

Name: _____ Partners: _____

LAB: Ohm's Law

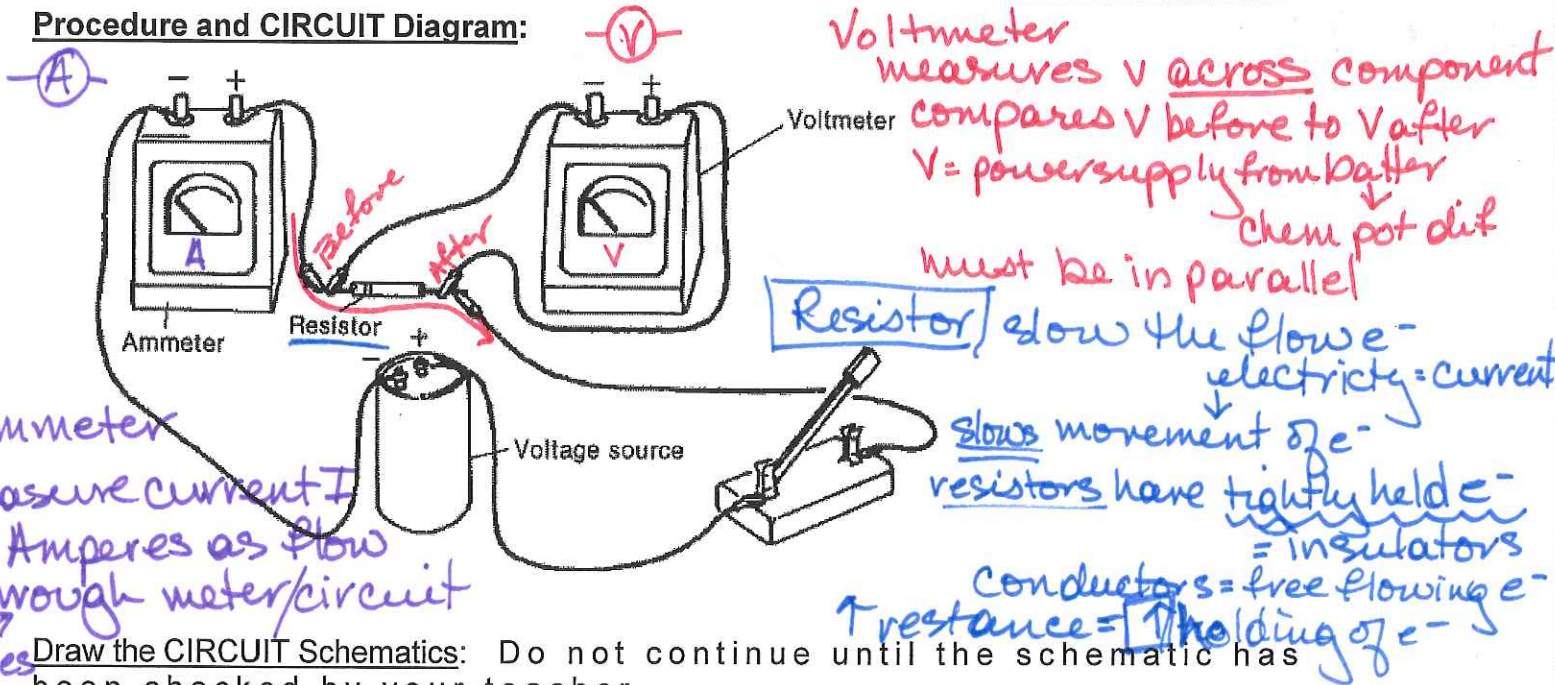
Purpose: To determine the relationship between voltage across and current through a resistor.

Hypothesis: _____

Materials: (List all materials that were used to complete the lab exercise.)

- _____
- _____
- _____
- _____
- _____

Procedure and CIRCUIT Diagram:



Draw the CIRCUIT Schematics: Do not continue until the schematic has been checked by your teacher.

Circuit schematic with one battery

Circuit schematic with 6 batteries.

1. Leaving the switch in the open (off) position, build the circuit as pictured above with one battery.
2. Close the circuit and record the voltage and current measurements on the meters.
3. Ask teacher to check your work and initial ____.
4. Add one battery by connecting the battery cradles together. Repeat experiment and enter data into the data table.
5. Repeat adding one battery at a time until 6 batteries are connected in series.

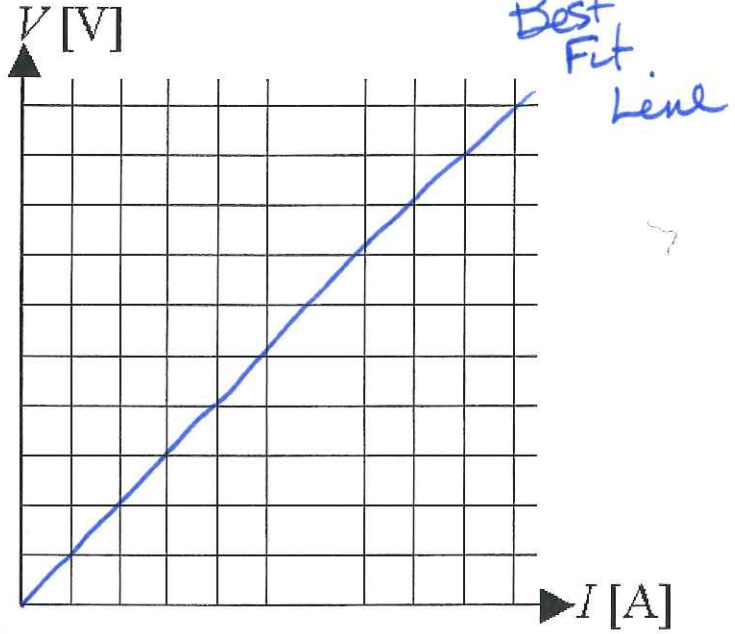
$$V = IR$$

$$R = \frac{V}{I}$$

Data Table , Graph:

Graph of Voltage vs. Current

	Voltage on Resistor V [V]	Current through Resistor I [A]	R Ω
1	perfect 1.5v	.060A	25
2	3v	.12A	
3	4.5v	.18A	
4	6v	.24A	
5	7.5v	.30A	
6	9v	.36A	



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Calculations

1. Calculate the slope of the graph.
2. Calculate the value of the resistor of each trial.
3. Find the average of the calculated values of the resistor.

Analysis

4. What does the slope of the graph represent?
5. How similar are each of the calculated resistor values?
6. How similar are the average calculated resistor value and the graphed resistor value?

Conclusion

Write a 3 sentence full CER Conclusion