rotated when you turn the pot. So if you connect one end of the pot to 5V and the other to GND, then the voltage at the slider will vary between 0 and 5V as you turn it.