

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 \_\_\_\_.

Read, spell and pronounce simple scientific vocabulary correctly.

**Long-term Memory Knowledge:**

The number of batteries and lamps in a circuit will affect the brightness of a lamp: the more batteries, the greater the brightness of the bulb; the more bulbs the dimmer each bulb.

There is an optimum number of batteries to use so that the bulb is at its brightest. After this, the bulb will burn out/fuse.

Match recognisable electrical symbols to circuits and draw scientific representations of circuits created.

**Key Vocabulary**

<b>bright</b>	giving out or reflecting light
<b>voltage</b>	a measure of how strong the current is in an electrical circuit
<b>filament</b>	a conducting wire or thread with a high melting point, forming part of an electric bulb

<b>mains electricity</b>	electricity supplied to a building through wires
<b>parallel</b>	a circuit where there is more than one branch for electricity to follow
<b>symbol</b>	diagrams used to represent the electrical components

**Progression in Resources:**

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

**Relevance**

<b>Now</b>	Create moving parts for their DT project. Children continue to develop a respect for electricity, understanding its uses and dangers.
<b>Future</b>	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.
<b>Aspiration</b>	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:**

Children should be able to:

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.