Corpus Christi Catholic Primary School
Year 6 – Electricity - MTP Unit Overview

Outcomes:

By the end of this unit <u>all</u> pupils should know:

- 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

By the end of this unit pupils should have developed the following working scientifically skills:

- planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary
- taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate
- recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs
- using test results to make predictions to set up further comparative and fair tests
- reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations
- identifying scientific evidence that has been used to support or refute ideas or arguments.

Progression:

Prior learning:

- **Year 4 -** identify common appliances that run on electricity
- **Year 4 -** construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers
- **Year 4 -** 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
- **Year 4 -** recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit
- **Year 4 -** recognise some common conductors and insulators, and associate metals with being good conductors

Building towards: KS3 – Physics Electricity and electromagnetism

Current electricity

- electric current, measured in amperes, in circuits, series and parallel circuits, currents add 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 (p.d.) to current
- differences in resistance between conducting and insulating components (quantitative)

Static electricity

- separation of positive or negative charges when objects are rubbed together: transfer of electrons, forces between charged objects
- the idea of electric field, forces acting across the space between objects not in contact