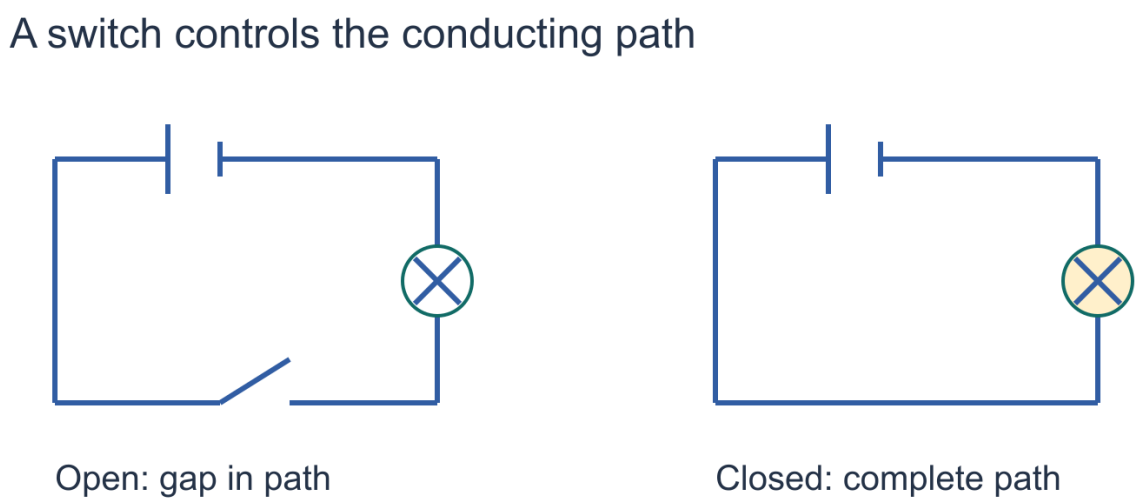
Simple circuits: why a bulb needs a complete path

Grade 5 · Practice and answer pack

Touching one wire to a bulb is not enough to light it. A working circuit needs a continuous conducting path through the bulb and back to the cell.

A simple working circuit joins both terminals of a suitable cell to the two contacts of a compatible bulb through conducting wires. Opening a switch breaks the path and stops the current.

Independent BananaLearn resource. Not an official exam paper or endorsed assessment.



Two circuit models: an open switch interrupts the route; a closed switch completes it. Use only an adult-supervised low-voltage kit.

Matching complete guide

bananalearn.com/learn/grade-5-simple-electric-circuits.html

Try before looking at the answers

Name (optional): _____ Date: _____

Show your method or explain your choice. Work through a short group at a time. Questions are original practice, not a complete syllabus assessment.

1. Does a closed switch make a gap?

2. Why do coated wires have metal inside?

3. One connection is loose in a single loop. What may happen?

4. Is a cell used to supply energy or to store current?

5. Should you connect a wire straight across a cell?

6. Must the path return to the cell?

7. What does an open switch do?

8. Both wires touch one bulb contact. Why might it stay dark?

9. Does no light prove a ruler is an insulator?

10. What should remain the same in a material test?

11. A cell gets warm. What next?

12. May you test a wall socket?

13. Is energy transferred when a bulb lights?

Answers and reasoning

Compare the explanation as well as the answer. If a method is unclear, revisit the matching guide and try a changed example.

1. Does a closed switch make a gap?

No; it completes that part of the path

Closed means the contacts join.

2. Why do coated wires have metal inside?

Metal conducts; the covering insulates

The materials perform different jobs.

3. One connection is loose in a single loop. What may happen?

The bulb may go off or flicker

The path is interrupted intermittently.

4. Is a cell used to supply energy or to store current?

Supply electrical energy

Current is a flow of charge in the circuit.

5. Should you connect a wire straight across a cell?

No

A short circuit can cause overheating.

6. Must the path return to the cell?

Yes

An ordinary simple circuit needs a complete loop.

7. What does an open switch do?

Breaks the conducting path

A visible surrounding loop can still contain an electrical gap.

8. Both wires touch one bulb contact. Why might it stay dark?

The path does not pass through the filament

Use the two different bulb contacts in the intended holder.

9. Does no light prove a ruler is an insulator?

Not by itself

Rule out loose contacts and a flat cell.

10. What should remain the same in a material test?

Cell, bulb, wires and connections except the test object

Changing several things makes the result hard to interpret.

11. A cell gets warm. What next?

Disconnect and tell an adult

Do not continue testing a possible short circuit.

12. May you test a wall socket?

No

Mains electricity is dangerous.

13. Is energy transferred when a bulb lights?

Yes

Energy from the cell is transferred as light and heat.

Check understanding

• Can you trace the complete route through both bulb contacts?

• Have you separated a broken connection from a material property?

• Do you know when to stop and ask an adult?