Министерство образования Республики Беларусь
Учреждение образования "Витебский государственный университет имени П.М. Машерова"
Кафедра английского языка

THE CHANGING ENVIRONMENT: A CURSE OR A BLESSING?

ИЗМЕНЕНИЯ ОКРУЖАЮЩЕЙ СРЕДЫ: ПРОКЛЯТИЕ ИЛИ БЛАГОСЛОВЕНИЕ?

Учебно-методическое пособие

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Составитель: преподаватель кафедры английского языка УО "ВГУ им. П.М. Машерова", магистр педагогических наук **Е.А. Свирко**

Р е ц е н з е н т:
заведующий кафедрой английского языка УО "ВГУ им. П.М. Машерова", кандидат педагогических наук, доцент *Л.И. Бобылева*

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Представленные в данном издании аутентичные тексты углубляют знания обучающихся по теме "Экологические проблемы современного мира", знакомят их с современным английским языком, развивают языковую и речевую компетенции. Система заданий и упражнений направлена на активное усвоение лексики, развитие речевых навыков и умений, формирование коммуникативной компетенции в речевом общении на актуальные темы современности.

Учебно-методическое пособие рекомендуется для студентов III курса филологического факультета, изучающих английский язык как второй иностранный.

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C O N T E N T S

П Р Е Д И С Л О В И Е

Данное учебно-методическое пособие предназначено для студентов III курса филологического факультета, изучающих английский язык как второй иностранный.

Цель учебного издания – дальнейшее развитие речевой и языковой компетенции учащихся на основе текстового материала, оснащенного аппаратом методически продуманных упражнений, закрепляющих и активизирующих лексико-грамматические единицы.

Учебно-методическое пособие представляет собой пять разделов, организованных по тематическому принципу и освещающих разнообразные аспекты проблемы. Все разделы имеют единую структуру, что позволяет осуществлять поэтапное, целенаправленное формирование языковых, речевых и коммуникативных навыков и умений. Тематика и характер учебных материалов, представленных в данном издании, обеспечивают формирование у студентов тематического словаря, развитие монологической и диалогической речи, как подготовленной, так и неподготовленной, умения аргументировать, обосновывать и выражать собственное мнение, а также умения понимать живую речь.

При составлении учебно-методического пособия были использованы материалы из современных американских и английских изданий, которые отражают богатство, разнообразие, вариативность современного английского языка.

UNIT 1. INTRODUCTION TO GLOBAL ENVIRONMENTAL PROBLEMS

MODULE 1

Warming up.

I. Discuss the following questions

- Are you concerned about the present ecological situation in the place where you live? What global environmental issues are important for our society?
- How should the world community be involved into solving global environmental problems?
- How can you help save the environment?

II. Read the descriptions and match them with the problems listed. Then talk about the causes and the results of these problems

Problems: ***litter, urban sprawl, deforestation, acid rain, water contamination, destruction of the ozone layer***

A. Animals are losing their habitats as growing cities cause the countryside to disappear.
B. Factories and cars release poisonous chemicals into the air. The chemicals mix with the water in the clouds, and the polluted rain which later falls damages trees, lakes and buildings.
C. Chemicals from aerosol sprays and fridges are going up into the atmosphere. More and more people are getting skin cancer.
D. Forests are disappearing as trees are burnt and cut down. Less and less oxygen is being produced.
E. Our society is producing too much packaging and food waste which are dropped in the streets or end up on the rubbish tip; diseases spread more easily.
F. Dangerous chemicals from factories are poured into oceans, rivers and streams, killing fish.

III. Look at the table, then listen to a radio interview with an ecologist and tick the solutions mentioned. Discuss the solutions adding any ideas of your own

Problems	Solutions
Destruction of habitat	• give financial support to poorer countries • plant more trees

	• protect jungles and forests
Pollution	• use bicycles instead of cars • encourage industries to use cleaner methods of production • educate the public about the importance of recycling
Illegal hunting	• create more protected national parks • introduce harsher punishments for illegal hunters • raise public awareness about endangered species

Vocabulary study.

I. Many people believe that the way that we live our lives today is having an extremely bad effect on the environment. Here are some examples of environmental problems and solutions, and the vocabulary you need to talk about them.

The Environment: Problems and Solutions

1. Problems

Pollution is damage to the air, sea, rivers or land caused by chemicals, waste and harmful gases. **Pollutants** include **toxic waste, pesticides,** and **fertilizers**. The biggest **polluter** today is the car. **Exhaust fumes** are the main cause of bad **air quality**, which can make people feel ill and have difficulty breathing. This problem is especially bad in big cities where, on days when there is not much wind, a brown layer of **smog** hangs in the air. The number of cars is increasing every year and this causes serious **congestion**. Governments build new roads trying to improve the situation, but this means that they cut down trees and destroy more of the countryside.

The greenhouse effect is caused by harmful gases known as **greenhouse gases**. These gases are produced when we burn fuels, especially coal burned in **power stations** to make electricity. The gases go up into the Earth's **atmosphere** and stop heat from leaving the Earth. As the heat cannot escape, the temperature on the Earth is running up. This is known as **global warming**. Global warming may result in the melting of the ice at the Poles and rising of sea levels, leading to serious flooding and other disasters in many parts of the world. In other places, temperatures will rise and there will be less rain, turning more of the land into desert.

Holes in the ozone layer. The **ozone layer** is a layer of gases that protects us from **ultraviolet light** coming from the sun, which can have a harmful effect on animals and causes **skin cancer** in humans. The ozone layer is being damaged by chemicals, especially **CFCs (chlorofluorocarbons)** which are used in refrigerators and in some aerosols, and when holes appear in the ozone layer, harmful light from the sun reaches the Earth.

Acid rain is rain that is harmful to the environment because it contains acid from factory smoke. Acid rain causes damage to trees, rivers and buildings.

Species extinction is a natural feature of the evolution of life on earth, the best-known example is the disappearance of the dinosaurs. In the last 400 years, however, human activities have been responsible for the loss of most of the animals and plants that have disappeared. All over the world, **wildlife** is being **threatened** because **habitats** and **woodlands** are being destroyed. **Rainforests** are being cut down so that people can use the land to grow crops. Many **species** of animals have become **extinct**, and many more are **endangered.**

Deforestation is the term used to describe the disappearance of forests from large parts of the world's surface. Deforestation has been occurring steadily since the XX-th century.

2. Solutions

Alternative forms of transport. One of the main problems with cars is that they cause a lot of pollution and often carry only one person. Public transport is more environmentally friendly because buses and trains can carry large numbers of people at the same time. **Car pools** are another way of reducing the number of cars on the roads. Even cleaner solutions are **electric cars** and bicycles.

Alternative (or renewable) energy sources such as wind, wave and solar power do not pollute the environment. They are much cleaner than oil and coal, but it's more difficult to get them regularly.

Green products. We can help the environment by choosing to buy **green products.** Examples of green products are **recycled** paper, wood from **sustainable sources**, and **organic** fruit and vegetables.

