

# Year 3 Summer 1 – Electricity Knowledge Organiser

## KEY VOCABULARY AND SPELLINGS

**Circuit** – a complete route which an electrical current can flow around

**Wire** – a long, thin piece of metal that carries electrical current

**Buzzer** – an electrical device that makes a buzzing sound

**Bulb** – an electrical device that lights up

**Motor** – a device that makes movement

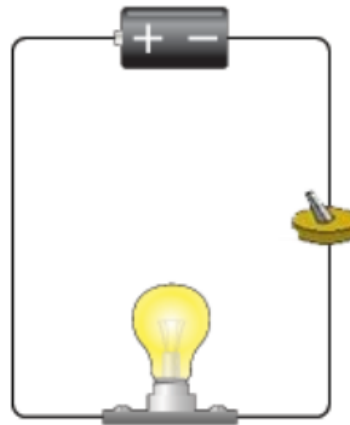
**Switch** – a component that can turn the electrical device on or off.

**Cell** – a device used to generate electricity, a battery is an example of this.

**Electrons** – carry energy around the circuit

**Electrical Conductor** – a material/device which allows electricity to pass through

**Electrical Insulator** – a material/device which does not allow electricity to pass through



Which appliances run on electricity?

- Some **appliances** use **batteries** and some use **mains electricity**.
- **Batteries** come in different sizes depending on how much and for how long the **appliance** is used.
- Common **appliances** that use **electricity**.



How does a circuit work?

- A complete **circuit** is a loop that allows **electrical current** to flow through **wires**.
- A **circuit** contains a **battery (cell)**, **wires** and an **appliance** that requires **electricity** to work (such as a **bulb**, **motor** or **buzzer**).
- The **electrical current** flows through the wires from the **battery (cell)** to the **bulb**, **motor** or **buzzer**.
- A **switch** can break or reconnect a **circuit**.
- A **switch** controls the flow of the **electrical current** around the **circuit**. When the **switch** is off, the **current** cannot flow. This is not the same as an incomplete **circuit**.

## Where does electricity come from?

Lightning and static **electricity** are examples of **electricity** occurring naturally but for us to use **electricity** to power **appliances**, we need to make it.

<p>Coal, oil and natural gases are fossil fuels which, when burnt, produce heat which can be used to <b>generate electricity</b>.</p>	<p><b>Electricity</b> can be <b>generated</b> from wind power used to turn windmills and hydroelectric power from water used in dams. The Sun's rays can be converted into <b>electricity</b> by solar panels.</p>	<p>Nuclear energy is created when atoms are split. This creates heat which can be used to <b>generate electricity</b>. Geothermal energy is heat from the Earth that is converted into <b>electricity</b>.</p>
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## Thomas Edison (1847 – 1931)

Thomas Edison was born in 1847 and died in 1931. He lived in the state of New Jersey in the United States of America (USA)

He is known as one of the greatest inventors in history.



He invented the **light bulb**, the **phonograph** (which could record and play sound) and an early video camera called the **Kinetograph**. The films were then watched on a **Kinetoscope** which he also invented.