



Key Ideas & Vocabulary

Many household devices and appliances run on electricity. Some plug in to the mains and others run on batteries. An electrical circuit consists of a cell or battery connected to a component using wires. If there is a break in the circuit, a loose connection or a short circuit, the component will not work. A switch can be added to the circuit to turn the component on and off. Metals are good conductors so they can be used as wires in a circuit. Non-metallic solids are insulators except for graphite (pencil lead). Water, if not completely pure, also conducts electricity.

battery		A source of energy.
component		A basic electronic element that can be fitted together to make a circuit.
conductor		A material which electricity can flow through.
electricity		Electricity is an energy which can be used to power electrical items such as computers.
electrical circuit		A path around which electricity can flow.
insulator		Materials that do not allow electricity to pass through.
mains		Electricity which can be used by plugging items into wall sockets.

Knowledge I already have

In Nursery and Reception, I learnt:

- About similarities and differences in relation to places, objects, materials and living things. I spoke about the features of my own immediate environment and how environments might vary from one another. I made observations of animals and plants and have explained why some things occur and talk about changes.

New Knowledge

By the end of this unit, I will:

- 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.
- Identify whether or not a lamp will light in a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery.
- Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit.
- Recognise some common conductors and insulators, and associate metals with being good conductors.

Future Knowledge

In Year 6, I will:

- 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.

Scientific Enquiry

In this topic I will:

- Carry out tests to classify materials that are suitable/not suitable for wires (electrical inductors/electrical conductors).

