Lezione 4

04.03.2013

Dettato lezione 3

*Greenhouse Effect*

There is new evidence of the growing influence of the "greenhouse effect" on the world’s weather and statistics have revealed that last year was the fourth warmest on record, closely following 1981 which was the warmest year ever recorded. This reinforces the evidence of a trend to warmer weather affecting the northern hemisphere.

As part of a project funded by the U.S. Department of Energy, investigations are underway regarding the likely impact of the atmospheric build-up of carbon dioxide. Jones, one of the researchers, says that the warming trend fits the hypothesis of a "greenhouse effect" from the carbon dioxide, though it is too early to claim that the hypothesis has been proved correct.

Carbon dioxide has been steadily accumulating in the atmosphere since the start of the industrial revolution, as fossil fuels have been burned and trees cut down. Carbon dioxide molecules trap infrared radiation, that is heat, which would otherwise escape into space from the warm surface of the Earth. What has been unclear is how soon this might have an effect on the world’s climate - and how [big](http://claweb.cla.unipd.it/home/mcanapero/dict_texts/readings.htm) an effect it might have.

Exercise 1

acid rain – gases – ozone layer – resources – environment – changes in climate – destruction – habitats – greenhouse effect – toxic wastes – ecology – fossil fuels – pollution – leach – deforestation –ecosystems – extinction – living organisms – wetlands – wildlife – endangered species – genetic engineering – dying out – strains

“We have come to the end of a millennium of relentless and accelerating ...................... of the world around us. While human activity and technology have blossomed, we have steadily been destroying the ....................... of the planet on which we depend for our survival. The sad fact is that every day the diversity of life on Earth gets poorer because of our overuse of ......................... and our disregard for the riches of nature. Ecologically, our natural ................... provide services without which life on the planet would become impossible. When we tamper with the ......................... , it is not just nature which suffers. Our own way of life is under threat.

Since the industrial revolution, man has burned ever larger quantities of .........................., first coal and then oil, with the result that composition of the atmosphere has started to change. Burning these fuels produces ................... such as carbon dioxide, which act in the atmosphere like glass in a greenhouse and trap the heat of the sun - this is known as the ....................................... . The overall global temperature has already begun to rise. Global warming is expected to lead to extreme ........................, with more frequent floods, droughts and heat waves. No person, animal, bug or bird will be unaffected.

In addition to greenhouse gases, industrial processes produce poisonous substances which can be virtually impossible to dispose of safely. If these ................................. are buried in underground storage sites, there is the danger that they may ............... into lakes and rivers, with serious long-term effects on living organisms. Emissions from industrial plants, such as sulphur, can also enter the atmosphere, where they can cause damage to the ...................................... around the planet. They may also fall back to Earth as .................. and destroy plants and trees. All these are examples of types of ....................... that could be prevented.

We drain ........................ near rivers and coastal areas to create land for building. Through ..........................., the large-scale cutting down of trees, the ..................... that allow species to survive are changed and the amount of land available for .............................. decreases. Some species are so reduced in number that they are in danger of .................... . At this stage they

are known as an ...................................... and are only one step away from total ................... . We are now beginning to manipulate nature in new ways, without thought for the possible consequences. Technology now allows us to create .................. of plants which are resistant to diseases and which can survive extremes of temperature or salinity (salt content). The danger of this process of ........................................... is that producing new plants or other ..................... like bacteria may bring disaster as well as apparent advantages, as experience has already shown.

So, with the new millennium, we need a new beginning, a fresh start. We need to reverse the major threats to put environment. Above all, we need to understand that we cannot go on consuming and polluting with no thought for tomorrow.

Exercise 2

Give definition, starting from the text or using your own words, of the following terms/expressions:

fossil fuel

emissions

deforestation

salinity

genetic engineering

greenhouse effect/global warming

industrial pollution

species loss

Exercise 3

Join the sentences using the words in brackets. Make any changes necessary. Then check your answers by referring back to the text you have read.

