

## Year 6 – Electricity – Danger! Low Voltage

### What it looked like last year (Yr4)

- 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 simple series circuit.
- Recognise some common conductors and insulators, and associate metals with being good conductors.

### What it looks like next year

- Electric current measured in amperes, in circuits, series and parallel circuits, currents and where branches meet and current as flow of charge.
- Potential difference, measured in volts, battery and bulb ratings; resistance, measured in ohms, as the ratio of potential difference to current.
- Differences in resistance between conducting and insulating components.
- Static electricity.

### Vocabulary (definitions)

**electrical circuit** - when components form a complete path through which electricity can flow

**complete circuit** - circuit that has all the correct parts so that electricity can flow around it

circuit diagram

circuit symbol

cell

battery

buzzer

motor

switch

voltage

bulb

### Sequence of Learning

1. Revision of constructing a simple circuit.
2. Make and control simple circuits using a variety of switches.
3. Demonstrate the effects of changing the current flowing through components in a circuit.
4. Demonstrate how circuits can be represented in, and constructed from, diagrams.
5. Research how electricity is generated and transmitted to the classroom, and discuss electricity generation in the future.
6. Present findings of research to the class.

### Cultural Capital

- To be able to associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit.
- To be able to 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.

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- To use recognised symbols when representing a simple circuit in a diagram.
- The real life knowledge that links is: carrying out simple comparative and fair tests, use secondary sources for research.
- The jobs it can be used in are: Electrician, Engineer, Appliance Designer, Physicist.

### Principles of Teaching Science.

**E**xploring – when we look at how things work in the world

**Q**uestioning – when we question what will happen

**U**nderstanding – when we use scientific language to explain

**I**nvestigating – when we can explore and are hands on

**P**redicting – when we use our previous knowledge to say what we think will happen.

### DANGER! HIGH VOLTAGE!

Electricity is everywhere so always be safe. Be careful of mains switches, open sockets and any signs to do with electricity. The human body is 80% water so it conducts electricity. If someone has had a shock always turn the electricity off first, then call for help!

