

## Dog Kennel Hill Primary School - Science

**Topic: Electricity**

**Year: 6**

**Strand: Physics**

### What should I already know?

- **Electricity** is a form of **energy** that can be carried by wires and is used for heating and lighting, and to provide **power** for **devices**.
- **Sources** of light and sound may need **electricity** to work.
- **Identify** common application that run on electricity.
- Identify common appliances that Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers.
- 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.
- Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit.
- Recognise some common conductors and insulators,

### Vocabulary

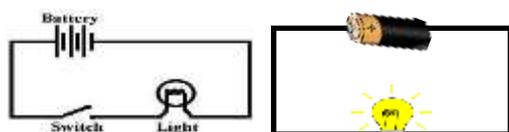
Appliances	A <b>device</b> or machine in your home that you use to do a job such as cleaning or cooking. <b>Appliances</b> are often <b>electrical</b> .
Battery	small <b>devices</b> that provide the <b>power</b> for <b>electrical</b> items such as torches
Bulb	the glass part of an <b>electric</b> lamp, which gives out light when <b>electricity</b> passes through it.
Buzzer	an <b>electrical device</b> that is used to make a buzzing sound
Cell	a synonym for <b>battery</b>
Circuit	a complete route which an <b>electric current</b> can flow around
Component	the parts that something is made of
Conductor	a substance that heat or <b>electricity</b> can pass through or along
Current	a flow of <b>electricity</b> through a <b>wire</b> or <b>circuit</b>
Device	an object that has been invented for a particular purpose
Electricity	a form of <b>energy</b> that can be carried by <b>wires</b> and in used for heating and lighting, and to provide <b>power</b> for <b>devices</b>
Energy	the <b>power</b> from <b>sources</b> such as <b>electricity</b> that makes machines work or provides heat
Filament	A conducting wire or thread with a high melting point that forms part of an electric bulb
Fuel	a substance such as coal, oil, or petrol that is burned to provide heat or <b>power</b>
Generate	cause it to begin and develop
Insulator	a non- <b>conductor</b> of <b>electricity</b> or heat
Mains	where the supply of water, <b>electricity</b> , or gas enters a building
Motor	a <b>device</b> that uses <b>electricity</b> or fuel to produce movement
Power	<b>Power</b> is <b>energy</b> , especially <b>electricity</b> , that is obtained in large quantities from a fuel <b>source</b> and used to operate lights, heating, and machinery
Source	where something comes from
Switch	a small control for an <b>electrical device</b> which you use to turn the <b>device</b> on or off
Wires	a long thin piece of metal that is used to fasten things or to carry <b>electric current</b>
Voltage	An electrical force that makes electricity move through a wire, measured in volts.

### What will I know by the end of the unit?

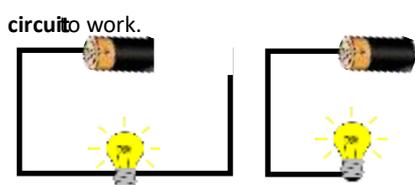
Does the brightness of a lamp link to the voltage?

If light bulbs are connected in parallel to a voltage source, the brightness of the individual bulbs remains more-or-less constant as more and more bulbs are added to the "ladder". The current increases as more bulbs are added to the circuit and

Use recognised symbols when representing a simple circuit in a diagram.



These are complete **circuits** - they have a **battery (cell)** and a **component (bulb)**. The **wires** are placed in the right places of the **battery** for the



These **circuits** will not work as they are incomplete.

### Significant People

**Thomas Edison (1847-1931)**. Inventor of the fuse.

**Benjamin Franklin (1706-90)**. Showed that lightning is caused by electricity.

**Charles Augustine Coulomb (1736-1806)**. He invented instruments for measuring the forces between magnets and between charges. The unit for measuring an amount, or charge, of electricity is named after him. One coulomb (symbol C) is the amount of electricity that flows past any point when a current of one amp flows for one second.

**Alessandro Volta (1745-1827)**. Invented the first battery. The volt, the unit of electromotive force, is named after him.

**Andre-Marie Ampere (1775-1836)**. His studies allowed people to measure the amount of electric current flowing through a circuit. Thus, the current is measured in units called amperes, or amps for short. One amp is a flow of about 6 million million million electrons per second.

**Dog Kennel Hill Primary School - Science**

**Topic: Electricity**

**Year: 3**

**Strand: Physics**

Question 1

Question 2

Question 3

Question 4

Question 5