



Fair testing



research



Observation over time

Electricity

Pattern seeking



Identify and classify



Problem solving

Lesson 1 Explore voltage and it's effect on a circuit.

How does voltage effect the brightness of a bulb?



Voltage, brightness, voltmeter, current, electricity.

Lesson 2 identify problems in a circuit and fix them.



What does a resistor do in a circuit?



Blown, resistor, variable resistor, LED, dimmer switch

Lesson 3 build a set of traffic lights. What sort of circuit is your set of traffic lights?



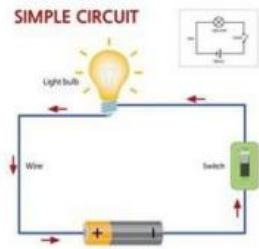
Timer based, synchronised, traffic light, signal, sensor

How do humans use electricity?

Circuit Symbols

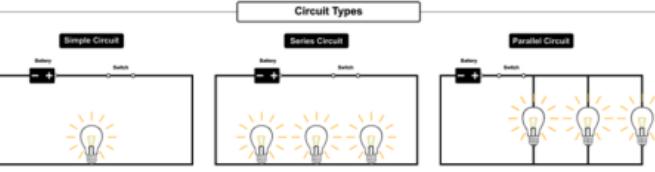


Wires are always drawn with a **straight line** using a **ruler** in scientific diagrams.

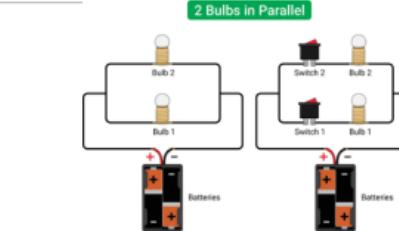
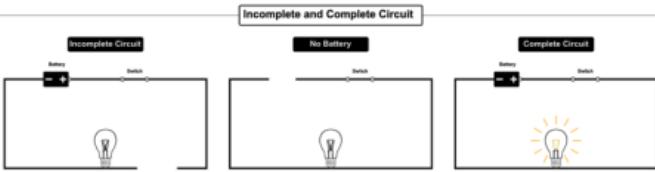


The **current** flows from negative to positive. There are no gaps - it is a **complete** circuit and the bulb lights up.

Different Circuits



Adding more cells (batteries) to a circuit will make bulbs **brighter**, buzzers **louder** and motors **faster**.



Switch (closed)
Switch (open)

Switches can be placed in a **parallel circuit**, so that 1 light can be turned on while another is off (just like in a house).

Careers connected this topic: mechanical engineering technician, electricity distribution officer, electrical engineer, energy engineer.

Year 6
Autumn 2

Lesson 4 Use knowledge of conductors and insulators.

How well did your game work?



Closed electric circuit, insulator, conductor, resistor, indicating

Lesson 5 Use your knowledge to create a light up Christmas card.

Did you encounter any problems?



Closed circuit, current, LED, battery, switch

Lesson 6

Double page spread.

Can you explain all you have learned from this topic?

Vocab-all words from previous lessons.