

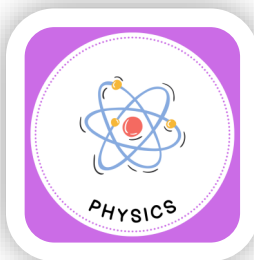
Knowledge Organiser

Year Group:	6	Subject:	Science– Electricity	Term:	Autumn 2
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Enquiry Question

Is a simple circuit good enough?

Concept



What should I already know?

- Electricity is a form of energy that can be carried by wires and is used for heating and lighting, and to provide power for devices.
- Sources of light and sound may need electricity to work.
- Where electricity comes from
- Which appliances need electricity
- What a circuit is, the components of a circuit and how it works.
- What electrical conductors and insulators are.
- What happens when a switch is added to a circuit.
- What forces and resistance are.

Scientific skills I am practising

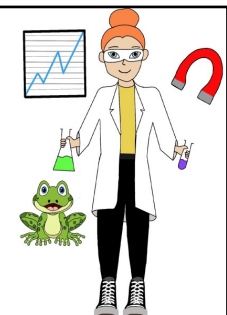
- I ask my own questions about the scientific phenomena that I am studying, and select the most appropriate ways to answer these questions, recognising and controlling variables where necessary and carrying out comparative and fair tests
- I draw conclusions, explain and evaluate my methods and findings, communicating these in a variety of ways
- I ask my own questions about the scientific phenomena that I am studying, and select the most appropriate ways to answer these questions, recognising and controlling variables and grouping and classifying things

Substantive Knowledge (key facts)

- When changes are made to circuits, components can function differently:
- When switches are open or wires are removed from a circuit it is no longer a closed circuit so bulbs, motors and buzzers will turn off as the circuit is not complete.
- When more batteries or cells are added or batteries are included with a higher voltage the brightness of bulbs and the volume of buzzers will increase.
- When more bulbs are added to a simple circuit, they will be dimmer than if there were one bulb. This is because the electricity is shared between the bulbs.
- More voltage would be needed to make them brighter. Using more than one motor or buzzer will make them spin more slowly or they will be quieter for the same reason.

Sequence of learning

- 1) Recognise symbols when representing a simple circuit in a diagram.
- 2) Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit.
- 3) 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.



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Key vocabulary

Tier 2

Electricity—a form of energy from the existence of charged particles

Bulb—the glass part of a lamp that emits light when electricity passes through it

Wire—metal drawn out into the form of a thin flexible thread or rod

Battery—a container consisting of one or more cells, in which chemical energy is converted into electricity and used as a source of power.

Switch—a device for making and breaking the connection in an electric circuit

Tier 3

Volt—a unit of electrical force

Series circuit—a circuit where all elements are on a single path

Conductor—a material that transmits electricity easily

Insulator—a substance the doesn't conduct electricity easily

Resistance—how much a device stops electricity from moving through a circuit