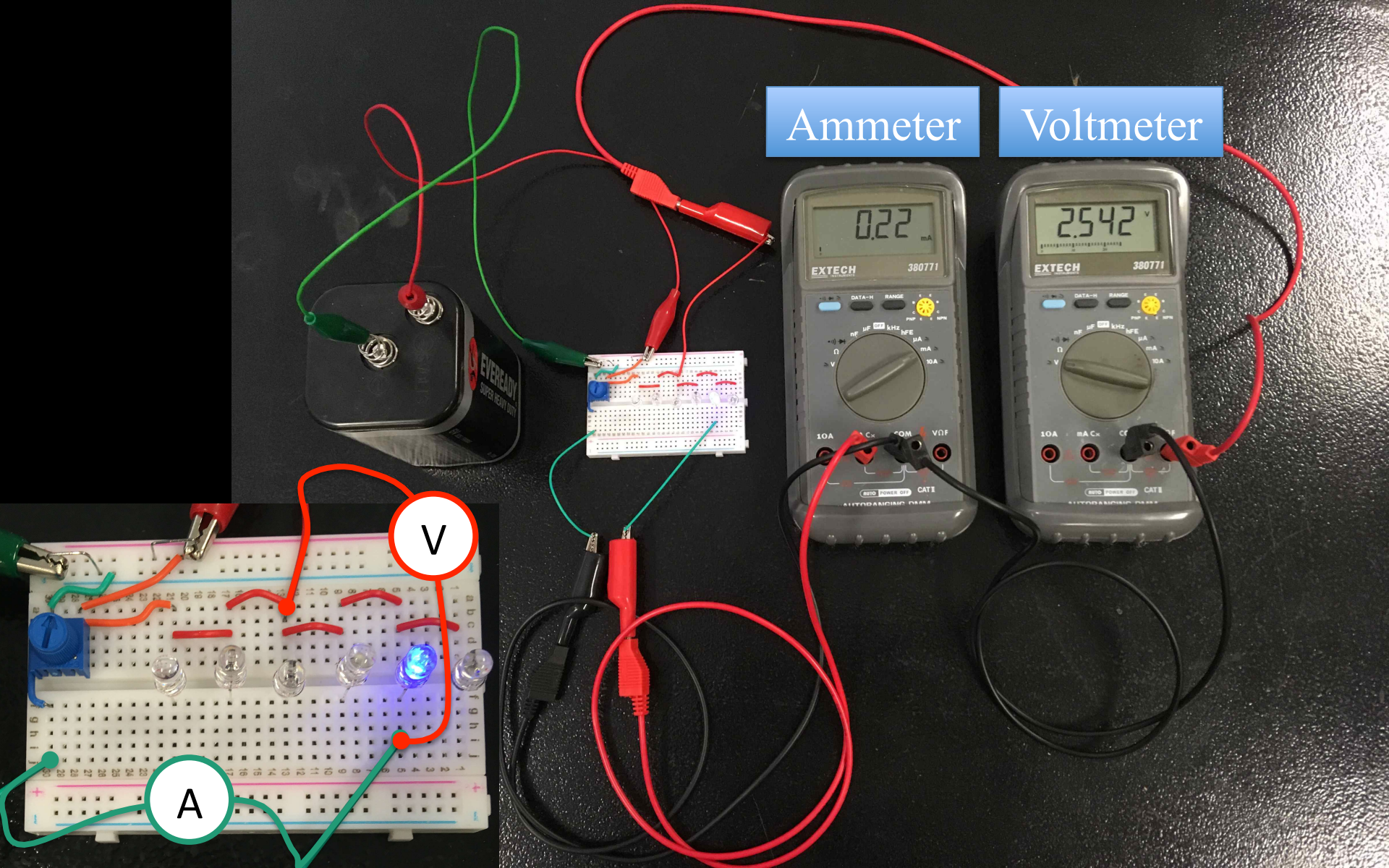
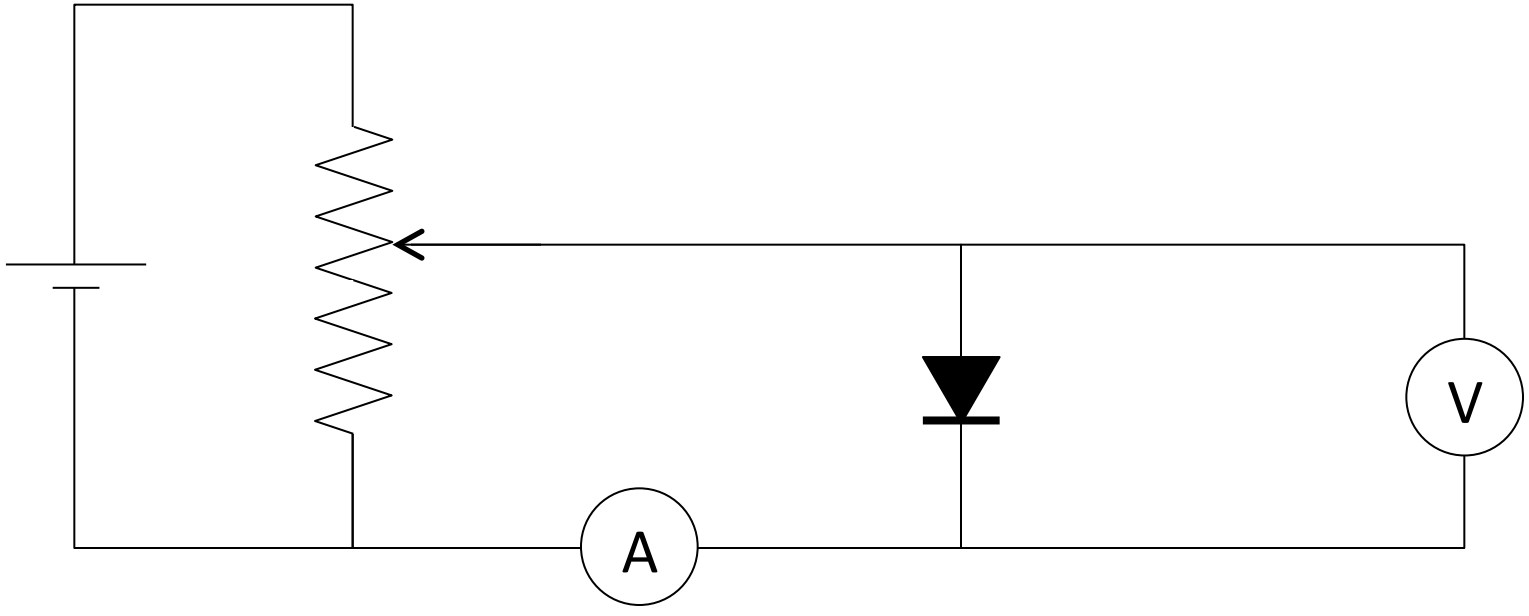
Mini-Lab: LED Voltage & Planck's Constant

1. Goal is to determine the "turn on" voltage for each LED in order to produce a graph of voltage versus frequency. The slope can be used to find Planck's constant!
2. Use an ammeter and voltmeter to measure the current and voltage for the LED. Adjust to observe a range of values, but do not exceed 2 mA. Repeat for each LED.
3. Determine a linear regression for each LED and take the *y*-intercept to be the "turn on" voltage.
4. Create a graph of voltage versus frequency (determined by the diffraction grating experiment) for the six LED's. Use the slope to determine Planck's constant and determine the percent error.


Ammeter
Voltmeter
0.22
2.542
EXTECH
380771
V
A


A
V

	Voltage (V)					
Current (mA)	red	orange	yellow	green	blue	violet
0.3						
0.6						
0.9						
1.2						
1.5						
V vs *I* slope						
V vs *I* *y*-int						