

# St. Mary's Catholic Primary School



**Subject:** Science

**Topic:** Electricity

**Year:** 4

**Strand:** Physics

## What should I already know?

- We use electricity for our lights and some appliances.
- The job of some electrical appliances.
- You can switch something on or off using a switch.
- A power cut or black out is when there is no electricity.
- How to keep safe when using electrical appliances.

## What am I going to learn?

- Electricity occurs naturally through lightning, static electricity and bioelectricity.
- There are two types of electrical current that we use to power appliances: Mains electricity which is an alternating current (AC) and Batteries which generate a direct current (DC).
- Batteries store chemicals which produce an electric current. They eventually stop working as the chemicals stop being able to produce an electric current.
- Electricity is a secondary energy source. This means it is made from primary sources of energy. Some primary sources of energy include: coal, oil, natural gas, wind power and solar power.
- For an electrical circuit to be complete, there must be wires connected to both the positive and negative ends of the power supply.
- Materials that do allow electrical charge to flow freely through them are called electrical conductors. They conduct electricity.
- Materials that do not allow electrical charge to flow freely through them are called electrical insulators.
- A circuit with a switch is not the same as an incomplete circuit. In an incomplete circuit, the electrical charge is unable to flow at all whether the switch is on or off.

## Vocabulary

**Appliance:** A device or gadget.

**Battery:** A portable device for storing and supplying electricity.

**Buzzer:** An electrical device that makes a buzzing sound.

**Cell:** A device used to generate electricity. A battery is an example of a cell.

**Circuit:** The path of an electric current.

**Conductor:** To conduct electricity or heat is to allow it to pass along.

**Current:** A flow of water, air or electricity.

**Electricity:** A kind of energy used to produce light and heat and to make machines work.

**Generate:** To generate something is to produce or create it.

**Insulator:** To insulate something is to cover it to stop heat, cold or electricity from passing in or out.

**Motor:** A machine that provides power to drive machinery.

**Socket:** A device on a wall that you can plug electrical equipment into.

**Voltage:** An electrical force that makes electricity move through a wire, measured in volts (V).

**Wire:** A long thin piece of metal that carries an electrical current often covered in plastic for safety.

## Investigations

- To investigate how to light a bulb in a circuit.

## Useful Websites

What is electricity?

<https://www.bbc.com/bitesize/articles/zcwnv9q>

Circuits, batteries and power sources:

<https://www.bbc.com/bitesize/clips/zqx76sg>