Recycling is another solution: instead of throwing away glass, paper, cans can be taken to special "banks" and recycled there.

Protesting. Many people try to protect the environment by joining **environmental groups** that inform people about ecological problems or **green issues** and try to persuade governments to take more care of the environment, especially by organizing **protests**.

II. Explain the following

The greenhouse effect	recycling
Acid rain	smog
Alternative forms of transport	global warming
Power station	deforestation

III. Find the words which mean the following

1) how clean or dirty the air is in a particular town or place
2) the mixture of air and gases that surrounds the Earth
3) a group of car owners who agree to drive everyone in the group to work or school on different days, so that only one car is used at a time
4) a car that uses special electric batteries, instead of petrol, as its source of power
5) fruit, meat, and vegetables that have been produced without using chemicals
6) if wood is from this source, it is from a forest where the trees can be replaced as quickly as they are cut down

IV. What's the difference between

1) fertilizers and pesticides
2) pollutant and polluter
3) endangered species and protected species
4) green issues and green products

V. Match word combinations with their translations. Choose four items and make up the sentences of your own with them

After-effect	очистные сооружения
Dump	исчерпаемые ископаемые
Rubbish bin/dustbin	центры по переработке отходов
Environmentalist/green (person)	сливать отходы в водоемы
Finite resources	последствие
To pour waste into water	ультрафиолетовое излучение
Purification system	свалка
Recycling centres/banks	эколог, "зеленый"
Ultraviolet light	мусорный бак

VI. Match the words in the list with the nouns. Use each word only once. Which of the collocations are used to describe "threats to the environment"? Which describe "possible ways to solve environmental problems"? Explain your choice

Acid	***endangered***	***toxic/nuclear***	***lead-free***
Oil	***factory***	***ozone***	***thick***
Forest	***urban***	***global***	***exhaust***
Greenhouse	***conservation***	***bank***	***bins***
Breeding	***national***	***environmental***	***tropical***

1. the _____layer
2. _____ rain
3. _____ waste
4. a bottle _____
5. _____ warming
6. _____ fumes
7. _____ rainforests
8. _____ species
9. _____ emissions
10. _____ petrol
11. _____ awareness
12. _____ parks
13. _____ programmes
14. _____ areas
15. _____ smog
16. _____ spills
17. _____ fires
18. _____ gases
19. _____ development
20. rubbish _____

VII. Complete the word-building table

Noun	**Verb**	**Adjective**
waste		
protection		
	destroy	
	pollute	
damage		
		environmental
	harm	
		dangerous
congestion		
		acid
	deforest	
	emit	
threat		
		habitant
		safe

VIII. Which word in each line is the odd one out? Why?

car	bicycle	plane	space rocket
to pollute	to harm	to litter	to recycle
ultraviolet light	acid rain	smog	the greenhouse effect
rain	flooding	melting	air pollution
recycling	burying rub-bish	planting trees	ecological educa-tion

IX. Put in an appropriate word or word combination

a) All the bottles we use now are made from ..... glass.
b) Wolves used to be common throughout Europe, but are now ..... .
c) Local people are protesting because the planned new road will ..... the environment.
d) ..... the forest will destroy the habitat of thousands of birds and animals.
e) The biggest ..... today is the car.
f) ..... may cause the ice at the North Pole and South Pole to melt and sea level to rise, leading to serious ..... in many parts of the world.
g) ..... is the layer of gases that protects us from ..... the sun.
h) In the last few years the news has been full of stories of hurricanes, floods, droughts and other ..... caused by the weather.
i) Acid rain is rain that contains dangerous chemicals. It is caused by ….
j) CFC is a chemical which is used in ……..
k) Scientists are searching for …….. sources of energy.

X. Translate into English

1. Захоронение токсичных отходов в земле приводит к загрязнению почвы.
2. Кислотные дожди наносят ущерб не только здоровью людей и природе, но также и старинным зданиям.
3. За последнее время количество дыр в озонном слое резко возросло.
4. Парниковый эффект вызван скоплением в атмосфере газов, препятствующих выходу в космос тепла с поверхности земли.
5. Во многих больших городах мира воду из местных водоемов пить нельзя, так как она загрязнена промышленными отходами.
6. В результате глобального потепления сухие тропические регионы могут стать еще суше, а влажные – еще влажнее.
7. Загрязнение окружающей среды и быстрый рост городов разрушают естественную среду обитания животных.
8. Один из способов решения проблемы мусора – это переработка, тогда предметы используют снова, а не выбрасывают.

XI. Correct the following statements

a) Acid rain is friendly to nature.
b) The more trees we cut down, the more trees grow.
c) It's better to bury rubbish than to recycle it.
d) The higher the average temperature on the Earth, the better.
e) Recycling centers are places where rubbish is buried.
f) People who are trying to protect nature are called naturalists.
g) CFCs protect the ozone layer.

XII. Answer the questions on the text

a) Why is the car the biggest polluter? What are other polluters?
b) Why can the greenhouse effect be dangerous?
c) What do you know about holes in the ozone layer?
d) What are the alternative forms of transport? Can they really solve the problem of air pollution?
e) What is recycling?
f) Do you think the protests organized by the "greens" are really effective?

XIII. Read the table, then in pairs discuss the problems, their effects and their solutions. Add two or three other problems

PROBLEMS	EFFECTS	SOLUTIONS
Litter/rubbish	Dirty streets, spread of diseases	Encourage recycling, use litter bins
Air pollution	Breathing problems, cancer risk	Unleaded petrol, filters in factories, ban cars from city centres
Water pollution	Fish die, stomach illnesses	Limit use of chemicals in industry, fine factories which pollute seas/ rivers

XIV. Speaking activities. Role-play the dialogues on the basis of the following situations:

a) A: You want to build a new motorway in your city to solve traffic problem.
   B: You object to it.
b) A: You want to provide some opportunities for cyclists to ride around the city.
   B: You are a driver and you object to it.
c) A: You want to construct a new car park next to B's house.
   B: Persuade him not to do that.
d) A: You want to drink some tap water.
   B: Warn A against doing that.

Focus on the Text.

1. Read the texts. Before reading, practise the pronunciation of the following words

consequence	lethal
conservation	precipitation
crucial	recycling
depletion	reluctant

destructive	scarce
effluent	species
environmental	stratospheric
finite	threaten
fragility	welfare
incalculable	

Will the Earth Survive?

The environment is suffering critical stress. Stratospheric ozone depletion threatens us with ultraviolet radiation, which can be damaging or lethal to many life forms. Air pollution near ground level, and acid precipitation, are already causing widespread injury to humans, forests, and crops.

Destructive pressure on the oceans is severe, particularly in the coastal regions, which produce most of the world's food fish. Rivers carry industrial, municipal, agricultural, and livestock waste - some of it toxic.

Since 1945, 11% of the Earth's vegetated surface has been degraded - an area larger than India and China combined - and per capita food production in many parts of the world is decreasing.

