HAWTHORN PARK COMMUNITY PRIMARY SCHOOL

Where Care and Learning Count

Headteacher: Mrs Jeni Houghton

Science Knowledge Organiser	Area: Electricity	Year Group: 6

Statutory guidance:
By the end of this unit pupils will 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
- 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

Notes and guidance (non-statutory)

Building on their work in year 4, pupils should construct simple series circuits, to help them to answer questions about what happens when they try different components, for example, switches, bulbs, buzzers and motors.

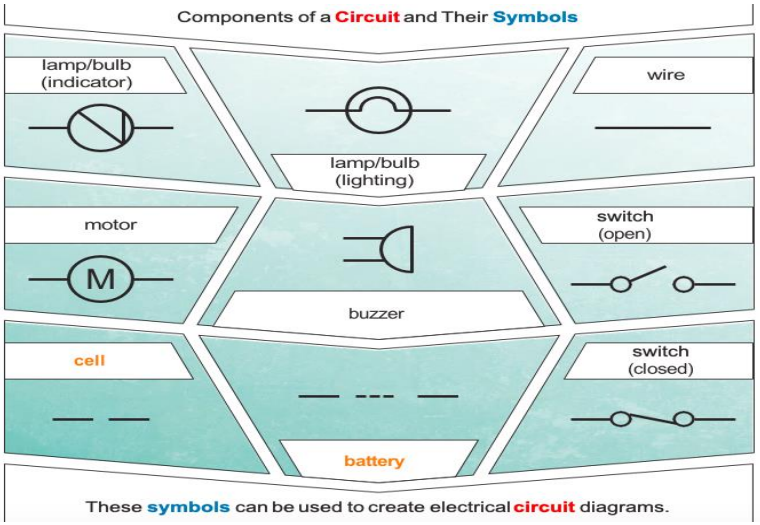
They should learn how to represent a simple circuit in a diagram using recognised symbols.

Note: Pupils are expected to learn only about series circuits, not parallel circuits. Pupils should be taught to take the necessary precautions for working safely with electricity.

Pupils might work scientifically by: systematically identifying the effect of changing one component at a time in a circuit; designing and making a set of traffic lights, a burglar alarm or some other useful circuit.

Key Vocabulary

1. circuit	A path that an electrical current can flow around.
2. symbol	A visual picture that stands for something else.
3. cell/battery	A device that stores energy as a chemical until it is needed. A cell is a single unit. A battery is a collection of cells.
4. current	The flow of electrons, measured in amps.
5. amps	How electric current is measured.
6. voltage	The force that makes the electric current move through the wires. The greater the voltage, the more current will flow.
7. resistance	The difficulty that the electric current has when flowing around a circuit.
8. electrons	Very small particles that travel around an electrical circuit.



Key Assessment Questions

Can they identify and name the basic parts of a simple electric series circuit? (cells, wires, bulbs, switches, buzzers)
Can they compare and give reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers, the on/off position of switches?
Can they use recognised symbols when representing a simple circuit in a diagram?
Can they explore different ways to test an idea, choose the best way, and give reasons?
Can they identify the key factors when planning a fair test?
Can they vary one factor whilst keeping the others the same in an experiment? Can they explain why they do this?
Can they use information to make a prediction and give reasons for it?
Can they use test results to make further predictions and set up further comparative tests?
Can they suggest how to improve their work and say why they think this?
Can they make a parallel circuit?

Greater Depth:
Can they explain the advantages of a parallel circuit?
Can t hey explain how to make changes in a circuit?
Can they explain the impact of changes in a circuit?