SECTION EUROPÉENNE

Épreuve spécifique de sciences physiques en anglais

Natural carbon sequestration

Natural carbon sequestration is a cycle that's been happening on this planet for billions of years. It's simply the process by which nature has achieved a balance of carbon dioxide in our atmosphere suitable for sustaining life. Animals expel carbon dioxide, as do plants during the night; forest fires emit carbon dioxide into the atmosphere, volcanic eruptions and magma reservoirs deep beneath the ground also play their part.

With all this carbon dioxide being pumped into the atmosphere, there should be a way of removing it otherwise the surface of the planet would rapidly overheat.

Nature provided trees, the oceans, earth and the animals themselves as carbon sinks, or sponges. All organic life on this planet is carbon based and when plants and animals die, much of the carbon goes back into the ground where it has little impact on contributing to global warming.

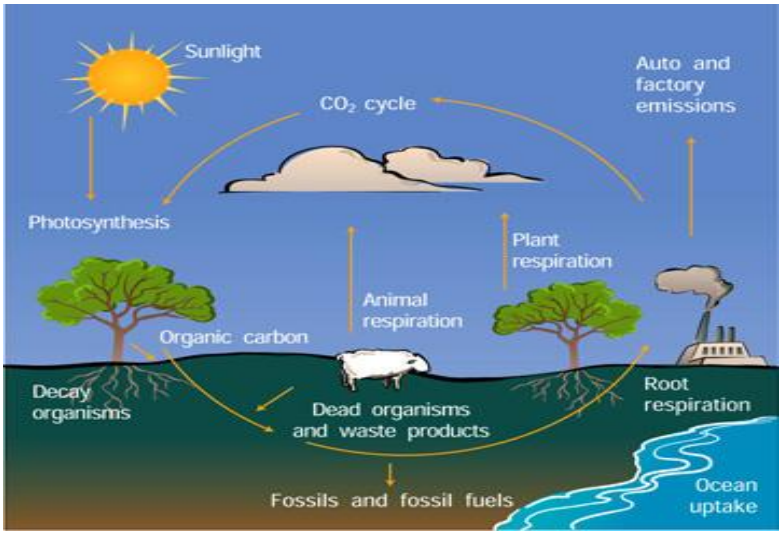
Artificial carbon sequestration

Artificial carbon sequestration refers to a number of processes whereby carbon emissions are captured at the point of production and then well-buried.

One proposed method is ocean sequestration whereby carbon dioxide is injected deep into the ocean, forming lakes of CO2. In theory, the carbon dioxide will stay down deep due to the pressure and temperature of the surrounding water; gradually dissolving into that water over time.

Another method is geological sequestration where the carbon dioxide is pumped into underground chambers such as old oil reservoirs, aquifers and coal seams that are unable to be mined.

Doc 2 : Carbon cycle



<u>Task :</u> Your school is involved in an exchange program with a primary school. You should explain the carbon dioxide issue to a class of 10-year-old children.

The following questions are guide lines. Feel free to use them in any order you like.

- *Explanations of the greenhouse effect*
- *Impact of human activity on the level of carbon dioxide*
- *Environmental issues as ocean acidity, acid rain…*
- *Benefits and drawbacks of carbon dioxide sequestration…*