

**GRUPO DE TRABAJO MICROSECUENCIAS AICLE.
2018/19.**

RAW MATERIALS AND ENERGY RESOURCES

GEOGRAFÍA E HISTORIA 2º ESO

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IES MIRADOR DEL GENIL

1. Classify these words into the groups:



LEAD wood solar hydro-electric POWER
 rubber CORK SILVER COPPER GOLD skins WIND FARMS
 sugar beet precious stones fertilisers CROPS
 BIOMASS silk COTTON oil nuclear power geothermal
 linen COFIL WAVE OR TIDAL ENERGY WOOL



RAW MATERIALS OF BIOLOGICAL ORIGIN	RAW MATERIALS OF GEOLOGICAL ORIGIN	NON-RENEWABLE ENERGIES	RENEWABLE ENERGIES

➤ Your teacher is going to read the **text 1** and **text 2**, you have to change materials that you have classified in a incorrect group.



2. Join the energies with the images and explain why:



Example: In the image 1 we can look how a machine is extracting oil from the ground. So, this image is related with oil.



Image 1



Image 2



Image 3

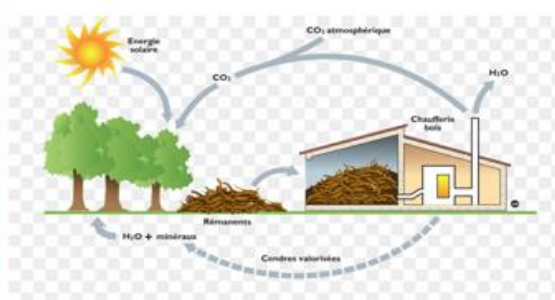


Image 4

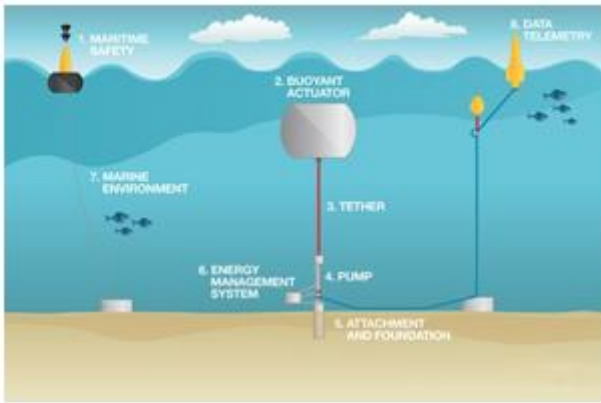


Image 5

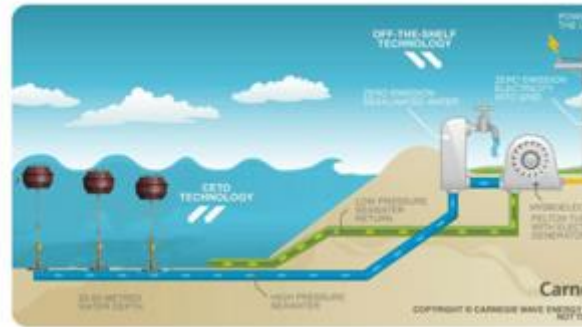


Image 6

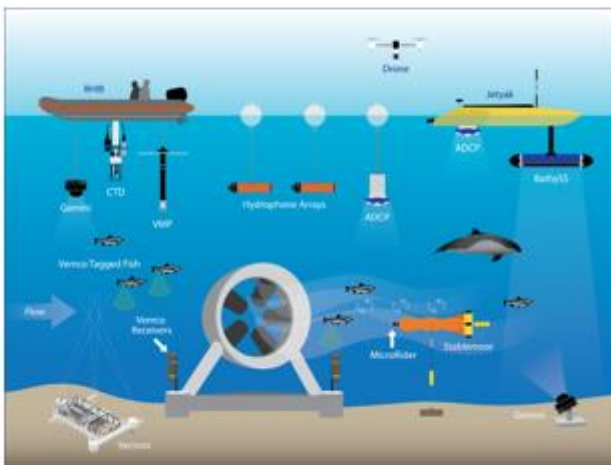


Image 7



Image 8



Image 9





Image 10



Image 11



Image 12

1. Your teacher is going to read the **text 3** and **text 4** and you have to put a title for each one. 
2. Classify these sentences into advantages and disadvantages in the correct energy 

Accidents and leaks can be deadly and last for a long time.

There has been a lot of investment in making sure it is as safe as possible.

Oil spills can cause environmental damage.

They release carbon dioxide when they are burnt, creating pollution.

Mining can create ugly scars on the landscape.



Oil and gas can be transported through pipelines.


Mining can be dangerous, especially as the most easily accessible deposits are used up.

Once up and running it is cheap to produce electricity.

Storing nuclear waste is very expensive.

Decommissioning nuclear power stations is very expensive.

