

Series and Parallel Circuits

Chapter 3: Electricity: Circuits and their Components · Topic 2

Key Concept

This difference has important real-world consequences: household electrical wiring uses parallel circuits so that if one appliance or bulb fails, other devices in the house continue to work normally. Series circuits, meanwhile, are sometimes used in simple decorative lights, though modern fairy lights are usually wired in parallel or with special bypass features so a single bulb failure does not turn off the whole string.

Quick Revision Notes

- Series circuit: one path, same current everywhere; if one bulb fails, all go off.
- Parallel circuit: multiple paths; if one bulb fails, others keep working.
- Household wiring uses parallel circuits for reliability.
- Old-style decorative lights sometimes used series wiring; modern ones usually avoid it.

Practice Questions

- 1 Compare series and parallel circuits with a simple diagram.
- 2 Explain why household wiring is designed using parallel circuits.
- 3 What would happen to the other bulbs in a parallel circuit if one bulb burns out?