

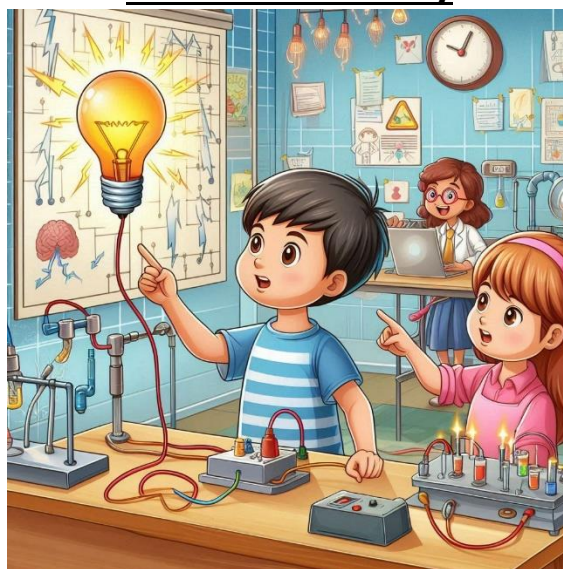


# Lowerhouse Junior School

## Science Overview Sheet



### Year 6 – Electricity



**Rationale:** Teaching electricity in Year 6 science helps students understand the basics of electrical circuits, conductors, and insulators. It fosters problem-solving skills, encourages hands-on learning, and lays the foundation for future studies in physics and engineering. This knowledge is essential for understanding how electrical devices work in everyday life.

#### Substantive Knowledge:

- 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.

#### Disciplinary Knowledge:

- Comparative/Fair testing

#### Overview:

**Lesson 1** - To complete a simple circuit

**Lesson 2** - To use symbols when drawing a simple circuit diagram.

**Lesson 3** - To observe and explain the effects of changes in voltage in a circuit.

**Lesson 4** - To investigate variations in how components function.

**Lesson 5** - To compare how components function within a circuit by making systematic observations.

**Lesson 6** - Conductive dough – TAPs lesson

#### Key Vocabulary:

**Circuit diagram:** A visual representation of an electrical circuit, using symbols to show the components and connections.

**Circuit symbol:** A standardized graphical representation of an electrical component used in circuit diagrams, such as a resistor or battery.

**Voltage:** The measure of electrical potential difference between two points in a circuit, often referred to as electric pressure or tension.

#### Impact/Assessment

**Most Children will be able to:**

- make electric circuits and demonstrate how variation in the working of particular components, such as the brightness of bulbs, can be changed by increasing or decreasing the number of cells or using cells of different voltages
- draw circuit diagrams of a range of simple series circuits using recognised symbols
- incorporate a switch into a circuit to turn it on and off
- change cells and components in a circuit to achieve a specific effect
- communicate structures of circuits using circuit diagrams with recognised symbols
- devise ways to measure brightness of bulbs, speed of motors, volume of a buzzer during a fair test
- predict results and answer questions by drawing on evidence gathered