



Linked learning theme: Incredible Inventions

Spring term 1, Year 4

Science – Electricity

Prior Knowledge

This is a new science topic for the children.

Core knowledge

- An electrical appliance is a device that uses electricity to perform a function.
- Electrical appliances can be powered by batteries or mains electricity.
- An electrical circuit is a complete loop through which an electrical current flows.
- A circuit must be complete to make a bulb light or a buzzer sound.
- The battery or cell provides the power in the circuit.
- The wires carry electricity round the circuit.
- A switch makes a break in the circuit to turn a bulb off and completes the circuit to turn the bulb on again.
- An electrical conductor is a material that allows electricity to travel through it.
- Metals are good conductors of electricity.
- An electrical insulator is a materials that does not allow electricity to travel through it.
- Electricity can be dangerous and must be used safely.

Key skills

- Construct a simple series circuit to light a bulb.
- Ask relevant questions about the components in a circuit.
- Set up simple practical enquiries.
- Make predictions and observe systematically and carefully.
- Use straightforward scientific evidence to answer questions or support conclusions.
- Record findings using scientific language.

Vocabulary

electrical appliance	complete circuit	bulb	switch
mains electricity	battery	buzzer	conductor
circuit	cell	wires	insulator

Learning outcomes

- I can identify common appliances that run on electricity.
- I can construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers.
- I can 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.
- I can recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit.
- I can recognise some common conductors and insulators, and associate

metals with being good conductors.