# Year 4 – Electricity

**Sentence stems**

- The difference between conductors and insulators is…
- We made an electrical circuit today by…
- The benefits of electricity in our homes include…

## Key Vocabulary

| Key Word | Definition |
|---|---|
| appliance | a device or piece of equipment designed to perform a specific task |
| circuit | a complete path around which electricity can flow. It must include a source of electricity, such as a battery. |
| cell (battery = more than one cell) | a device that delivers an electric current as the result of a chemical reaction. |
| component | any basic device used in a circuit e.g. a cell or motor |
| electrical conductor | materials that electricity can pass through easily |
| electrical insulator | materials that do not allow electricity to pass through them |

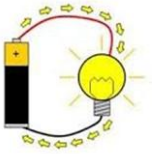
## Electric circuits

Electricity can only flow around a complete circuit that has no gaps.

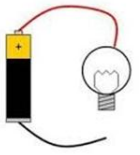
When you turn a switch off, the flow of electrons stops.

When you turn the switch on again, the electrons are able to flow around the circuit.

**Closed** circuit



**Open** circuit



## Electrical appliances

Batteries convert chemical energy into electrical energy.

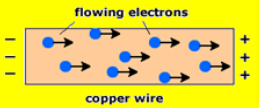
Mains electricity comes from power stations, which send an electric charge through wires to our homes.

## How is mains electricity generated?

Mains electricity can be generated by the burning of fossils fuels (coal, oil and gas), wind and solar (the sun).

## Electrical energy

Electricity is energy formed from the flow or presence of charged particles called electrons.




Electrical energy can be converted into other types of energy such as light, heat, sound or movement.

Electricity is dangerous so we need to be careful when using electrical **appliances**.


## Electrical Conductors

**Electrical conductors** have free electrons that can be made to move in one direction, creating an electrical current.


## Electrical Insulators

**Electrical insulators** do not have free electrons so an electrical current can't be made.