

Name : .....Surname .....Class.....Date .....

## ENERGY SOURCES



### 1. Choose the correct alternative

1. Most of the energy we use originally come from:

- a. The sun
- b. The air
- c. The soil
- d. The oceans

2. Which of the following is a non-renewable energy resource?

- a. Solar
- b. Biomass
- c. Hydroelectric
- d. Coal

3. What type of energy is derived from hot groundwater?

- a. Solar energy
- b. Geothermal energy
- c. Nuclear energy
- d. Hydroelectric energy

4. Which of the energy sources below is renewable?

- a. Fossil fuels
- b. Coal
- c. Nuclear
- d. Wind

5. Solar, geothermal and hydropower energy are some of the renewable sources of energy.

They are called renewable because they

- a. are clean and free to use
- b. can be converted directly into heat and electricity
- c. can be renewed by nature in a short period of time
- d. do not produce air pollution

6. Geothermal energy can be found

- a. everywhere
- b. drilling out of mines
- c. in specific parts of the Earth
- d. under the seabed

2. Match the words in list A with their definitions in list B

...../9

**A**

1. Coal, gas, oil and peat \_\_\_\_\_
2. Coal \_\_\_\_\_
3. Wind, sea waves and sea tides \_\_\_\_\_.
4. Uranium \_\_\_\_\_
5. Gas oil \_\_\_\_\_
6. Renewable energy sources \_\_\_\_\_
7. turbines \_\_\_\_\_
8. hot springs \_\_\_\_\_
9. hot spots use \_\_\_\_\_

**B**

- a. are natural phenomena due to the sun
- b. is usually found at the top of the pockets of oil
- c. come from the sun
- d. was formed from the decomposition of prehistoric plants and animals
- e. drive the electric generator
- f. are places where hot water comes up naturally from the ground
- g. is a non fossil-fuel used in nuclear fission reactors
- h. are fossil fuels
- i. heat to produce electric power

3. Complete the following sentences

1. Energy is the \_\_\_\_\_ to do \_\_\_\_\_
2. Energy sources can be classified in \_\_\_\_\_ and non-\_\_\_\_\_.
3. Non-renewable energy sources will \_\_\_\_\_ one day.
4. \_\_\_\_\_ energy sources \_\_\_\_\_ never \_\_\_\_\_ out.
5. \_\_\_\_\_ are concentrated and can easily be converted into \_\_\_\_\_.
6. Fuels can be divided into fossil and non \_\_\_\_\_ fuel sources.
7. \_\_\_\_\_ and gas oil are \_\_\_\_\_ fuels.
8. \_\_\_\_\_, \_\_\_\_\_ energy and \_\_\_\_\_ springs are non-fossil fuels.
9. Renewable energy sources all come from the exploitation of the \_\_\_\_\_.
10. Direct methods include solar \_\_\_\_\_, photovoltaic \_\_\_\_\_ and concave \_\_\_\_\_
11. \_\_\_\_\_ methods exploit \_\_\_\_\_ phenomena due to the \_\_\_\_\_, such as \_\_\_\_\_, \_\_\_\_\_ waves, sea tides and falling \_\_\_\_\_

## Solar energy

How solar cells transform solar energy into electric current  
Complete the text by inserting the words listed below

permits    permit    strikes    put    is    absorbed    transferred  
                  can        have        flow        material

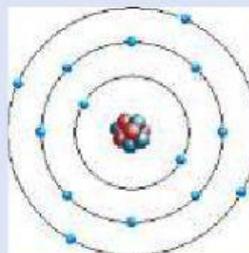
When light \_\_\_\_\_ PV cells, part of it is \_\_\_\_\_ by the semiconductor \_\_\_\_\_. So the energy is \_\_\_\_\_ to the semiconductor material. This energy \_\_\_\_\_ electrons to flow. PV cells \_\_\_\_\_ one or more electric fields that \_\_\_\_\_ electrons to flow the same direction. This flow of electrons \_\_\_\_\_ a current. If we \_\_\_\_\_ metal contacts on the top and bottom of the pv cell, we \_\_\_\_\_ use current according to our needs.



## Solar Cells

**Number the following ideas in the correct order.**

- \_\_\_ As silicon is a very shiny and reflective material,
- \_\_\_ That's why an antireflective coating is applied to the top of the cell to reduce reflection losses.
- \_\_\_ At the top of the cell there is a glass cover plate to protect the cell from the environment
- \_\_\_ A solar cell is made up of different layers placed one over the other.
- \_\_\_ photons, that are reflected back, can't be used by the cell.
- \_\_\_ It is made of semiconductor materials, usually silicon.
- 7 Finally positive and negative terminals are put on the back of the cell.



## Silicon

**True or False?** Write ***T*** or ***F***

- Silicon is not a good conductor similar to carbon. ....
- An atom of silicon is electrically neutral. -----
- The outer shell contains only three electrons. ....
- The two shells which are closest to the centre contain 9 electrons. -----
- The silicon structure has special chemical properties. -----