

Practical 5: Electrical circuits (4 hours)

Learning Outcomes: To determine the advantages and disadvantages of series and parallel circuits.

Materials: Battery holder, battery, several insulated wires, potential divider and light bulbs.

Activity 1: Building a simple series and parallel circuits.

Procedure:

1. Build the circuit given below using conductors using ordinary wires. In building, ensure conductors are not exposed for safety reasons.



Circuit A



Circuit B

2. All wires are connected and the light bulbs are covered.
3. The potential and voltmeter is connected with the above circuit. It is used to take a reading of V across the battery.
4. One bulb from each circuit is removed. The terminal voltage is observed and the readings of both the ammeter and voltmeter through circuit are recorded down.
5. Another bulb is connected in series to circuit A, the terminal voltage is observed and the readings of both the ammeter and voltmeter is recorded down.
6. Another bulb is connected in parallel to circuit B. The terminal voltage is observed and the readings of both the ammeter and voltmeter is recorded down.