Tropical rain forests, as well as tropical and temperate dry forests, are being destroyed rapidly. With them will disappear large numbers of plant and animal species.

Increasing levels of gases in the atmosphere from human activities may alter climate on a global scale.

The Earth is finite. Its ability to absorb wastes and destructive effluent is finite. Its ability to provide food and energy is finite. Its ability to provide for growing numbers of people is finite. And we are fast approaching many of the Earth's limits.

No nation can escape from injury when global biological systems are damaged.

No nation can escape from conflicts over increasingly scarce resources.

No nation can escape environmental and economic instabilities, caused by mass migrations, which can have incalculable consequences.

What must we do?

We must manage resources crucial to human welfare more effectively.

We must give high priority to efficient use of energy, water, and other materials, including expansion of conservation and recycling.

A new ethics is required - a new attitude towards our responsibility for caring for ourselves and for the Earth.

We must recognise the Earth's limited capacity to provide for us.

We must recognise its fragility.

We must no longer allow it to be ravaged.

This ethics must motivate a great movement, convince reluctant leaders and reluctant governments and reluctant peoples themselves to effect the needed changes.

(From "The appeal of scientists to people of the world")

2. Working in pairs, discuss the answers to the following questions

1) Why is the environment suffering critical stress?
2) Why are the increasing levels of gases in the atmosphere dangerous?
3) What brings about the decrease of food production in many parts of the world?
4) What must we recognise about the Earth's abilities?

3. Discuss the following items:

- Who is the information of the text aimed at?
  - charitable organisations
  - future generations
  - everybody living on the Earth
  - people of the highly industrialised countries
- What is the tone of the text?
  - matter of fact
  - critical
  - worried
  - optimistic
- Why do you think it is necessary that people all over the world should unite for the protection of the environment?
- Some countries (for example, Finland, Norway etc.) do a lot for the environment protection in their own land. Do you think it is possible to be safe, taking care of the environment only in your own country? Give your reasons for or against.

Vocabulary exercises

I. Match the words with similar meanings

1) absorb	a) persuade
2) alter	b) injury
3) convince	c) frailness
4) crucial	d) identify
5) damage	e) take in
6) effluent	f) conversion
7) escape	g) change
8) ethics	h) decisive

9) fragility	i) morals
10) lethal	j) demand
11) ravage	k) outflow
12) recognise	l) scanty
13) recycling	m) menace
14) require	n) fatal
15) scarce	o) be saved
16) threaten	p) destruction

II. Match the words with opposite meanings

1) degrade	a) attract
2) depletion	b) improve
3) finite	c) enrichment
4) reluctant	d) grow
5) severe	e) endless
6) decrease	f) abundant
7) divert	g) slowly
8) rapidly	h) poverty
9) scarce	i) willing
10) welfare	j) mild

III. Italicised words or phrases must be changed for the sentence to be true to life. Rewrite the sentences making all necessary changes.

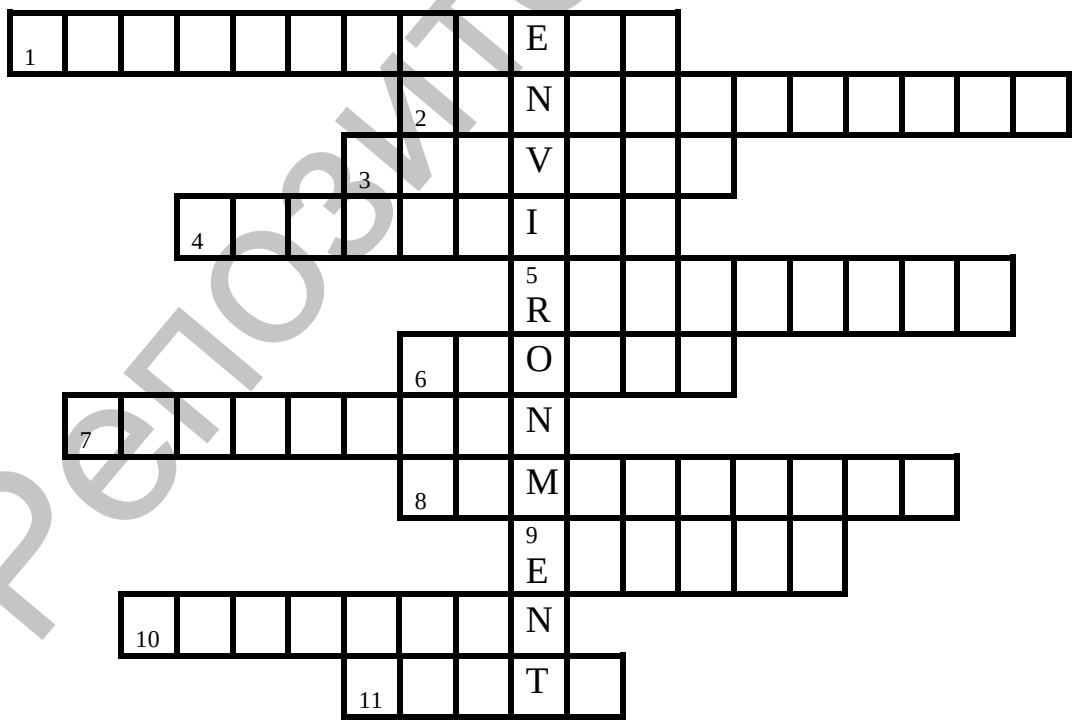
1) *Decreasing* levels of gases in the atmosphere are dangerous for people.
2) Stratospheric ozone depletion *favours* us with ultraviolet radiation.
3) The Earth's vegetated surface has been constantly *increasing* since 1945.
4) All kinds of forests are being *grown* rapidly everywhere on our planet.
5) The Earth's ability to absorb wastes and destructive effluent is *endless*.
6) Environmental and economic instabilities are *minimising* mass migrations.
7) Acid precipitation *is useful for* humans, forests, and crops.
8) Most biological systems of the Earth are *not injured at all*.
9) Expansion of conservation and recycling is *not necessary* in highly industrialised countries.
10) The Earth's ability to provide food and energy is constantly *growing*.

IV. There are mistakes in each word. Write the words correctly

Enwiroment, distructive, presure, finate, concequence, atmosfere, spicies, particulaly, sevire, stratosferic, threten, polution, precepitation, increse, efluent, resurce, efectively, expension, recicling, concervation, etic, atitude, frigility, convinse, reluktant, govenment.

V. Complete the grid. Use the word "environment" as the clue and the definitions provided. All the words are from the text

1. The outer part of the air which surrounds the Earth.
2. Keeping something from being wasted or lost; the careful preservation and protection of natural things to prevent them from being spoiled, wasted or lost forever.
3. Supply something needed or useful for somebody.
4. Travelling from one place to another.
5. Sending out light, heat, energy etc. in all directions.
6. Concerning the whole world.
7. Making air, water, soil etc. dangerously impure or unfit for use.
8. The mixture of gases that surround the Earth.
9. A system of moral behaviour.
10. Expressing an intention to hurt, punish, cause pain etc.
11. Used, damaged, or unwanted matter.



