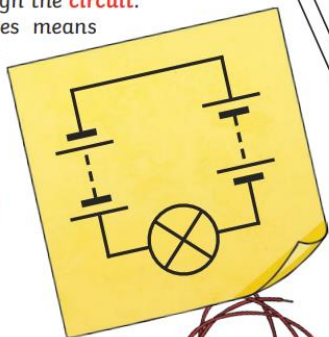


Enquiry Question: What are the requirements of designing and improving circuits?

Key Knowledge

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.

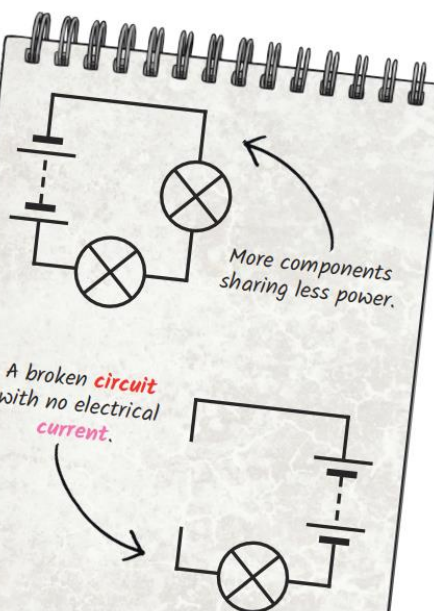


What will make a bulb dimmer or a buzzer quieter?

- 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.



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 .

To work **safely** with **circuit** components in the classroom:

- None of the equipment needs to use mains power, so do not put any of it in or near plugs.
- Report any damaged or broken equipment to your teacher. Do not use it.
- Only use equipment as instructed.
- Connect equipment correctly.
- Disconnect equipment after use and put it away neatly.



Series **Circuit**

A **circuit** where the components are connected in a loop. **Electricity** flows through each component in a single pathway.



Complete **Circuit**



Electricity can flow. The components will work.

Incomplete **Circuit**

There is a break in the **circuit** that prevents the **electricity** from flowing. The components will not work.



Hyde Park Junior School - Science

Enquiry Question: What are the requirements of designing and improving circuits?

Topic: Electricity

Year: 6

Strand: Physics

Question 1: Name three things that are needed to make a bulb light.	Start of unit:	End of unit:	Question 2: A bulb can be made brighter by adding more bulbs?	Start of unit:	End of unit:
Item 1			True		
Item 2			False		
Item 3					

Question 3: How do we...	Start of unit:	End of unit:	Question 4:	Start of unit:	End of unit:
...make a bulb brighter?			Draw a circuit diagram of a simple circuit with a cell, bulb and a switch in its closed position.		
...make a buzzer louder?					

Question 5: Name these components	Start of unit:	End of unit:	Name its function
