



## What is energy?



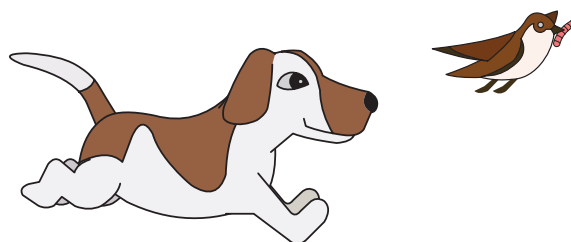
People need energy to move and play.  
They get their energy from food.



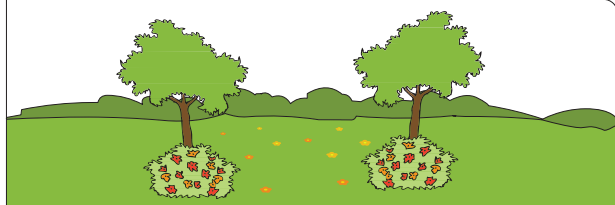
You need energy to grow.



You even use energy when you're asleep.



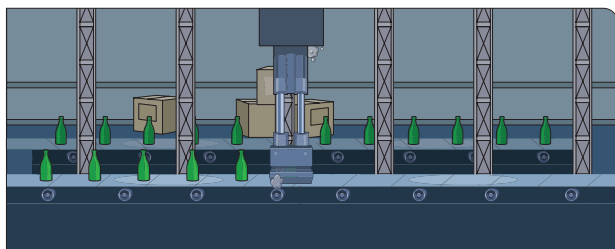
Animals and birds need energy to grow too.  
They get their energy from food.



Trees, flowers, grass and all plants need energy to grow. They get their energy from sunshine that shines on their leaves.



Cars, lorries, vans and planes use energy.  
They get their energy from fuels.  
Petrol and diesel are fuels.



Machines need energy to make things.  
They get their energy from electricity.



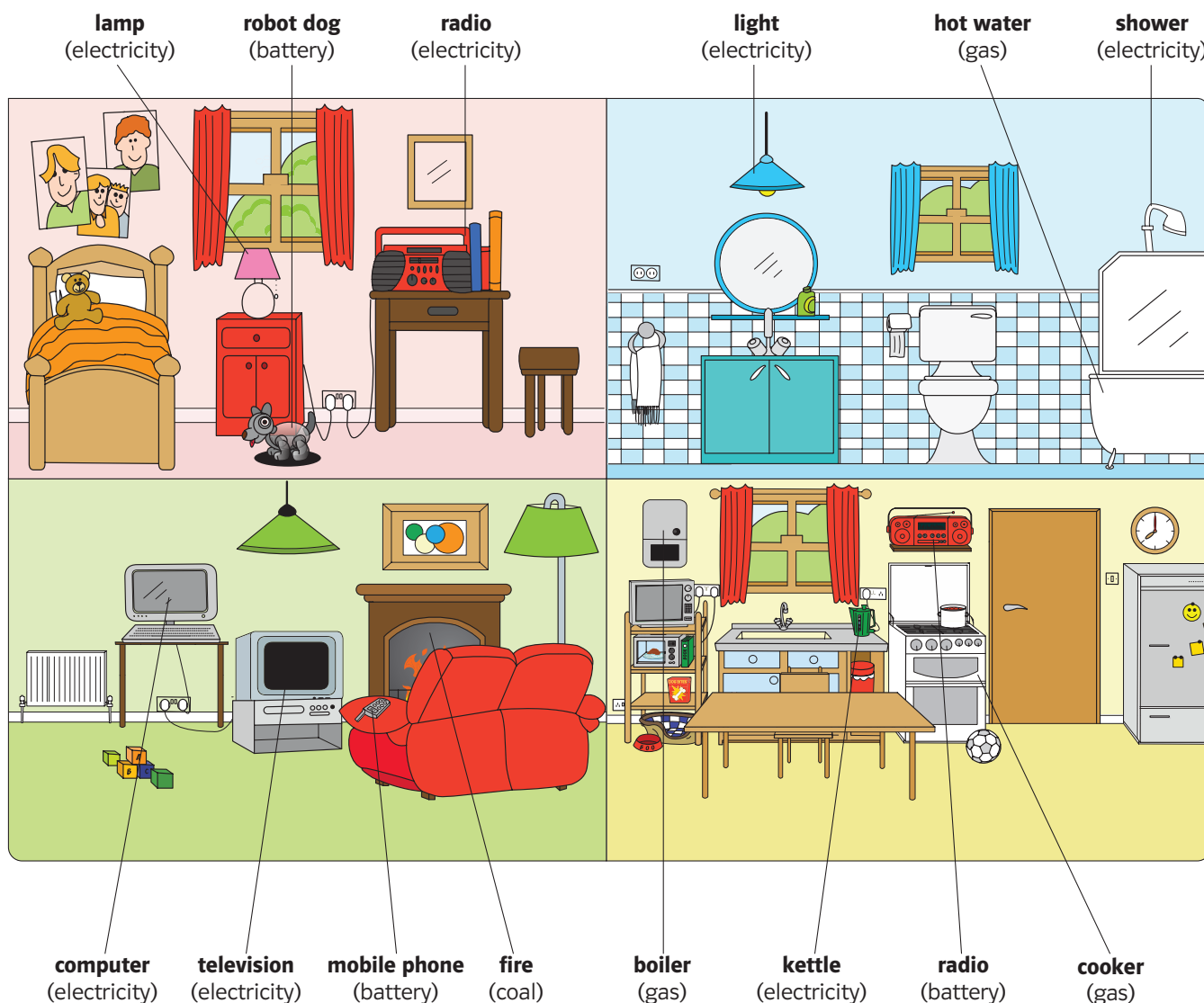
We use energy to keep our homes warm  
and to give us light when it's dark.