VI. Fill in the correct word derived from the word in brackets

The Environment: Our Responsibility

These days it is ..... *(possible)* to open a newspaper without reading about the damage we are doing to the environment. The earth is being ..... *(threat)* and the future looks ..... *(horror).* What can each of us do?

We can not clean up our ……. *(pollute)* rivers and seas overnight. Nor can we stop the ……. *(appear)* of plants and animals. But we can stop adding to the problem while ……. *(science)* search for answers and laws are passed in nature's ..... *(defend).* It may not be so easy to change your lifestyle and habits ..... *(complete)* but some steps are easy to take: cut down the amount of ..... *(drive)* you do or use as little plastic as possible. It is also easy to save energy, which also reduces ..... *(house)* bills.

We must all make a personal ..... *(decide)* to work for the future of our planet if we want to ..... *(sure)* a better world for our grandchildren.

VII. Render the following excerpt into English, using the topical vocabulary

Наше поколение стало свидетелем драматических событий, которые изменили природу отношений человека с окружающей его средой. Стремительный рост народонаселения Земли, а также научно-технический прогресс способствуют усилению воздействия человека на окружающую среду.

Одной из наиболее острых экологических проблем нашей республики является проблема радиоактивного загрязнения местности в результате аварии на Чернобыльской атомной электростанции, которому подвержено более 20% территории Беларуси.

Актуальной для городов Беларуси является проблема загрязнения атмосферного воздуха. В таких городах, как Могилев, Гомель, Витебск, Бобруйск, Полоцк, Мозырь и Гродно, уровень загрязнения атмосферного воздуха вредными веществами превышает допустимый.

Не менее актуальна проблема состояния природных вод. Несмотря на снижение в последние годы объемов применения в сельском хозяйстве пестицидов, опасность загрязнения ими почв в республике сохраняется как за счет передозировки норм внесения, так и за счет остаточных их количеств. Эрозия почв также оказывает негативное влияние на качественное состояние водных объектов.

Все большее значение приобретает проблема удаления и захоронения отходов, особенно токсичных. Хотя ежегодные их объемы уменьшились, общее количество отходов продолжает возрастать, что влечет за собой увеличение объемов свалок и шламохранилищ.

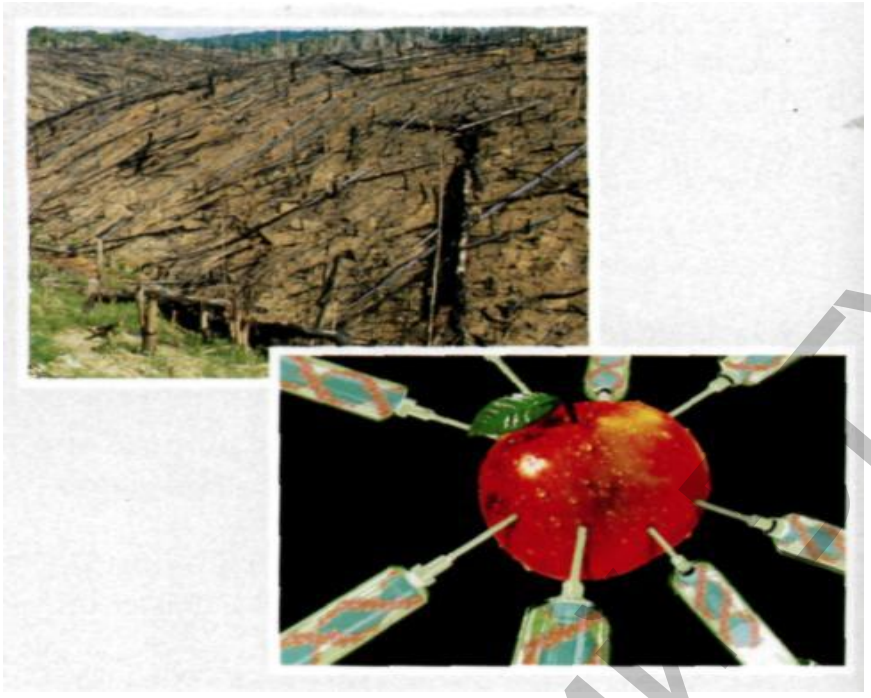
Усилившееся за последние годы негативное воздействие на лесные экосистемы привело к ухудшению санитарного состояния лесов Беларуси, снижению их биологической устойчивости, массовому размножению вредных насекомых и грибных болезней и исчезновению отдельных видов животных и растений.

VIII. Prepare short reports about ecological problems of your region. Illustrate them with examples and pictures

MODULE 2

Warming up.

I. Look at the photos and describe what is happening. What environmental issue does each one illustrate?



II. Read the introductory paragraph below and fill in the gaps with words from the box

resources	destruction ha- ecology
environment	bitats

We have come to the end of a millennium of relentless and accelerating (1) …… of the world around us. While human creativity and technology have blossomed, we have steadily been destroying the (2) …… 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 (3) ……and our disregard for the riches of nature. Ecologically, our natural (4) ……provide services without which life on the planet would become impossible. When we tamper with the (5) ……, it is not just nature which suffers. Our own way of life is under threat.

III. Read the next part of the text and identify the key environmental issues being described. Then use words and phrases from the box below to fill in the gaps

Since the industrial revolution, man has burned ever larger quantities of (6) ……, first coal and then oil, with the result that the composition of the atmosphere has started to change. Burning these fuels produces (7) ……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 (8) ……The overall global temperature has already begun to rise. Global warming is expected to lead to extreme (9) ……, 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 (10) ……are buried in underground storage sites, there is the danger that they may (11) ……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 (12) ……around the planet. They may also fall back to Earth as (13) ……and destroy plants and trees. All these are examples of types of (14) ……that could be prevented.

acid rain	changes in climate	fossil fuels
gases	greenhouse effect	pollution
ozone layer	toxic wastes	leach

IV. Now read the continuation of the text. Fill in the gaps with words from the box below

We drain (15) ……near rivers and coastal areas to create land for building. Through (16) ……, the large-scale cutting down of trees, the (17) ……that allow species to survive are changed and the amount of land available for (18) ……decreases. Some species are so reduced in number that they are in danger of (19) …… . At this stage they are known as an (20) ……and are only one step away from total (21) ……. We are now beginning to manipulate nature in new ways, without thought for the possible consequences. Technology now allows us to create (22) ……of plants which are resistant to diseases and which can survive extremes of temperature or salinity (salt content). The danger of this process of (23) …… is that producing new plants or other (24) …… 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 our environment. Above all, we need to understand that we cannot go on consuming and polluting with no thought for tomorrow.

deforestation	wildlife
ecosystems	endangered species
extinction	genetic engineering
living organisms	dying out
wetlands	strains

V. Answer the questions

1. What happens when we overuse resources?
2. What does this threaten?
3. What has caused the atmosphere to change?
4. Give examples of some results of global warming.
5. What is the problem with poisonous substances produced by industrial processes?
6. Why do we drain land? What is the effect of this draining?
7. Give an example of how modern technology can be dangerous.
8. What is the most important message of the text?

