

Year 6 – Term 1

Looking to the future, how important are legacies from the past?

SCIENCE



Recognise some common electrical conductors (those materials that let electricity pass through them easily) and insulators (those materials that don't let electricity pass through them easily, e.g. plastic), and associate metals with being good conductors.

Progression in Skill:

Plan different types of scientific enquiries (survey, fair test, research/secondary sources, classify, pattern seeking, modelling, investigation over time) to answer scientific questions, including recognising and controlling variables where necessary.

Collect, gather, record data and results of increasing complexity using scientific diagrams and labels, tables, scatter graphs, bar and line graphs. Report and present findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations, e.g. The ___-er the ___, the ___-er the _____.

Long-term Memory Knowledge:

Explain how the number of batteries in a circuit will affect the brightness of a bulb or volume of a buzzer. Explain why the function of components in a circuit may vary. Match recognisable electrical symbols to circuits and draw scientific representations of circuits created. Plan an appropriate enquiry to answer a scientific question. Know what sort of data is appropriate to collect and how best to record this. Use your data to draw conclusions.

Key Vocabulary

bright	giving out or reflecting light
voltage	a measure of how strong the current is in an electrical circuit
filament	a conducting wire or thread with a high melting point, forming part of an electric bulb
mains electricity	electricity supplied to a building through wires
parallel	a circuit where there is more than one branch for electricity to follow
symbol	diagrams used to represent the electrical components

Progression in Resources:

more complex circuit construction using: wires, bulbs, buzzers and motors

Relevance

Now	Children continue to develop a respect for electricity, understanding its uses and dangers; they can construct circuits that can perform the task they choose.
Future	Understand why common appliances in a household work in a certain way or may not be working; they can investigate, safely, how to fix such appliances, including rewiring a plug; they can use electricity safely in their home, work and leisure environments.
Aspiration	Become an electrician or work in electronics or robotics in a future tech world.

National Curriculum Links:

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.

Essential Prior Learning:

Identify common appliances that run on electricity, e.g. television, kettle, microwave.

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 – open switch means the lamp won't light and closed means it will.