

What is electricity?

MD 2007

An Introduction or Extension

Finding Out About Electricity



- Where does electricity come from?
- What is a power cut?
- Static electricity
- Links to Interactive websites and explanation for teachers

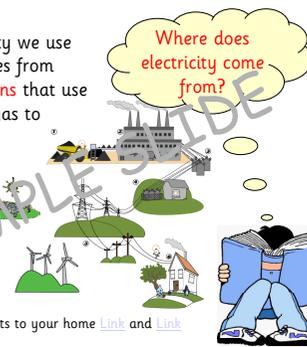


The electricity we use usually comes from **power stations** that use coal, oil or gas to make it.

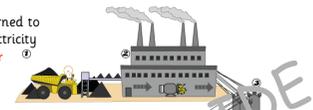
Where does electricity come from?

It can also be made using sun, wind, water and waves.

How electricity gets to your home [Link](#) and [Link](#)



Fuel is burned to make electricity in a **power station**.



Electricity pylons keep the **power lines** high above the ground but in towns and cities electricity is sent by **power cables** under the ground.



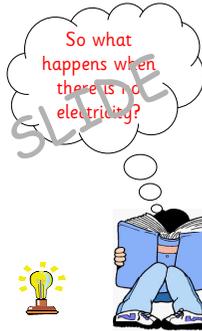
It goes through thick wires called **power lines** to an electricity **sub station** where it is made ready for us to use at home.

Electricity runs along the power cables until it gets to your home!



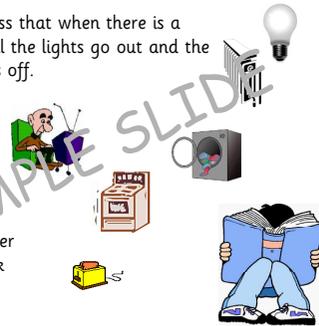
Sometimes we hear that there has been a **power cut**. Do you know what that means?

It's when the **supply of electricity** fails for a while and things that use electricity won't work until the **electricity supply** comes on again!

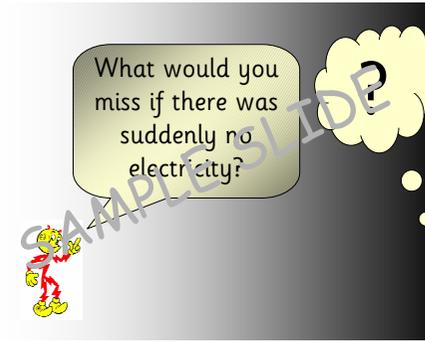


Did you guess that when there is a **power cut** all the lights go out and the heating goes off.

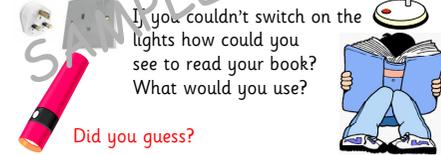
Your television won't work and if you have an electric cooker it won't cook your food!



What would you miss if there was suddenly no electricity?



When we can't switch on the light and we can't plug something in to make it work from the **mains electricity** we have to use another kind of electricity. Can you guess what that might be?



Did you guess?

When we can't plug something **electrical** into the **mains** we have to use a different kind of **electrical power**, something that makes this torch work so we can see to read.

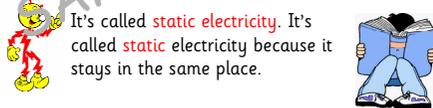
Can you guess what this torch needs that makes it light up?



Electricity is a kind of **energy** – it makes things happen. It can **heat** up a toaster or **light** up a bulb. It can make a toy **move** or make **sounds** for us to hear.

We usually think of electricity as something that **flows through wires** but there is another kind of electricity that doesn't flow at all. Can you guess what it's called?

It's called **static electricity**. It's called **static** electricity because it stays in the same place.



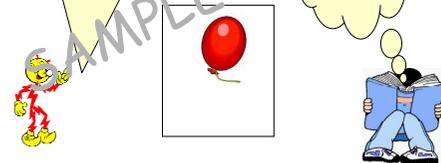
You can sometimes hear it crackle when you take off nylon clothes. Sometimes you touch something and you get a **shock**!

If you rub a balloon over your hair, **static electricity** will make your hair stand on end. Sometimes the same thing happens when you take off your woolly hat!



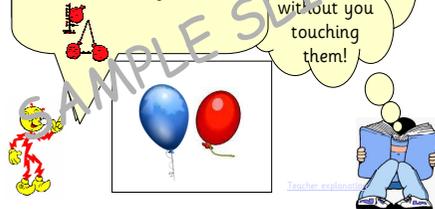
Try rubbing a balloon on something woolly and then hold it up against the wall. Do you know what will happen?

It will stick there by itself!



They do that because rubbing the balloons gives them static electricity and static electricity is clever!

They move away from each other without you touching them!

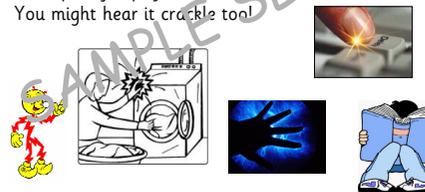


You can make some jumping people.

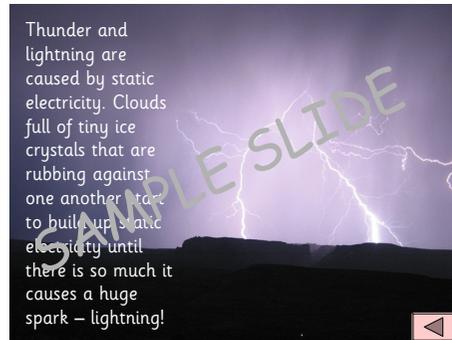
1. Draw some people on paper.
2. Cut them out.
3. Put them on the table top.
4. Rub a blown up balloon on something woolly.
5. Hold the balloon over the people.
6. Watch them jump!



There is static electricity all around you. Rubbing your shoes on a nylon carpet makes static electricity build up on you. If you touch something metal, you might feel a tiny shock as a spark jumps from you to the metal. You might hear it crackle too!

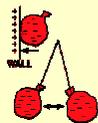


Thunder and lightning are caused by static electricity. Clouds full of tiny ice crystals that are rubbing against one another start to build up static electricity until there is so much it causes a huge spark – lightning!



Interactive links

Using Electricity (ngft-cymru) [Click Here](#)
Electric Circuits (ngft-cymru) [Click Here](#)
Using Electricity – Circuits (BBC) [Click Here](#) and [Here](#)



Teacher explanation for balloons

Atoms contain electrons that carry negative charge & protons that carry positive charge. Normally there the same number of protons and electrons in an atom so the positive & negative charges cancel each other out.

But when you rub a balloon, it picks up some extra electrons from the wool and becomes electrically charged. The extra negative charges in the balloon are attracted to the positive charges in the wall, so it sticks there. Negative charges are always attracted to positive charges.

The two balloons push away from each other because both have extra negative charges. Negative charges always repel negative charges and positive charges repel positive charges.

Bit like magnets!

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