

Science
Year 3 and 4
Summer 2

Topic Electricity	
Rationale During this topic, children will learn to sort common electrical appliances into battery and mains powered. They will construct simple series circuits containing a variety of components and understand the difference between complete and incomplete circuits. They will be able to identify whether or not a bulb will light in a simple series circuit and put forward ideas to fix incomplete circuits. The children will plan and conduct an investigation to discover which materials make good insulators and design, construct and test their own switches.	
NC Objective <ul style="list-style-type: none"> • 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 good conductors 	
Links to other Subject/Topics. DT – Circuits	
Inspiration for Aspiration Electrician, Technician, Computer Programmer,	
Key Content <ul style="list-style-type: none"> • Which appliances use electricity? • How can I make a simple circuit? • Why don't some circuits work? • How can we test if a material is a conductor or an insulator? • How do switches affect a circuit? 	
Concepts	
Science	1
Plants	2
Animals, including Humans	3
Materials	4
Light	5
Sound	6
Electricity	
Forces	
Earth and Space	
Skills and Knowledge Year 2 <ul style="list-style-type: none"> • Asks simple questions and recognise that they can be answered in different ways. • Observe closely, using simple equipment • Gather and record data to help in answering questions • Identify and classify 	Skills and Knowledge <ul style="list-style-type: none"> • Ask relevant questions and use different types of scientific enquiries to answer them • Explore everyday phenomena and the relationships between living things and familiar environments. • Raise their own questions about the world around them • Make some decisions about which types of enquiry will be the best way of answering questions • Make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment

<ul style="list-style-type: none"> • Use their observations and ideas to suggest answers to questions • Use secondary sources of information such as the internet or books. • Use a growing scientific vocabulary. 	<ul style="list-style-type: none"> • Begin to look for naturally occurring patterns and relationships and decide what data to collect to identify them • Help to make decisions about what observations to make, how long to make them for and the type of simple equipment that might be used • Notice a pattern in results • Set up simple practical enquiries, comparative and fair tests • Recognise when a simple fair test is necessary and help to set it up • Think of more than one variable factor • Gather, record, classify and present data in a variety of ways to help in answering questions • Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables • Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions • Use notes, simple tables and standard units and help to decide how to record and analyse their data. • Record results in tables and bar charts • Identify differences, similarities or changes • Talk about criteria for grouping, sorting and classifying and use simple keys • Compare and group according to behaviour or properties • Begin to recognise when and how secondary sources might help to answer questions that cannot be answered through practical investigations • Use results to draw simple conclusions, make predictions, and suggest improvements • Use scientific evidence to answer questions or to support their findings • With help, look for changes, patterns, similarities and differences in their data in order to draw simple conclusions and answer questions • See a pattern in my results • Say what they found out, linking cause and effect • Say how they could make it better • Answer questions from what they have found out • 	
<p>Year 2 Vocabulary Investigate, test, observe, equipment, describe, check, key, sequence, label, diagram, discuss, propose, question, experiment</p>	<p>Year 3 and 4 Topic Vocabulary Appliance Battery Circuit Components Conductor Current Electrical Insulator mains power portable pylon Switch</p>	<p>Year 3 and 4 Scientific Vocabulary Grouping Characteristic Classification Classification key practical enquiries comparative fair tests observations standard units equipment record classify present data labelled diagrams results conclusions</p>
<p>By the end of the topic <u>Year 3</u> children will with support:-</p> <ul style="list-style-type: none"> • 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. • recognise that a switch opens and closes a circuit. 	<p>By the end of the topic <u>Year 4</u> children will: -</p> <ul style="list-style-type: none"> • 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. • recognise that a switch opens and closes a circuit. 	

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- Complete a simple circuit diagram.

Assessment

Grammarsaurus Cumulative Quiz and assessments. Teacher observations and questioning. Photographic evidence.