



SCIENCE KNOWLEDGE ORGANISER – YEAR SIX

ELECTRICITY

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

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.

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.

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**.

More components sharing less power.

A broken **circuit** with no electrical **current**.

KEY QUESTIONS TO LEARN

- Can I identify how our understanding of electricity has changed over time?
- Can I recognise the symbols that make up a circuit diagram?
- What would happen to an electrical appliance that requires 3V if it were powered by 5V cell or battery?
- Can I recognise what a variable is in a scientific investigation?

Can I understand how electricity functions?

Key Knowledge

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

lamp/bulb (indicator)	lamp/bulb (lighting)	wire
motor	buzzer	switch (open)
cell	battery	switch (closed)

These **symbols** can be used to create electrical **circuit** diagrams.

FLASH BACKS TO REMEMBER

- Can I identify common appliances that run on electricity? (Y4 - Electricity)
- How will a lamp light in a simple circuit? (Y4 - Electricity)
- What is the role of a switch in a simple circuit? (Y4 - Electricity)
- Can you name some common conductors and insulators associated with different materials? (Y4 - Electricity)