VI. In technical texts, the writer often helps the reader to understand difficult words or concepts by giving examples or definitions, describing causes and effects, using synonyms, and so on. In this sentence from the text, two examples of 'fossil fuels' are given, which explain the meaning of this term

'Since the industrial revolution, man has burned ever larger quantities of fossil fuels, first coal and then oil,...'

With a partner, discuss what methods the writer has used to help the reader understand the following concepts

1 emissions
2 deforestation
3 salinity
4 genetic engineering

VII. Work in pairs. Without looking back at the text, take turns to explain the following concepts to your partner, using two different methods for each word

1 the greenhouse effect
2 global warming
3 industrial pollution
4 species loss
5 genetic engineering

VIII. Insert prepositions. Make up short dialogues with these collocations

1) to depend ____ smth _____ our survival
2) overuse _____ resources
3) disregard _____ smth
4) to tamper _____ nature
5) to be _____ threat
6) to dispose ____ poisonous substances
7) to be one step ____ ____ extinction
8) resistant ____ deseases
9) ____ danger ____ dying ____

IX. Join these sentences using the words in brackets. Make any changes necessary

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)*
4 New laws have been introduced to stop factories polluting the atmosphere. Pollution is damaging our environment. *(on account of)*
5 The ozone layer is getting thinner. More and more people are getting skin cancer. *(consequently)*
6 Tigers may become extinct. Hunters are killing them for their valuable skins. *(due to)*
7 The climate is changing. The Sahara Desert is spreading. *(therefore)*
8 Fish are dying. Industrial waste is polluting our seas. *(since)*
9 Many cosmetic companies have stopped testing their products on animals. There has been pressure from animal rights group. *(owing to)*

X. Now 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 warming.
A major cause of global warming is the …….
2 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 ……..
3 As sea levels rise, there is an increased incidence of flooding.
One effect of the…….

4 Sea levels may rise even more and cause whole countries to disappear.
Sea levels may rise to such an extent ……
5 Toxic waste is being dumped in the sea with the result that many fish and sea mammals have died.
Many fish……due to ....……..
6 The spread of deserts is linked to deforestation and farming methods such as irrigation and excessive grazing.
……have led to……

XI. 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?

Focus on the Text.
Task 1. Read the text and answer the following question

What are the most hazardous side-effects of improvement of the environment?

THE DAMAGED ENVIRONMENT - HOW LONG WILL IT LAST?

for your notes

Man has influenced the environment in three very different ways: a dramatic reshaping of the landscape to create efficient agriculture and urban life; a major interference in the biogeochemical cycles of carbon, nitrogen, phosphorus and metals changing the physics and chemistry of the environment through increased nutrient flows, acidification, global warming, and increased UV radiation; thousands of chemicals, foreign to the planet and its life forms, have been used extensively in the environment, some of them deliberately to poison life.

The pollution chain is the way that pollutants take from production into the environment over air and water. Some chemicals are easily taken up by life

forms, they are bio-available, they may accumulate in organs and tissues, stay in the food chains as they migrate from prey to predator, even from the mother to the child. Many of them also end up in man.

Chemicals have special effects on ecosystems. An ecosystem might be completely disrupted if one key species is badly damaged, and prey-predator relationships are changed. Typically ecosystems hit by pollution lose diversity and biomass. At the same time environments that are less diverse, both as landscapes and as ecosystems, are more vulnerable to environmental impacts.

Compared to the 1950's and 1960's, when the threat from chemical pollution was first grasped seriously, much has happened. Many chemicals have been banned and new chemicals have been designed so they do not accumulate in ecosystems. But old chemicals still leak from the society into the environment, and new threats are continuously discovered. Lately pollutants that influence the sexual differentiation in animals, the so called endocrine disruptors, have been creating a new scene, a chemical panorama that seems more threatening than before. It is discussed whether endocrine disruptors, also called hormono-mimetic pollutants, can reach man and threaten his reproduction.

Environmental impacts interact in several ways, either to reinforce one another or sometimes dampen each other. Landscape changes make the environment more or less susceptible for eutrophication and acidification. For example a modernised monotonous production landscape enhances eutrophication since the factors that reduce nitrogen and phosphorus flows are absent. At the same time an ecosystem that has relatively few species is less able to withstand the impact of pollution and changes in general, e.g. the Baltic Sea ecosystem. The environment is more or less robust, that is more or less able to withstand impact. An environment that has changed but is able to go back to its original status after an impact has ceased, is called resilient.

…… Some of the impacts that man has had on the environment will last very long. Changes in infrastructure, roads, buildings etc, will last perhaps to the next ice age, that is many tens of thousands of years. Also landscape changes, e.g. deforestation and drainage, may be very long lasting. Forests will take hundreds of years to be more natural and a "virgin" forest will probably take a thousand years to establish itself. A chemical impact will only last as long as the chemical survives. However changes in the biogeochemical cycles will take hundreds or thousands of years for global impacts to adjust even if mechanisms are available.

Finally some changes are irreversible. To this category belongs for example the extinction of biological species. Even if we will in the long run be able to manage the environment to stop the continued degradation, it is already clear that our children will live in an environment that is a little less rich and a little less diverse than ours.

Task 2. Find the following terms in the text and in the glossary (see page 30). In which meanings are they used in the text?

- phosphorus
- accumulate
- acidification
- drainage
- extinction
- pollution

Task 3. Choose the correct preposition:

1. The pollution chain is the way that pollutants take from production into the environment…….air and water.
(over; by; on)
2. We will study how these types of pollution and environmental impact spread …….the environment.
(in; into; to)
3. At the same time environments are more vulnerable …….
(to; on; at)
environmental impacts.
4. Some of the impacts that man has had……. the environment
(to; at; on)
will last very long.
5. Our children will live…….an environment that is a little
(in; with; into)
less rich and a little less diverse than ours.

Task 4. Mark the statements as true (T) or false (F). Correct the false statements, using the following phrases:
To my mind...
Personally, I am more inclined to think that ...
I am not entirely convinced that ...
I see things rather differently ...

1. The pollution chain is the way that pollutants take from the environment into air and water.
2. Typically ecosystems hit by pollution lose diversity and biomass.
3. Many new chemicals have been designed specially to accumulate in ecosystems.
4. Landscape changes make the environment not susceptible for eutrophication and acidification.
5. Some of the impacts that man has had on the environment will last very long.

Task 5. Paste the words to complete the sentences

endocrine disruptors	***hormono-mimetic pollutants***
reinforce	***robust***
dampen	***resilient***

1. Lately pollutants that influence the sexual differentiation in animals, the so called …… have been creating a new scene, a chemical panorama that seems more threatening than before.
2. It is discussed whether endocrine disruptors, also called …… …… can reach man and threaten his reproduction.
3. Environmental impacts interact in several ways, either to …… …… one another or sometimes …… ……each other.
4. The environment is more or less …… …… that is more or less able to withstand impact.
5. An environment that has changed but is able go back to its original status after an impact has ceased, is called ……...