3. Your teacher is going to read seven sentences from the **text 5**. Include these sentences in a energy and choose if this sentences is a advantage or disadvantage. You have to explain why in both cases. 


4. Create an infography about a energy, using the information of the **text 7** and you have to explain it to your mates. 

This AICLE unit has been created by:

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TEXT 1

Raw materials of biological origin come from plants and animals.

Plant raw materials come from agriculture and forestry. Agriculture, for example, provides us with industrial crops, such as sugar beet (which is used to make sugar), cotton and linen (used in textile industry) or tobacco. Forestry provides wood (used in furniture industry), rubber (used in car roofs and machines) and cork (panels and cork).

Animal raw materials come from livestock farming and fishing. Livestock farming provides industry with skins, wool and silk, which are used as raw material in the textile and clothing industry. Fishing provides fish for the canning industry, oils and fishmeal.

TEXT 2

Raw materials which have a geological origin are found in deposits in the ground. They are:

- Minerals which can be used to extract metals (like iron, lead, aluminium, copper, zinc, uranium), precious metals (gold, silver) and also nonmetallic materials (glass, precious stones and fertilisers). Minerals represent the greatest quantity and variety of industrial raw materials. Mining is the name of the process of extracting and refining them.
- Rocks, such as granite, clay, limestone and marble, are used directly to make products and are used to manufacture construction materials (cement, concrete, ceramics...).
- Fossil fuels (coal, oil, natural gas), which we obtain energy from.

TEXT 3

Oil and gas were formed from the remains of animals and plants that lived millions of years ago in the sea. These remains were covered by layers of sand and silt. Heat and pressure from the Earth's core turned them into oil and gas. The oil and gas were trapped between layers of impermeable rocks.

Coal was formed from dead plants about 300 million years ago. Back then, much of the Earth was covered by swamps. As the vegetation died, it decayed, slowly forming layers of peat. Over time this was covered with more sediment and compressed and heated to form coal.

TEXT 4

Nuclear power is created from the release of energy from nuclear reactions. These reactions usually use uranium or plutonium. A relatively small amount of fuel is required to produce the energy. Most by-products of the reactions are radioactive. There is a debate about whether or not nuclear power should be used.

TEXT 5 (only read underlined sentences)

Advantages of fossil fuels

- They generate large amounts of energy quite cheaply.
- Locating where fossil fuels are is quite easy.
- Oil and gas can be transported through pipelines.

Disadvantages of fossil fuels

- They release carbon dioxide when they are burnt, creating pollution.
- Carbon dioxide contributes to the greenhouse effect and global warming.
- Mining can create ugly scars on the landscape.
- Mining can be dangerous, especially as the most easily accessible deposits are used up.
- Oil spills can cause environmental damage.
- Oil and gas are both predicted to run out within 100 years.

Advantages of nuclear power:

- Low carbon emissions.
- Once up and running it is cheap to produce electricity.
- There has been a lot of investment in making sure it is as safe as possible.

Disadvantages of nuclear power

- Nuclear waste is highly radioactive.
- Accidents and leaks can be deadly and last for a long time.
- Storing nuclear waste is very expensive.
- Decommissioning nuclear power stations is very expensive.
- Uranium and plutonium are not renewable so will run out.

TEXT 7**Hydro-electric power (HEP)****Advantages**

- little pollution
- produced in areas where few people live
- dams can reduce risk of flooding and water shortages
- lakes used for water sports

Disadvantages

- expensive to build
- floods large areas and destroys the environment
- silt stays in reservoir rather than helping to fertilise nearby land
- methane and carbon dioxide given off by rotting vegetation in lake
- fish cannot migrate easily upstream

Solar**Advantages**

- no pollution
- can be used in remote areas
- usually produced where it is used
- easy to install

Disadvantages

- expensive to set up
- you need a large number of panels and a large area of land
- energy only produced in daylight hours
- depends on climatic conditions

Wind farms**Advantages**

- little pollution
- safe
- land beneath them can be used for other things
- cheap to produce energy
- some people find them interesting to look at
- the farms can provide income for farmers and other landowners in rural areas of the UK
- wind is usually stronger in the winter, which is when there is more demand for electricity

Disadvantages

- wind doesn't always blow
- some people say they spoil the environment
- noise pollution

Biomass**Advantages**

- uses things we might throw away
- won't run out
- cheap to produce energy

Disadvantages

- releases greenhouse gases
- biomass crops may use up land needed for food crops
- growing biomass crops takes up a lot of space

Geothermal**Advantages**

- renewable
- free
- little pollution
- constant supply

Disadvantages

- can only be found in certain locations
- power stations may be at risk from earthquakes and volcanoes
- sulphuric gases sometimes given off

Wave or tidal energy**Advantages**

- waves and tide are free
- tides can be timed – regular supply
- little pollution
- safe

Disadvantages

- wave energy expensive and difficult to transport energy to shore
- tidal barrages may affect habitats eg coastal mudflats
- affects shipping
- tidal barrages are very expensive