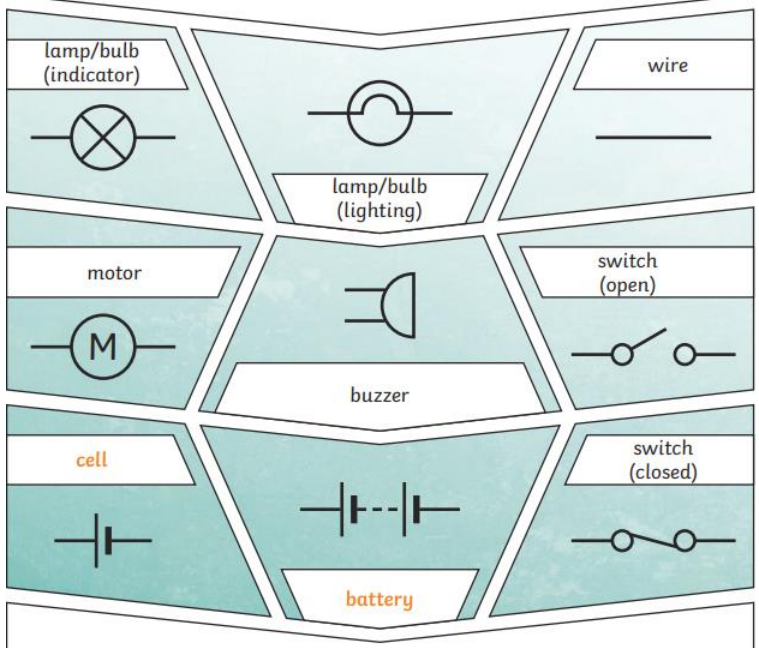
Are we poles apart?

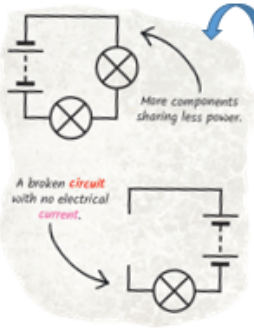
Key Vocabulary	
circuit	A path that an electrical current can flow around.
symbol	A visual picture that stands for something else.
cell/battery	A device that stores chemical energy until it is needed. A cell is a single unit. A battery is a collection of cells.
current	The flow of electrons, measured 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.

Key Knowledge

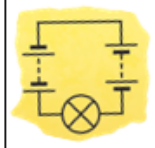
Components of a Circuit and Their Symbols



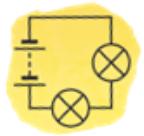
These symbols can be used to create electrical circuit diagrams.



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

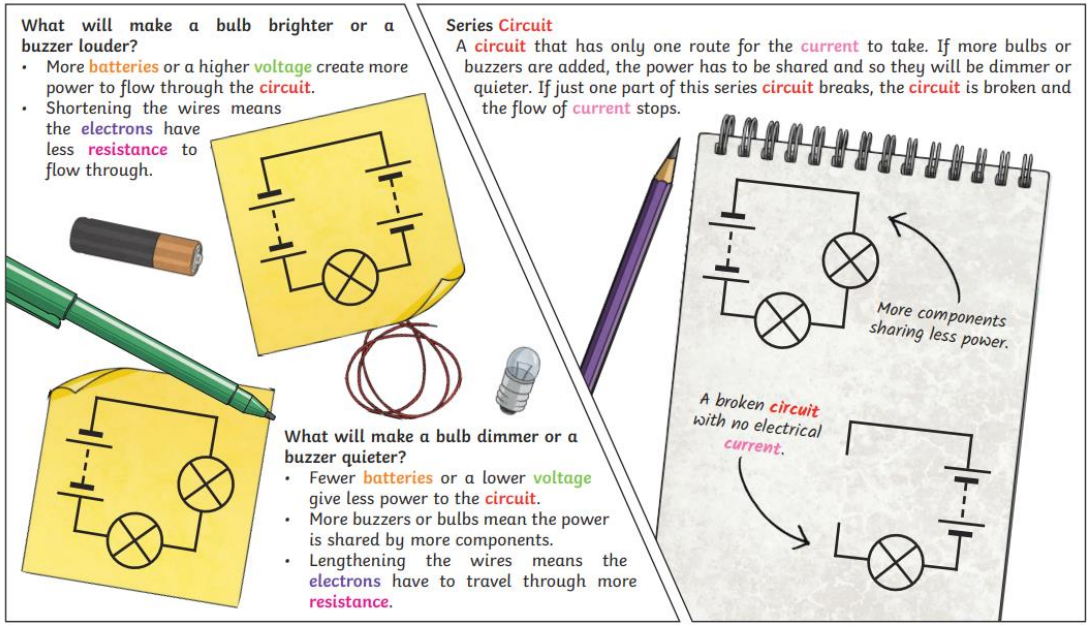


What will make a bulb brighter or a buzzer louder?
More **batteries** or a higher **voltage** create more power to flow through the **circuit**.
Shortening the wires means the **electrons** have less **resistance** to flow through.



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

Electrical Conductors -electricity can pass through easily	Electrical Insulators -do not let electricity pass through
-Copper	-Rubber
-Iron	-Wood
-Steel	-Plastic
-Silver	-Paper
-Gold	



Facts
We use scientific symbols to represent the components (parts) of a circuit.
The brightness of a bulb or the loudness of a buzzer is affected by the number of cells in a circuit.
The brightness of a bulb or the loudness of a buzzer is affected by the voltage of cells in a circuit.
The number of components in a circuit can affect how they function.
The arrangement of components in a circuit can affect how they function.
The length of wires in a circuit can affect how the components function.