Task 6. Match synonyms

pollutant	***to enhance***
to dampen	***to ban***
irreversible	***diversity***
to withstand	***extinction***
longevity	***to reinforce***

long continuance……. .
contaminant …… .
variety …… .
to strengthen…… .
to reduce…… .
to prohibit…… .
to increase, to raise…… .
to resist…… .
irreparable…… .
dying-out, disappearance……. .

Task 7. Turn the following adjectives into adverbs and make sentences of your own. (Use the suffix - *ly)*
e.g. Bad - badly - Key species are badly damaged.

1. extensive.....
2. complete .....
3. deliberate.....
4. typical .....
5. serious .....
6. continuous .....
7. relative.....
8. late .....
9. probable .....
10. final .....

Task 8. Match the words with their definitions

nutrient	***eutrophication***
extinction	***predator***
deforestation	***pollution***
ecosystem	***drainage***

…… .
1. the destruction of forest, usually for timber or to clear the land for cultivation or the raising of livestock

…… .
2. removing surplus water or liquid waste

…… .
3. excessive richness of nutrients in a lake or other body of water

…… .
4. the state or process of a species, family, or larger group being or becoming extinct; to disappear

…… .

5. the presence in or introduction into the environment of a substance or thing that has harmful or poisonous effects

…… .

6. a substance that provides nourishment essential for growth and the maintenance of life

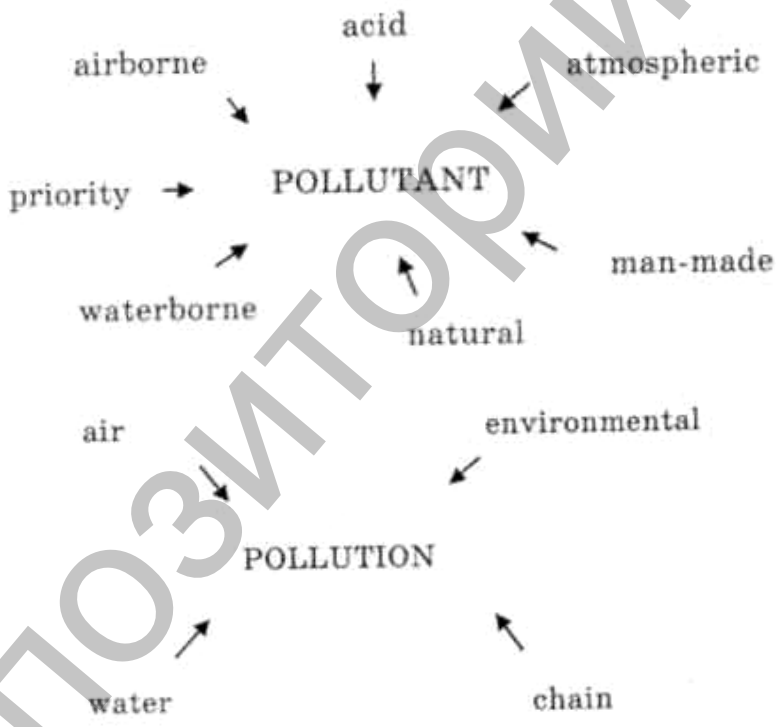
…… .

7. the complex of a community of organisms and its environment functioning as an ecological unit

…… .

8. an animal that naturally preys on others

Task 9. Study the following collocation maps and make up short reports with the given words



Task 10. Select arguments pro and con (for and against) the following statements. Use the following constructions.

Problem	Arguments for	Arguments against
1. Man-made changes to the environment are irreversible.	The basic reason for it is that ...	But the point is ...

Problem	Arguments for	Arguments against
2. We are not able to stop the continued degradation of the environment.	The reason is that ... Surely ...	However ...
3. Human impact on the environment makes it less rich and less diverse.	I think it is right for the following reasons ...	I can hardly agree with it as ...

Task 11. Ask your group-mates for some additional information about the subjects given in the brackets. Use the following expressions:

1. What do you feel about...?

…… .

(dramatic reshaping of the landscape)

2. Can you comment on...?

…… .

(interference in the biogeochemical cycles of chemicals)

3. What is your reaction to...?

…… .

(special effects of chemicals on ecosystems)

4. Why is... so important?

…… .

(banning dangerous chemicals)

5. How do you see...?

…… .

(continued degradation of the environment)

6. What would you say to...?

…… .

(hormono-mimetic pollutants)

7. Could you expand on...?

…… .

(the extinction of biological species)

Task 12. Complete the grid

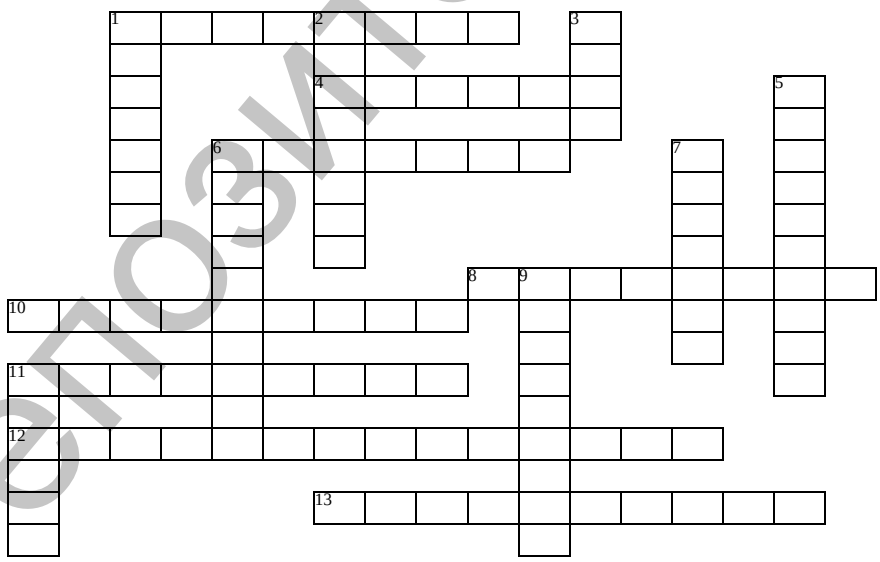
Across

1. the means of removing surplus water or liquid waste
4. any of the distinct types of material of which animals or plants are made
6. to make acid; to convert into an acid
8. an animal that naturally preys on others

10. the presence in the environment of a substance that has harmful or poisonous effects
11. the emission of energy as electromagnetic waves or as moving subatomic particles
12. relating to the partitioning and cycling of chemical elements and compounds of an ecosystem
13. process of a species, family, or larger group being or becoming extinct; to disappear

