

Inspiring and enabling our school community to live life to the full



YEAR 4 SCIENCE

Electricity: Circuits

Our Science curriculum aims to enthuse children and help them to be curious and develop a sense of excitement about the world. Through a range of teaching, learning and extra-curricular opportunities, children will develop scientific knowledge and conceptual understanding to recognise the uses and implications of Science, today and for the future. We encourage children to ask their own questions; predict how things will behave and analyse causes, using Science to explain what is happening.

Characteristics of an Effective Learner

Courage
Commitment
Collaboration
Creativity
Curiosity

Prior Learning:

- Children describe the simple physical properties of a variety of everyday materials in year 1

Key Vocabulary taught in this unit:

Conductor, insulator, electricity, mains, motor, open circuit, switch, appliance, battery, complete, bulb, device, buzzer, flow, cell, function, circuit, manual, closed circuit, connection point, plug, socket, wire, electrical appliance.

Key Questions:

- Q: What makes an appliance work?
- Q: How can you light the bulb?
- Q: What does a switch do?
- Q: Why doesn't the circuit work?
- Q: Which materials conduct electricity?

Intent: What do we want the children to know, be able to do by the time they complete this unit?

- 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.

Working Scientifically:

- Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions.
- Recording findings using [simple scientific language,] drawings, [labelled diagrams, keys, bar charts, and tables].
- Using results to [draw simple conclusions,] make predictions for new values, suggest improvements [and raise further questions].
- Identifying differences, similarities or changes related to simple scientific ideas and processes.

Impact / Outcome:**What will the final product / result be?**

Children will learn about the methods scientists use to build scientific knowledge.

They will learn that scientists gather and present data in order to identify links, for example, metals are electrical conductors and most non-metals are insulators.

They will develop an understanding of the following type of enquiry: identifying and classifying.

P4C Inquiry (where appropriate)