



Subject	Science	Theme	Electricity	Term	Autumn 2
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What should I already know?

Electricity is not included in the KS1 national Curriculum for Science. However, it is likely that children will already have the following knowledge through their day to day experience:

- Electricity powers lights and other equipment within the school and home environments.
- Switches turn this equipment on and off.
- Some appliances use batteries of different types
- Some appliances are plugged into the wall

Working Scientifically

Design a practical enquiry (to investigate the conductivity of different materials)

Record findings using labelled diagrams, then standard scientific symbols (e.g. circuit diagrams)

Make predictions using results of investigations (about whether bulbs will light in a circuit)

Use results of investigations (to design and make a purposeful object)

Identify differences and changes (by adding bulbs and batteries to a circuit – impact of more **energy** or more output)

Enquiries & Investigations

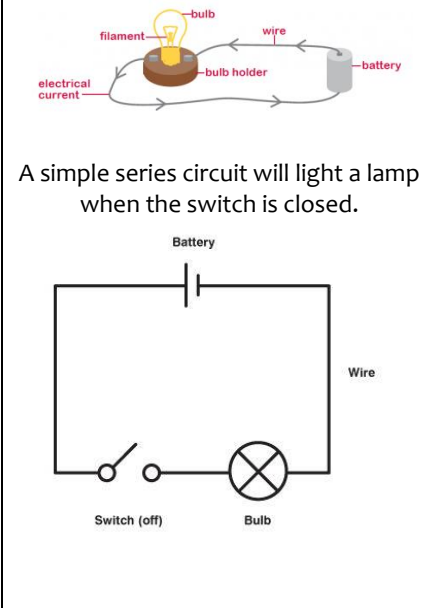
- How can I make this work? Construct simple series circuits with a range of components.
- Will this bulb light up, and how bright will it be? Identify whether a lamp will light in a simple electrical circuit, and investigate the effect of adding more lamps or batteries of different types to this circuit in series.
- How can I turn it off? Investigate the role of a pre-made switch in a circuit, and design and make a switch out of simple materials.
- Will electricity pass through? Design a test for a range of everyday materials to find out whether they are electrical conductors or electrical insulators.
- What can I use electricity for? Make a purposeful object including light and sound, based on an understanding of series circuits and switches.

What should I know by the end of the unit?

- A wide range of common appliances run on electricity. Some use mains electricity and some are powered by batteries, and there are reasons why this choice is made.
- Mains electricity in particular is dangerous.
- How to construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers.
- Based on whether or not the lamp is part of a complete loop with a battery, be able to identify whether or not a lamp will light in a simple series circuit.
- That a switch opens and closes a circuit to operate a light, and apply this principle to make a simple switch
- Recognise some common conductors and insulators, and associate metals with being good conductors.

Silver Threads:
Process – By what process can I check?
Changes – How can I change the output to this circuit?
Structure – What is the structure of a circuit?
Energy – Electricity is a form of energy

Diagram



Key Vocabulary

appliance	A device or piece of equipment designed to perform a specific task, often powered by electricity.
battery	A battery is a source of energy which provides a push of energy to get the current flowing in a circuit.
mains electricity	electricity that is produced in a power station and can be accessed through a plug socket.
current	The amount of electricity flowing through a circuit.
circuit	A closed loop through which electricity can flow.
switch	A component that opens and closes a circuit, to switch the flow of electricity on and off.
conductor	Material that allows electricity to flow through it easily.
insulator	Material that does not allow electricity to flow through it.