Down

1. interrupt (an event, activity, or process) by causing a disturbance or problem
2. a substance that provides nourishment essential for growth and the maintenance of life
3. an animal taken by a predator as food
5. nonmetallic element of the nitrogen family
6. to increase gradually in quantity or number
7. move from one region or habitat to another, esp. regularly according to the seasons
9. (of a person or animal) able to withstand or recover quickly from difficult conditions
11. (of a person, animal, or plant) strong and healthy; vigorous



GLOSSARY

nu*tri*ent
n.: a substance that provides nourishment essential for growth and the maintenance of life

aci*di*fy
ut. -fied; -fy-ing
1: to make acid
2: to convert into an acid — aci-di-fi-ca-tion *n.*

phos*pho*rus
n. often attrib.
1: a phosphorescent substance or body; esp: one that shines or glows in the dark
2: a nonmetallic element of the nitrogen family that occurs widely esp. as phosphates

pol*lu*tion
n.: the presence in or introduction into the environment of a substance or thing that has harmful or poisonous effects

accu*mu*late
ub. -lat-ed; -lat-ing
vt: to gather or pile up esp. little by little
vi: to increase gradually in quantity or number

tis*sue
1: *n.* any of the distinct types of material of which animals or plants are made, consisting of specialized cells and their products
2: a piece of soft absorbent tissue paper used esp. as a handkerchief or for removing cosmetics

food chain
n.: a series of organisms each dependent on the next as a source of food

mi*grate
v. (intrans.): (of an animal, typically a bird or fish) move from one region or habitat to another, esp. regularly according to the seasons

prey
n. pi.: an animal taken by a predator as food

pre*da*tor
n.: an animal that naturally preys on others:
e.g. *wolves are major predators of rodents*

eco*sys*tem
n.: the complex of a community of organisms and its environment functioning as an ecological unit

en*do*crine
adj.: physiology of, relating to, or denoting glands that secrete hormones or other products directly into the blood: the endocrine system.
n. an endocrine gland

dis*rupt
v. (trans.): interrupt (an event, activity, or process) by causing a disturbance or problem *n.* disrupter

eu*tro*phi*ca*tion
n.: excessive richness of nutrients in a lake or other body of water, frequently due to run off from the land, which causes a dense growth of plant life

ro*bust
adj.: (of a person, animal, or plant) strong and healthy; vigorous

re*si*lient
adj.: (of a person or animal) able to withstand or recover quickly from difficult conditions

de*fo*res*ta*tion
n.: the action or process of clearing of forests;
also: the state of having been cleared of forests

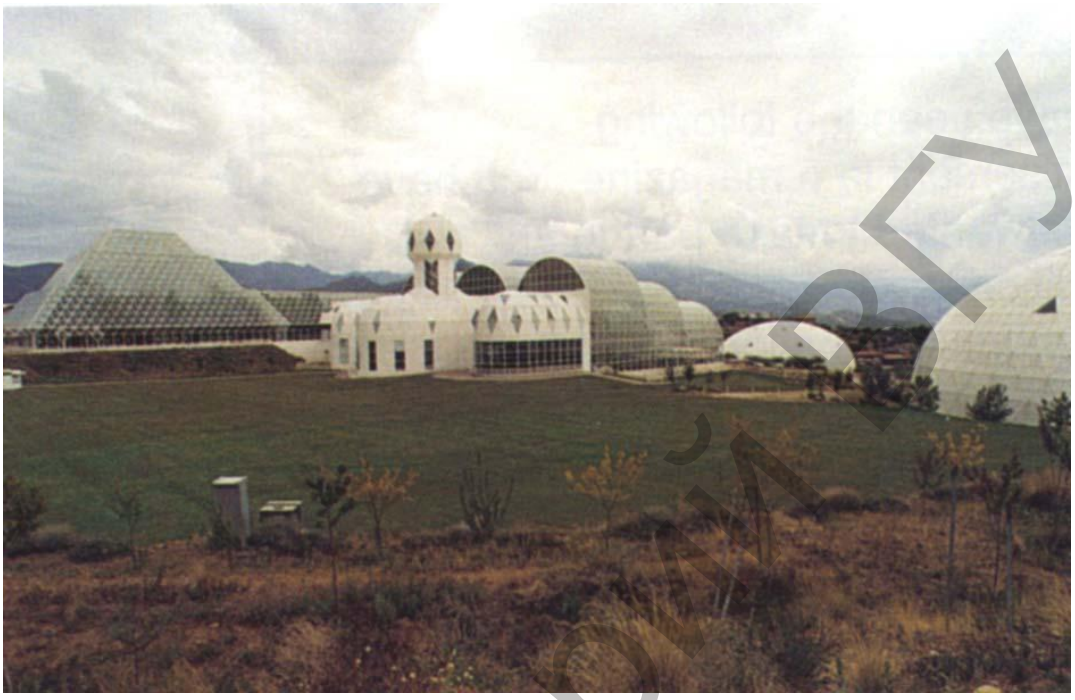
drain*age
n.: the action or process of draining something; the drainage of wetlands; the means of removing surplus water or liquid waste; a system of drains

ir*re*ver*sible
adj.: not able to be undone or altered

ex*tinc*tion
n.: the state or process of a species, family, or larger group being or becoming extinct; to disappear

Tune-in.

1 Look at the photo, describe it and discuss where you think it was taken. What is the purpose of the building?



2 You are going to hear a radio interview which describes an experiment by a group of scientists to build a new planet Earth. It is called Biosphere 2. It's completely sealed off from the outside world and it is intended to imitate exactly the functioning of the earth and as a prototype for communities that could be built on other planets. The project has many critics.

- What kinds of criticisms do you think were made?
- What kinds of things could go wrong with a project like this?

3 Listen to this radio interview and decide if in general it has been a success or a failure.

4 Now listen to the interview again and make notes of the significance of the following precision vocabulary:

• 700 days • 4000 • an oxygen tank • four • 7 kilos	• 31-year-old British ecologist • ₤ 100 million • two-storey apartment • 20 kilos

5 Reproduce the situations with all the fruit, vegetables and animals mentioned on the tape

6 Discuss the following questions

a) Do they use pesticides to grow crops? If not, what do they use instead?
b) In your opinion, what is the biggest mistake they've made? Give your grounds.
c) How, do you think, this project could help solve environmental problems?

7 Imagine you were going to live in the Biosphere for two years. Due to lack of space, you can only take three of the following possessions with you (all the essentials of life will be provided). Say which ones you would take and why.

