

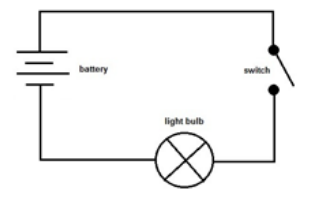
Science: Electricity

Year 4 Autumn 1

Key Vocabulary

Electricity	A form of energy, made by tiny charged particles (electrons and protons) that flow from place to place. We use it in our homes and it can occur in nature as lightning.
Electrical circuit	A pathway made up of different components that an electrical current can flow through.
Cell	A single unit where chemical energy is converted into electricity.
Bulb	A device for producing light from electricity.
Switch	A device for making and breaking the connection in an electric circuit.
Crocodile clip	A sprung metal clip with long, serrated jaws, used attached to wires for making a temporary connection in a circuit.
Conductor	A material or device that allows heat, electricity, or sound to pass through easily.
Insulator	A substance which does not allow the passage of electricity, heat or sound.
Symbol	A mark or character used to represent an object, function, or process.

Why don't you...



Make a poster to explain all the different component symbols?
Design a quiz to test your friends' knowledge on electricity?
Carry out a survey in your house, listing all the things that are powered by electricity or batteries?

Website Links

<https://www.bbc.com/bitesize/topics/zj44jxs>

<http://www.sciencekids.co.nz/electricity.html>

<https://www.theschoolrun.com/what-is-electricity>

Enquiry Questions

- What would the world be like without electricity?
- How many things in your home need electricity?
- What does an electrical circuit need to work effectively?
- What happens if there are two switches in a circuit?
- What makes a bulb brighter in a circuit?
- Bob builds a complete circuit but the bulb doesn't work! What is the problem?
- How do you know what materials are conductors?
- Which material is the best conductor?

Scientific Concepts

Structure and function - Anything composed of parts arranged together in some way has a structure. A function is a specific job or procedure.

Energy - Strength and power. There are many forms such as thermal (heat), radiant (light) or kinetic (movement).

Scientific Knowledge

- 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 a good conductor.

Scientific Skills

Use different ideas and suggest how to find something out. Make and record a prediction before testing. Plan a fair test and explain why it was fair. Explain why they need to collect information to answer a question. Obtaining and presenting evidence. Measure using different equipment and units of measure. Record their observations in different ways (labelled diagrams, charts etc). Describe what they have found using scientific words. Make accurate measurements using standard units.