

Activity Renewable and non-renewable Energy


In this activity...

1. Warm-up exercise: (alone)

Complete these sentences using the most suitable word:

- a) Coal, natural gas and oil are all _____ (renewable / non-renewable) energy resources. They release _____ (energy / electricity) when they are burned.
- b) Wind and solar energy are _____ (renewable / non-renewable) because they _____ (can / cannot) be replaced.
- c) Coal, natural gas and oil are called _____ (nuclear fuels / fossil fuels).
- d) Two more examples of renewable energies are _____ and _____.

Match each kind of energy with the correct sentence. Underline the key words

- | | |
|------------------|--|
| Wave power | is generated from running water. Dams are built across a lake or river in a valley to trap water. The water flows through tunnels and turns the turbines which make electricity. |
| Geothermal power | are used to convert the Sun's energy into electricity. |
| Fossil fuels | comes from the movement of water in the sea by the tides. These tides happen twice a day. |
| Hydroelectricity | uses the energy of the waves to turn turbines that make electricity. |
| Nuclear energy | uses the energy from plants and waste materials to make electricity. |
| Wind energy | is made from radioactive uranium ore which occurs naturally in the ground. |
| Tidal energy | uses the heat that comes from deep rocks under the surface of the Earth. |
| Biomass | were formed in the Carboniferous period millions of years ago (before the dinosaurs!) |
| Solar panels | is used to turn wind turbines and make electricity. |
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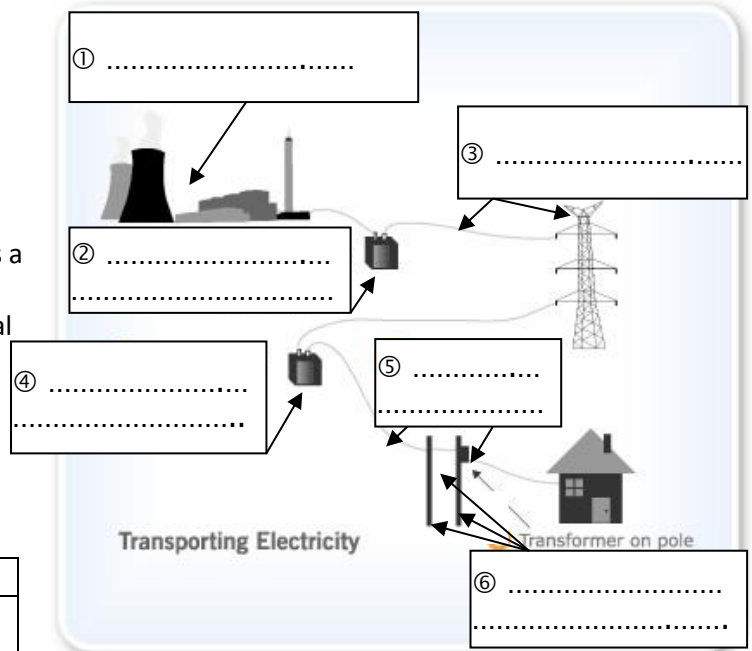
2. Warm up exercise: (in pairs)

The electricity journey: from power stations to our homes

Look at the schematic to the right

Electricity is produced in **power stations** and it travels a long way before arriving at our homes. This power station is used to produce electricity from coal, natural gas, oil or nuclear energy.

Write the names of the different steps (1-6) in the chart above using the words in the box.



power lines / grid	wooden pole + cable
Substation + underground cable	Step-up transformer
power station / plant	Step-down transformer

Match each number with the step of the process:

1.	In some areas cables are carried to buildings on wooden poles
2.	Small local substations reduce the voltage to 230 volts for houses, schools, and businesses. In towns, most cables are underground.
3.	Power Stations make electricity. They usually burn coal or oil to work the generating machinery
4.	In towns and cities there are more transformers in substations. These change the electricity down to 11,000 Volts.
5.	The electricity is carried along thick metal cables called power lines. Some of them are carried overhead on pylons
6.	Transformers change the voltage of the electricity up to 400,000 Volts so it can travel long distances

Write the process in the correct order:

First _____

After that _____

Then _____

Finally _____

Draw the flow diagram of the process (different solutions are possible):

