

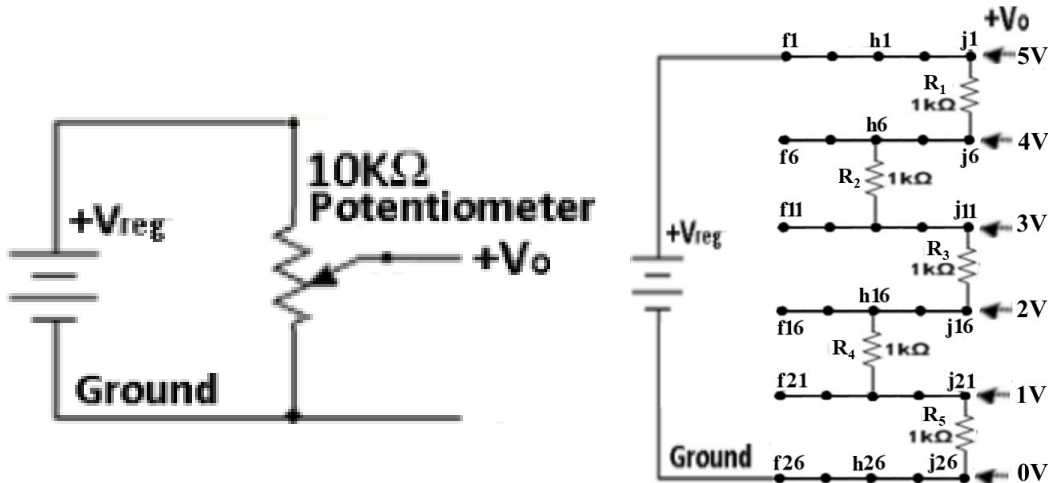
Hands-On Lab – Learning Kit Module 2 Results

Your Name: _____ Date Submitted _____

1. VOLTAGE SOURCES

1.a) What is the 'unloaded' unregulated source voltage, $+V_{reg}$? _____ volts

2. CREATING A VARIABLE VOLTAGE SOURCE

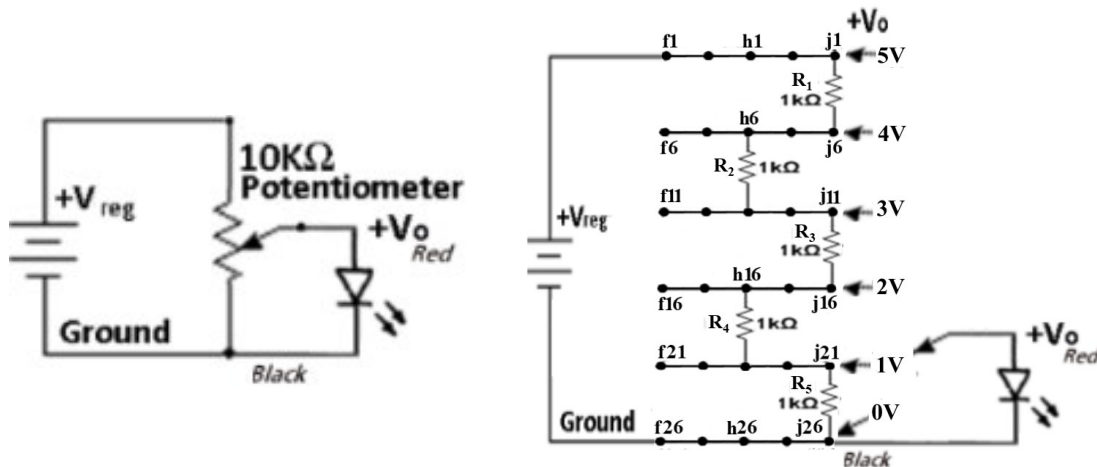


2.a) What is the 'loaded' unregulated source voltage, $+V_{reg}$? _____ volts

DO 2.b ONLY IF YOU ARE USING A POTENTIOMETER:

2.b) What is the resistance of the potentiometer for $V_o = 2.5$ volts? _____ KΩ

3. MEASURING VOLTAGES ACROSS LEDs



3.a) What is the variable source voltage, V_o across the LED? _____ volts

3.b) Does the LED light up? _____ Yes _____ No

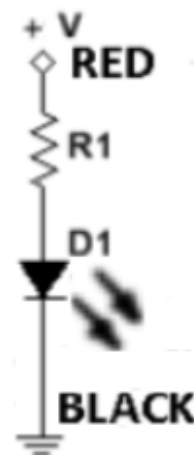
3.c) What is the lowest voltage, V_o across the LED for it to light up? $V_o =$ _____ volts

This is Instructor check point 2A.

5. LED DIODE I-V CHARACTERISTIC CURVE

Measure* the voltage drop across the GREEN LED diode and the resistor(s) and use those values to fill the table below. THEN, use the value of the resistor and the voltage drop across it to calculate the current flowing in the resistor and the diode in series with it using Ohms Law: $I = V_{R1} / R1$.

RESISTANCE R_1	V_d voltage across D_1 (measured)*	V_{R1} voltage across R_1 (measured)*	$I = V_{R1} / R_1$ current in mA (calculated)
100K ohms			
10K ohms			
1K ohms			
500 ohms <small>(2@1K resistors in parallel)</small>			
333 ohms <small>(3@1K resistors in parallel)</small>			
250 ohms <small>(4@1K resistors in parallel)</small>			



This is Instructor check point 2B.

Now sketch the I-V Characteristic Curve for your GREEN LED diode:

