

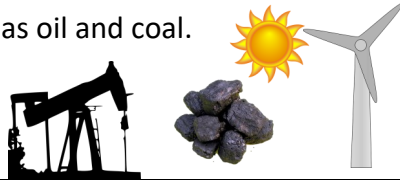


Electricity is a form of **energy** which can be carried by wires to provide **power** for **devices**.

Key Learning

Where does **electricity** come from?

Electricity is **generated** using natural **sources** such as the sun, wind, water or fuels such as oil and coal.



Which appliances run on electricity?

Some **appliances** plug into a socket and rely on **mains** electricity, others run on **battery**. **Batteries** come in different sizes depending on the **device** and how long it runs for.

• 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**).

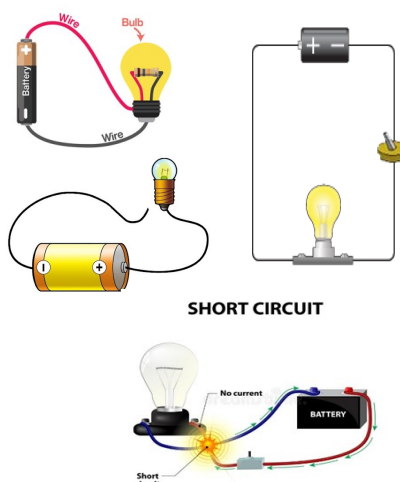
The **electrical current** flows through the wires from the **battery (cell)** to the **bulb, motor** or **buzzer**.

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**.

Key Vocabulary

| | |
|---------------|--|
| appliance | A device which you use to do a job. |
| battery | Small devices which provide the power for electrical items such as torches. |
| bulb | Glass part of lamp which glows when electricity flows through it. |
| cell | Synonym for battery . |
| circuit | Complete loop for electrical current to flow |
| conductor | Material that allows flow of electricity |
| component | Part something is made of |
| connection | Direct wire path for current to flow between 2 points in a circuit, often using crocodile clips. |
| current | Flow of electricity |
| device | Object invented for particular purpose |
| energy | Power from a source |
| generate | Make or develop something |
| insulator | A non-conductor of electricity or heat |
| mains | Where a supply enters a building |
| power | Energy from electricity made by fuel |
| short circuit | Short cut of current around circuit bypassing device |
| source | Where something starts or comes from |
| switch | Small control to turn device on and off |
| wire | Thin metal which carries electrical current |



A **circuit** has to be complete for a **device** to work. The **power** is provided by a **battery (cell)**. Wires are attached to the **positive & negative** ends of a battery and electricity is **conducted** around the circuit. If the circuit is incomplete, the device won't work. A **short-circuit** is where the current flows back through wires without reaching the device .

Objects made from materials which allow the electricity to pass through and make a complete circuit are called **electrical conductors**. All metals conduct electricity, but some are better than others. Copper is a very good conductor. Non-metal materials which don't allow the electricity to flow are **electrical insulators**.