

Electricity

Chapter 8: Electricity · Topic 1

Key Concept

An electric circuit is a closed loop through which current flows, requiring a power source, conductors, and a load (like a bulb).

Current (measured in amperes) is the flow rate of charge, voltage (measured in volts) is the electrical force driving current, and resistance (measured in ohms) opposes current flow.

Ohm's Law states that $\text{Voltage} = \text{Current} \times \text{Resistance}$ ($V=IR$), showing the relationship between these three quantities.

Understanding electrical safety, like avoiding water near electrical devices and using proper insulation, is essential to prevent accidents.

Quick Revision Notes

- An electric circuit is a closed loop for current flow.
- It needs a power source, conductors and a load.
- Current is measured in amperes.
- Voltage is measured in volts.
- Resistance is measured in ohms.
- Ohm's Law: $V = IR$.
- This shows the relationship between V , I , R .
- Electrical safety prevents accidents.

Practice Questions

- 1 Draw a simple electric circuit.
- 2 Calculate voltage using Ohm's Law given current and resistance.
- 3 Discuss why water is dangerous near electrical devices.
- 4 Research a safety rule for using electrical appliances.
- 5 Explain current, voltage and resistance in your own words.
- 6 Discuss what a load is in a circuit.