

Year 5 & 6 Knowledge Organiser – Electricity

What should I already know?

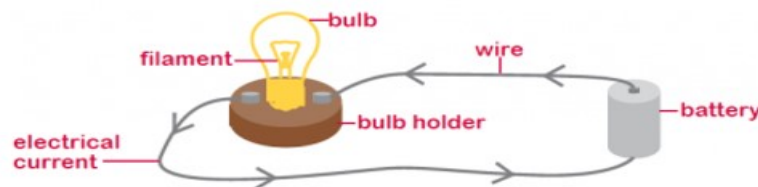
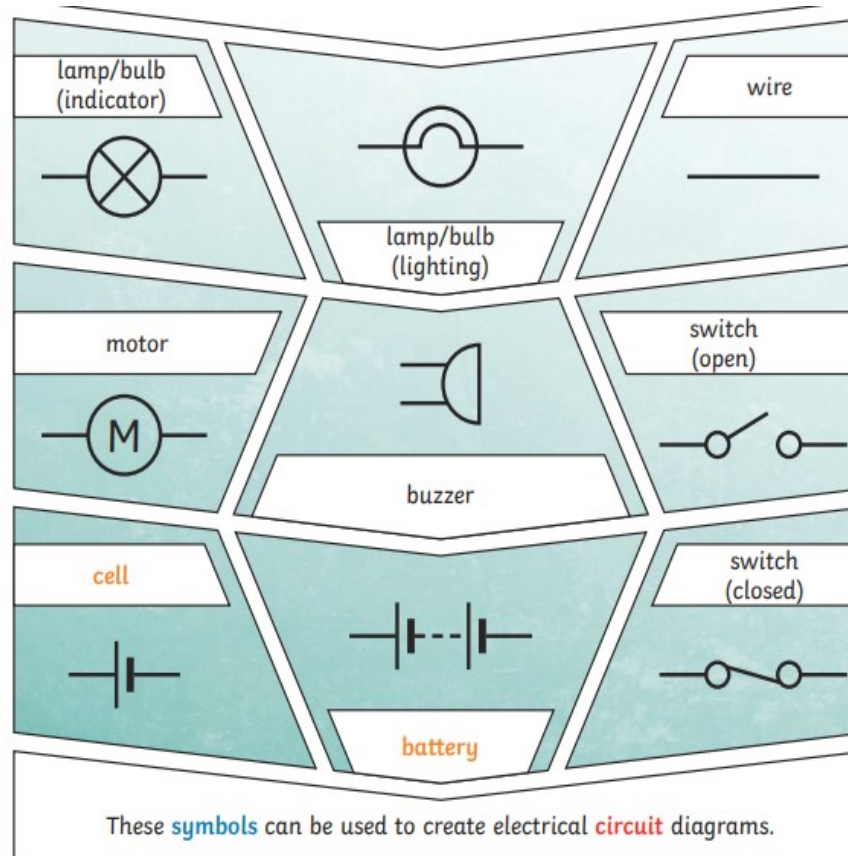
- identify common appliances that run on electricity
- construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers
- recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit.

Key vocabulary

current	A path that an electrical current can flow around.
symbol	A visual picture that stands for something else.
cell/battery	A device that stores energy as a chemical until it is needed. A cell is a single unit. A battery is a collection of cells .
current	The flow of electrons , measured in amps .
amps	How electric current is measured.
voltage	The force that makes the electric current move through the wires. The greater the voltage , the more current will flow.
resistance	The difficulty that the electric current has when flowing around a circuit .
electrons	Very small particles that travel around an electrical circuit .

Diagrams

Components of a **Circuit** and Their **Symbols**

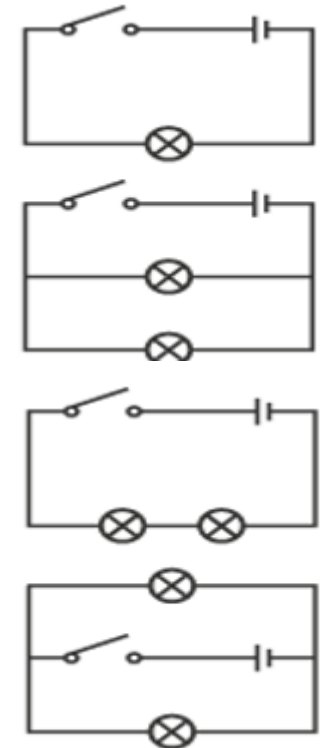


What will I know by the end of the unit?

Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit

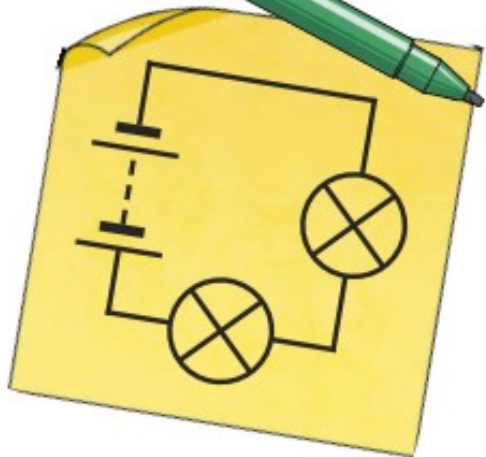
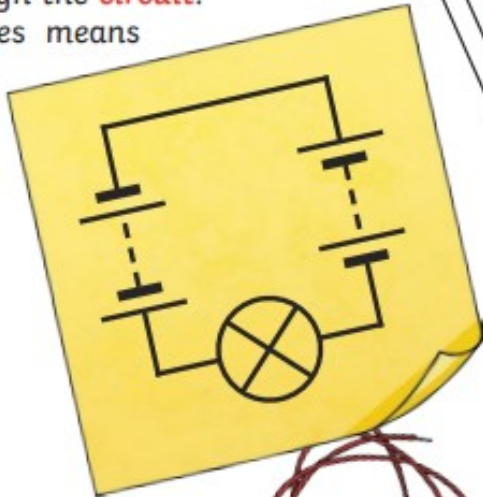
Compare and give reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches

Use recognised symbols when representing a simple circuit in a diagram.



What will make a bulb brighter or a buzzer louder?

- More **batteries** or a higher **voltage** create more power to flow through the **circuit**.
- Shortening the wires means the **electrons** have less **resistance** to flow through.

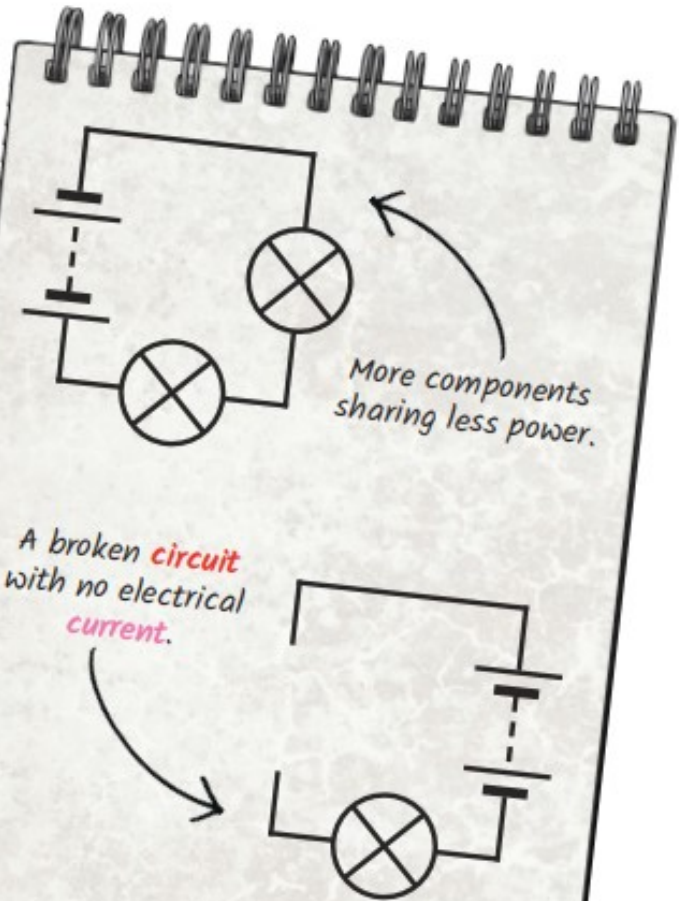


What will make a bulb dimmer or a buzzer quieter?

- Fewer **batteries** or a lower **voltage** give less power to the **circuit**.
- More buzzers or bulbs mean the power is shared by more components.
- Lengthening the wires means the **electrons** have to travel through more **resistance**.

Series Circuit

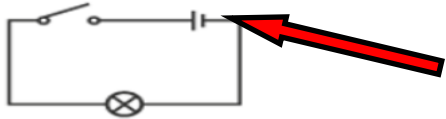
A **circuit** that has only one route for the **current** to take. If more bulbs or buzzers are added, the power has to be shared and so they will be dimmer or quieter. If just one part of this series **circuit** breaks, the **circuit** is broken and the flow of **current** stops.



**Topic— Electricity - Oh I do like to be beside the seaside
Year 5 & 6**

Question 1. What is a circuit?	Start of unit	End of unit
A. A workout you do in the gym		
B. A circle of wires and bulbs		
C. A battery can send power down the wires		
D. A path that an electrical current can flow around		

Question 4. What are electrons?	Start of unit	End of unit
A Very small electrical batteries		
B Very small electrical shocks		
C Very small electrical dust		
D Very small particles that travel around an electrical circuit		

Question 2. What is this called in the diagram?	Start of unit	End of unit
		
A. A switch		
B. A cell		
C. A bulb		

Question 5. Lengthening the wires on a circuit means	Start of unit	End of unit
A. The electrons can easily travel to bulbs and buzzers		
B. The electrons will take longer to travel		
C. The electrons have to travel through more resistance		
D. I don't know		

Question 3. What will make a bulb dimmer?	Start of unit	End of unit
A. Fewer wires		
B An older bulb		
C Fewer cells		
D I don't know		

Question 6. (Teachers you can add your own question here)	Start of unit	End of unit