

# Science

All children – regardless of gender, starting point or background – will have the opportunity to engage with a high-quality science education. They will be equipped with the knowledge, skills and vocabulary to understand how science can be used to explain what is occurring, predict how things will behave and analyse caused. We intend to inspire a sense of enjoyment and curiosity about science.

## Electricity

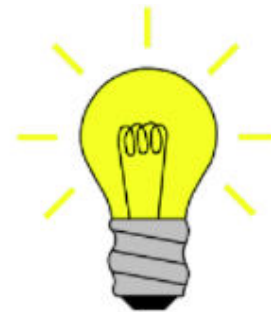

**Autumn 2**

### New Knowledge:

- Electricity is useful because it provides power for many devices and appliances e.g. lights, televisions, ovens, computers. Some plug in to the mains and others run on batteries.
- Electricity can be stored in a cell. Two cells together are called a battery.
- An electrical circuit consists of a cell or battery connected to a component using wires.
- A complete circuit is a circuit with all the components, wires and batteries/mains electricity connected correctly
- A complete circuit is needed for electricity to flow and devices to work. If there is a break in the circuit, a loose connection or a short circuit, the component will not work.
- A switch can be added to the circuit to turn the component on and off by creating a break in the circuit to stop the electricity from flowing.
- Electrical conductors are materials that allow electricity to flow easily.
- Metals are good conductors so they can be used as wires in a circuit.
- An electrical insulator is a material that doesn't allow electricity to flow through it.
- Most non-metallic solids are insulators except for graphite (pencil lead).
- Water, if not completely pure, also conducts electricity.

### Key Vocabulary:

- |                               |                     |
|-------------------------------|---------------------|
| • Electricity                 | • connection,       |
| • Electrical appliance/device | • Short circuit     |
| • Mains,                      | • Crocodile clip    |
| • Plug                        | • Bulb,             |
| • Electrical circuit          | • Switch            |
| • complete circuit            | • Buzzer            |
| • Component                   | • Motor             |
| • Cell                        | • Conductor         |
| • Battery                     | • Insulator         |
| • Positive, Negative          | • Metal, non-metal, |
| • Connect/connections         | • Symbol            |
| • Loose                       |                     |



Technological Innovation