

Electricity

Many things that we use every day are powered by electricity.



and many other items rely on electricity to work properly.

When charged particles move through a wire or a conductor, we call this current 'electricity'. Silver, copper and gold are good electrical conductors - this means that electrical current flows more easily through them.

Did You Know...?

- The first electric motor was invented around 1821 by Michael Faraday
- Electricity can be very dangerous as you can get an electric shock from it. You need to be sensible around electrical devices.
- Electrical current is measured in amps.



Energy Sources Used to Generate Electricity



Fossil fuels (natural gas, coal and oil)

- Most power stations burn the fossil fuel natural gas, but some also use coal. Burning these fuels releases pollution.
- Fossil fuels are a non-renewable source of energy. This means they will run out one day.



Nuclear

- Some electricity is generated from nuclear reactors in power stations. They use an element called uranium. In the UK, many old stations are being closed and new ones are being built.



Renewable energy

- Energy sources include wind, wave, hydro, biomass and solar. The energy from these sources is harvested through different technologies, for example, wind turbines.

Once these have been built, using them causes minimal further pollution. They are also renewable - wind and the sun will not run out.

Where is Electricity Generated?

Electricity can be generated in power stations, through wind turbines and solar panels. Electrical charge flows through a complicated grid of wires called the National Grid, to get to where it needs to be used, like in homes, hospitals and factories.



Questions

1. What is electricity? Tick one.

- ☐ the movement of charged particles
- ☐ when charged particles stop
- ☐ when particles vibrate
- ☐ when particles change state

2. Find and copy **three** materials that allow an electrical current to move more easily.

- _____
- _____
- _____

3. Draw **four** lines and to match each energy source to its type.

coal •

uranium •

wind •

biomass •

• renewable energy

• nuclear

• fossil fuels

4. Fill in the missing words.

Electrical charge flows through a complicated grid of wires called the _____
_____, to get to where it needs to be used, like in homes, hospitals and
factories.