

Electrical Systems

KS2 Dt · Follows the national curriculum

Name _____ Class _____ Date _____

1. Worked example

Why doesn't a bulb light up if there's a gap anywhere in the circuit?

Step 1 · Think about how electricity needs to flow

Electricity needs an unbroken loop (circuit) to flow all the way round

Answer: Electricity can only flow in a complete, unbroken loop — any gap stops the flow and the bulb won't light

Check: This is why a switch works — it deliberately creates or closes a gap in the circuit.

2. Now try one with the steps

Why might a torch use a switch instead of just connecting the battery permanently?

Step 1 · Think about what happens to a battery left connected all the time

Answer:

3. Practice

Have a go at each one. There is space underneath to work it out.

1. What do we call an unbroken loop that lets electricity flow?

2. What component lets you turn a circuit on and off?

3. What happens to a bulb if there is a gap in the circuit?

4. Name a source of electrical power used in simple circuits.

5. Explain why adding a second bulb to a simple circuit might make both bulbs dimmer.

6. Why might a product designer include a switch in a torch design rather than just two loose wire ends to touch together?

4. Before you hand it in

Thinking a bulb will light even with a gap somewhere in the circuit, 'because the battery is connected'.

Trace the entire loop from the battery, through every component, and back to the battery — check nothing is missing.

Forgetting that adding more components to a circuit can change how bright a bulb glows.

Think about how power gets shared when you add more components to the same circuit.