

Progression: Electricity



Reception:

- Talks about why things happen and how things work.
- **What things need electricity?**
- **Practical exploration of electrical connections using basic equipment e.g. bulb, battery, wire including basic vocabulary e.g. bulb, battery, plug, electricity, power, wire**

Year 4:

- 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

- asking relevant questions and using different types of scientific enquiries to answer them
- setting up simple practical enquiries and fair tests
- recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables
- reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions
- using results to draw simple conclusions
- using straightforward scientific evidence to answer questions or to support their findings.

Links to Teacher Assessment Framework:

- The pupil can use simple apparatus to construct and control a series circuit, and describe how the circuit may be affected when changes are made to it; and use recognised symbols to represent simple series circuit diagrams.

Recap

What things need electricity?

Vocabulary – wire, bulb, battery, energy

Vocabulary: Cells, Wires, Bulbs, Switches, Buzzers, Battery, Circuit, Series, Conductors, Insulators

Working scientifically vocabulary: scientific enquiry, comparative and fair tests, equipment, data (gather, record, classify, present), record (drawings, labelled diagrams, keys, bar charts, tables), oral and written explanations, conclusion, prediction, evidence, further comparative and fair test

Year 6:

- 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

Working scientifically:

- Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary
- taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate
- recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs
- using test results to make predictions to set up further comparative and fair tests
- reporting and presenting 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

Links to Teacher Assessment Framework:

- The pupil can use simple apparatus to construct and control a series circuit, and describe how the circuit may be affected when changes are made to it; and use recognised symbols to represent simple series circuit diagrams.

Recap –

- Construct a simple circuit and recognise components
- Identify if components will work based on the circuit set up
- Recognise common conductors and insulators

Vocabulary: Cells, Wires, Bulbs, Switches, Buzzers, Battery, Circuit, Series, Conductors, Insulators, Amps, Volts, Cell
Working scientifically vocabulary: plan, variables, measurements, repeat readings, record data (scientific diagrams, labels, classification keys, tables, scatter graphs, bar graph and line graph), predictions, report and present (conclusions, casual relationships, explanations, degree of trust, oral and written display and presentation), systematic, quantitative measurements, further comparative and fair test