



Fair testing



research



Observation over time

# Electricity



Pattern seeking



Identify and classify



Problem solving

## How do humans use electricity?

**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?

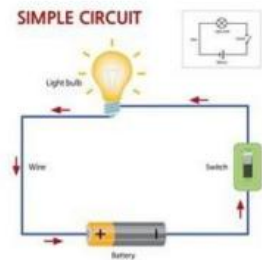


Timer based, synchronised, traffic light, signal, sensor

### Circuit Symbols

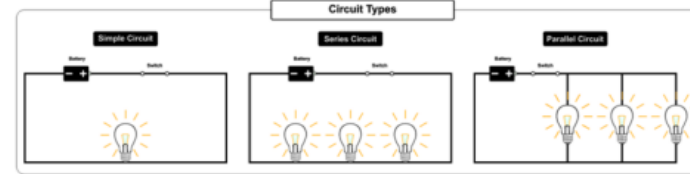


Wires are always drawn with a **straight line** using a **ruler** in scientific diagrams.

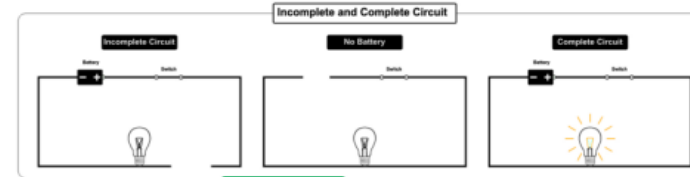


The **current** flows from negative to positive. There are no gaps - it is a **complete** circuit and the bulb lights up.

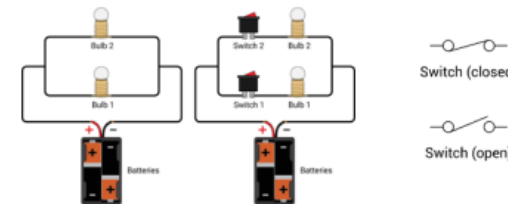
### Different Circuits



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



#### 2 Bulbs in Parallel



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).

**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.

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

Year 6  
Autumn 2