1. Every day the diversity of life on Earth gets poorer. We are overusing resources and disregarding the riches of nature. (*because of*)
2. Man has burned ever larger quantities of fossil fuels, first coal and then oil. The composition of the atmosphere has started to change. (*result*)
3. Some species are very reduced in number. They are in danger of dying out. (*so … that*)

Exercise 4

Rewrite the following sentences beginning with the words given, making any changes necessary

1. The number of private cars has increased enormously, and this is a key factor in global warning.

A major cause of global warning is the ………………………………………………………………………………..

1. The Earth’s temperature is rising and, as a result, the polar ice caps are melting.

………………………………………………………………………………...

The polar ice caps are melting as a result of ………………………………………………………………………………..

1. As sea levels rise, there is an increased incidence of flooding.

One effect of the ……………………………………………………………...

1. Sea levels may rise even more and cause whole countries to disappear.

Sea levels may rise to such an extent ………………………………………………………………………………...

1. Toxic waste is being dumped in the sea with the result that many fish and sea mammals have died.

Many fish ……………………….. due to ……………………………………

1. The spread of deserts is linked to deforestation and farming methods such as irrigation and excessive grazing.

…………………………………………… have led to ………………………

Exercise 5

Choose an environmental issue that you think is particularly relevant to your country. Answer the following questions.

1 What are the specific effects of the problem on your country? Give examples

2 What is being done to improve matters? Is it enough, or should more be done? What?

3 What is likely to happen if nothing is done?

Exercise 6

*Newspaper Advertisement*

The world may be small but it’s all we’ve got. The way some people treat it, you would think there is somewhere else to go once the Earth’s resources have been exhausted.

You know there isn’t. Our small planet is being ravaged and its limited resources are fast disappearing.

As a non-profit organization supported by memberships and donations, we are among the few trying to protect our fragile planet. By applying international direct action with scientific research and political pressure, we have had many notable successes:

* the atmospheric testing of nuclear weapons in the Pacific has been stopped
* Commercial whaling is in the process of being stopped
* The large-scale slaughter of baby harp seals has been stopped
* Incineration at sea of dangerous toxic chemicals is in the process of being stopped.

We don’t want to stop everything though. What we have started is a general raising of awareness of the environment across the globe. There is still a long way to long. Deforestation and the depletion of the ozone layer are just two of the problems we are aiming to overcome; there are countless others.

To find out what part you can play in this, fill out the coupon below and mail it today.

1. The aim of the advertisement is to
* inform the public of serious environmental problems
* encourage people to form action groups
* ask people to send in donations
* recruit people who are willing to help
1. The tone of the writer’s opening remarks is
* ironic
* humorous
* resigned
* bitter

Exercise 7

*Smog*

The oxidation of exhaust gases is one of the primary sources of the world’s pollution. The brown haze that is polsed over some of the world’s largest cities is properly called photochemical smog; it results from chemical reactions that take place in the air, using the energy of sunlight. The production of smog begins when gases are created in the cylinders of vehicle engines. It is there that oxygen and nitrogen gas combine as the fuel burns to form nitric oxide (NO), a colorless gas. The nitric oxide is forced out into the air through the vehicle tailpipe along with other gases.

When the gas reaches the air, it comes into contact with available oxygen from the atmosphere and combines with the oxygen to produce nitrogen dioxide (NO2), which is a gas with a brownish hue. This nitrogen dioxide plays a role in the formation of acid rain in wetter or more humid climates and tends to decompose back into nitric oxide as it releases an oxygen atom from each molecule; the released oxygen atoms quickly combine with oxygen (O2) molecules to form ozone (O3). The brownish colored nitrogen dioxide is partially responsible for the brown color in smoggy air; the ozone is the toxic substance that causes irritation to eyes.

1. The word “poised” in paragraph 1 is closest in meaning to: interacting / sitting / blowing / poisoning
2. The phrase “take place” in paragraph 1 is closest in meaning to: position themselves / put / are seated / occur
3. The word “forced” in paragraph 1 could best be replaced by: obliged / required / pushed / commanded
4. The word “hue” in paragraph 2 is closest in meaning to: color / odor / thickness / smoke
5. The phrase “play a role in” in paragraph 2 is closest in meaning to: makes fun of / serves a function in / acts the part of / moves about in