LAB 17: OHM'S LAW

AIM: To determine the resistance of an unknown resistor.

APPARATUS & MATERIALS:

2 dry cells	voltmeter
rheostat (variable resistor)	ammeter
switch	connecting wires
unknown resistor	

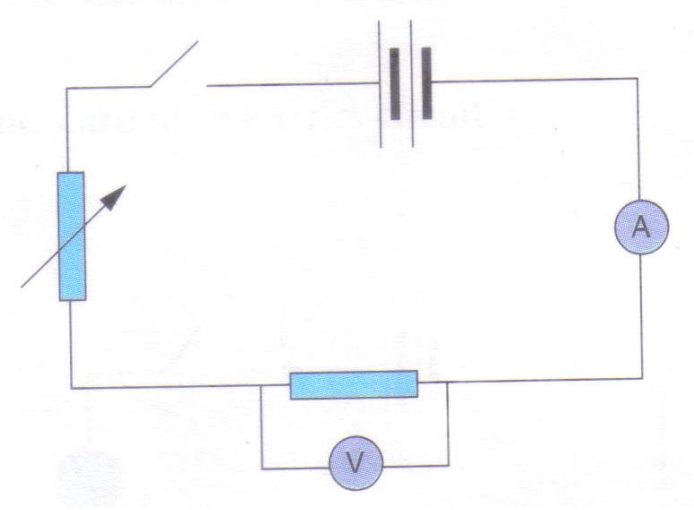

Diagram: Circuit diagram for identifying the resistance of an unknown resistor

METHOD:

- Set up the circuit as shown in the circuit diagram above with the rheostat at the maximum and the switch open.
- Have the circuit check by the teacher.
- Close the switch.
- Record the values for voltage, ***V*** and current, ***I***, when the ammeter is at the highest reading.
- Vary the rheostat and record ***five (5)*** other readings for ***V*** and ***I***. (Open the switch between readings)

THEORY:

- State Ohm's Law and the formula associated with it. State units of resistance.
- How must the ammeter be connected in the circuit.
- How must the voltmeter be connected in the circuit.

RESULTS:

- Record all results in table below (showing all headings and units)

Voltage (V) / (V)	**Current (I) / (A)**

- Plot a graph of voltage, ***V***, against current, ***I.***

CALCULATIONS:

- Calculate the gradient the graph to determine the resistance of the unknown resistor.

CONCLUSION:

- State the resistance of an unknown resistor