## We all need energy!



## Energy at home

Things at home use energy. Where do they get their energy from?





## Where does energy come from?

Lots of things in the home use energy. Where does the energy come from?

### Where does electricity come from?

A microwave uses electricity. The electricity comes into your home through wall sockets. The electricity gets to your home through cables over and underneath the ground.



Electricity is made in power stations by burning coal, oil, gas or wood to produce steam. Another option is to use nuclear fuel to create steam. Steam is used to power turbines to generate electricity.

Electricity is also made by wind turbines. A wind turbine uses wind to turn its blades, which are connected to a machine called a generator that makes electricity.

### Where does gas come from?

Some cookers use gas. Gas usually comes into your home through pipes. Most gas in the UK comes from deep under the North Sea and sometimes is stored in big tanks above ground or in special underground storage.



Gas was made a long time ago from plants, animals and trees that died. Over a long time their remains were broken down (decayed) and this gave off gas.

### How do batteries work?

A battery contains a special liquid. When it is mixed with two metal rods, it makes electricity.



A battery stores electricity, which is used to make things work by putting the battery into a device, like a radio. When the electricity is used up, the battery must be replaced.







## Renewable and non-renewable energy sources

We get energy from different things. These things are called energy sources.

Some of these energy sources, like coal and gas, have a limited supply. These are called **non-renewable** sources.

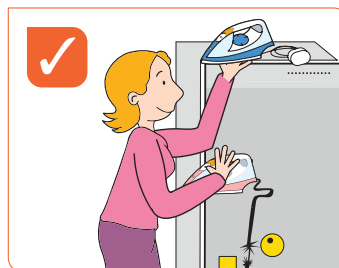
Some of these energy sources, like wind and sunlight, will never run out so they are important sources of energy for the future. These are called **renewable** energy sources.

Non-renewable sources	
	We can burn coal in fires at home. Power stations burn coal to make electricity.
	We can use gas to cook food. Gas can come into your home through pipes.
Renewable sources	
	Sunlight on solar panels makes electricity.
	Wind farms use wind to make electricity.

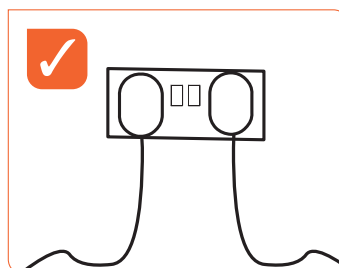


## Top safety tips

Replace electrical items that have damaged cables.



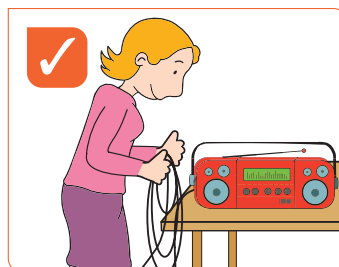
Use only one plug at one wall socket.



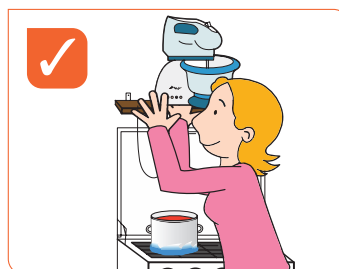
Keep water away from electrical items.



Keep electric cables tidy.



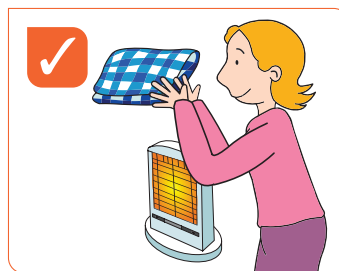
Keep electric cables away from the cooker hob.



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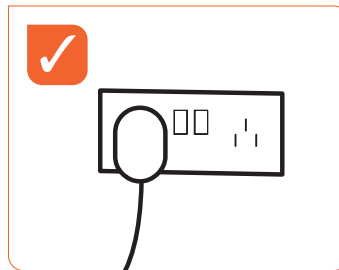
Keep materials like tea towels away from heaters.



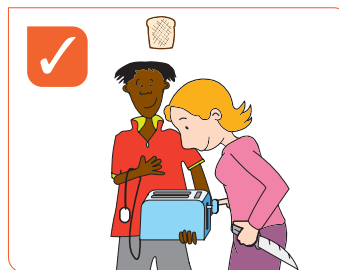
Keep clothes away from the cooker.



Do not put anything into a wall socket except a plug.



Do not put a knife or anything metal in a toaster to get out bread that is stuck.



Dry your hands before you switch a light on or off.



Tell an adult if you smell gas.

