

- **PRIOR KNOWLEDGE:** In Year 4 children studied Electricity and learned that common appliances run on electricity. How to construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers. To 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

## SCIENCE: Electricity (Y6) Autumn 1

**NATIONAL CURRICULUM:** Pupils should be taught to: 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.

### KEY VOCABULARY:

Electricity, Volts  
Series circuit  
**Components:** battery, bulb (lamp), bulb (lamp) holder, buzzer, crocodile clip, leads, wires, switch  
**Describing words:** brighter, duller, slow, fast, quiet, loud  
Conductor, insulator  
Resistance  
**Effects of electricity:** Light, sound, movement, heat

### Enquiry Questions:

1. How do I draw circuit diagrams and use the correct symbols
2. How will the number of batteries (amounts of Volts) affect the brightness of the bulb?
3. What affects the brightness of a bulb in a circuit?
4. How could I model 'being' electricity?
5. and 6. Build a torch or WW2 air raid siren using a A buzzer

### CONTEXT:

Children should have a basic knowledge of Electricity, simple series circuits and some common conductors and insulators as this unit was taught in Year 4. In Year 6 children will build upon this knowledge and learn the scientific symbols for electrical units. They will learn how to increase the volume of buzzers and the brightness of bulbs linked to the strength and number of cells.

### STICKY KNOWLEDGE:

To be able to use recognised symbols when representing a simple circuit in a diagram.

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.

### SKILLS:

To be able to explain the degree of trust can be had in results.

To be able to plan a fair-test by recognising the control variables.

To be able to use predictions to set up fair tests.