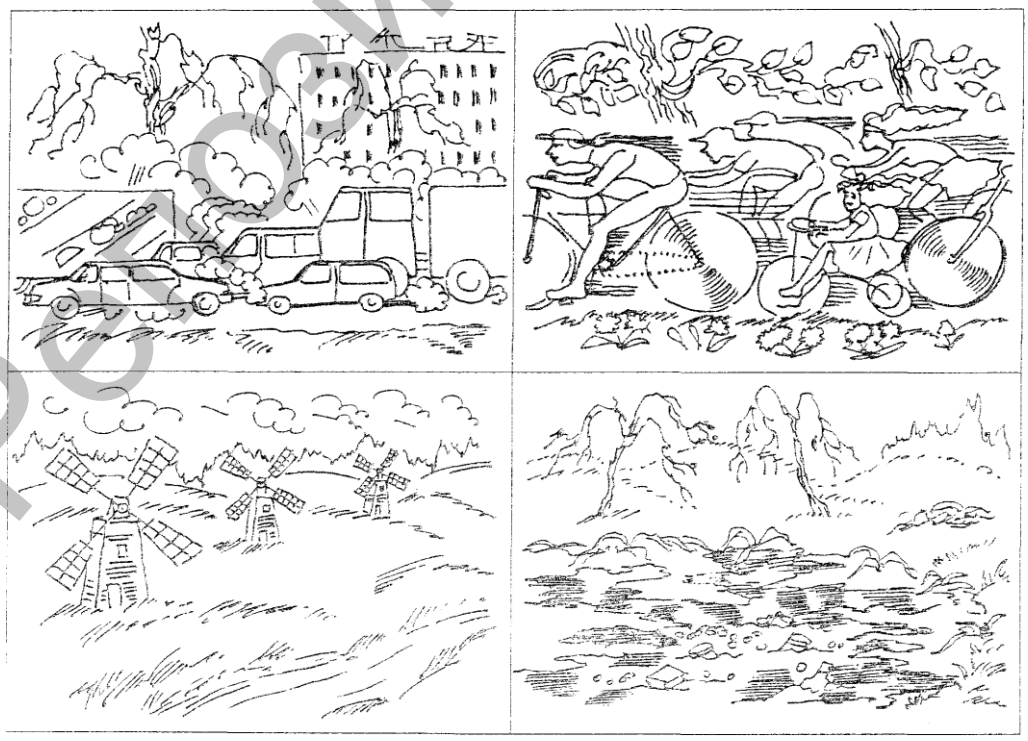
• two books • a video film • a picture/poster • a game	• two CDs/cassettes/records • a musical instrument • three photos • one other thing

MODULE 3

Warming up.

I. *In pairs compare and comment on the following pictures. Make use of the following words:*

pollution, disappearing, smoke, threaten, energy, poisoning, atmosphere, exhausts, urgent, harmful, extinct, destroy, environment, lead, crisis, chemicals, global warming, wasteland, protect, ill-health, recycling, endangered, consumption, greens



II. Look through the following idiomatic expressions and match them with corresponding Russian variants. Explain how you can use them to talk about environmental problems.

1	Ломать голову над чем-либо	A	Make a mountain out of a molehill
2	Ставить точки над “и”	B	Lay it on thick
3	Делать из мухи слона	C	Open one’s eyes to something
4	Жить как на вулкане	D	Dot one’s i’s and cross one’s t’s
5	Открывать глаза на что-либо	E	Hang by a thread
6	Висеть на волоске	F	Break one’s head over something
7	Сгущать краски	G	A sore subject
8	Больной вопрос	H	Sit on a barrel of gun-powder

III. Translate the following passage into English, using the idiomatic expressions from ex.2

Если задаться вопросом о том, что сегодня является самой актуальной задачей мирового сообщества, ответ очевиден. И сказать, что проблема защиты окружающей среды есть одна из важнейших проблем в мире – это почти ничего не сказать. Дело даже не в том, что сотни и тысячи ученых в разных странах ломают головы над тем, как избежать экологической катастрофы, а в том, что ситуация на планете такова, что экологическое равновесие по-настоящему висит на волоске, и нам пора открыть глаза на то, какой вред мы наносим окружающей среде своим потребительским отношением к ней. Необходимо осознать, что все жители планеты живут как на вулкане. Достаточно отложить решение этой проблемы на некоторое время, и последствия будут необратимыми. В данном случае мы вовсе не пытаемся сгущать краски или делать из мухи слона, в чем нас зачастую обвиняют скептики. Мы просто хотим расставить все точки над «и» и объединить усилия всех стран для решения этого больного вопроса.

Focus on the Text.

What's Wrong!

It seems that in some ways we human beings are just too clever for our own good. We have linked our natural inventiveness and creativity to our desire for progress but the result may he that we are killing our planet.

The evidence of this is all around us. Many species of animals have been wiped off the face of the Earth; and we have lost many plants and insects that were never even properly recorded. We're living amidst the pollution of litter and waste we have created ourselves - fumes from car exhausts, throwaway packaging and an abundance of

junk mail are just a few examples. This is more obvious if you live in a town, but things are just as bad in the country.

The country air, once clean and fresh, now may be carrying chemical pollutants from power stations and factories. The streams may look clear and sparkling, but many of them carry nitrates, pesticides and other chemicals down to the reservoirs that provide our drinking water. Some of our rivers and streams are now empty of fish, because they have all been killed by the poisonous brew. And in some rivers you can even see the thick foam caused by chemical wastes.

In the fields, the soil is full of poisonous chemicals that have been sprayed on crops to prevent disease and kill insects. These pesticides have killed birds, mice, foxes, and badgers too. Many of the creatures that have survived the chemicals are struggling for existence as marshlands are drained, trees are felled and hedgerows are rooted up.

Go to the seaside and you can't fail to see the pollution around you. Litter is scattered on the beaches. Some of it has been dropped that day by careless people and some has been brought in by the tide. Sewage floats in the water. The majority ot Britain's beaches are considered by doctors to be a potential health hazard. And in the long hot summer of 1989, the clear waters off the Cornish coast were tainted by a slimy orange algae that few swimmers wanted to brave.

The various kinds of pollution and waste caused by the way we live today all contribute in different ways to our main environmental problems. And most of these problems are interconnected. For example, the destruction of forests does not just deprive animals and plants of their natural habitats: it also contributes to the greenhouse effect. In looking at these environmental problems one by one, remember that anything we do to improve things in one area often helps improve another area too.

• The greenhouse effect

The gases that exist naturally in the Earth's atmosphere let the sun's rays through to warm us, and they also trap some of the sun's heat, rather like the glass in a greenhouse does. If they did not, the Earth would be a frozen planet.

The problem we have to tackle is that the level of gases which trap the sun's heat is rapidly rising and the result is a kind of blanket in the air. The 'blanket' prevents an increasing amount of heat from escaping from the Earth's surface and so the global temperature is beginning to rise.

In the bleak days of a British winter, this may seem to be a good idea. In fact, it could be disastrous.

The cause of the greenhouse effect is the rise in concentration of the following gases:

Carbon dioxide: this is responsible for 50 per cent of the greenhouse effect. Its increase is caused by burning coal, oil and gas (fossil fuels), wood, and petrol in motor vehicles. Its rise is being accelerated by the cutting down and burning of forests, especially the tropical rain forests.

Methane: this accounts for 18 per cent of the greenhouse effect and is thirty times more heat-absorbing than carbon dioxide. Its increase is due to people clearing forests and replacing them with cattle ranches and rice-growing paddy-fields. The flooded paddy-fields give off methane, and so does cattle manure.

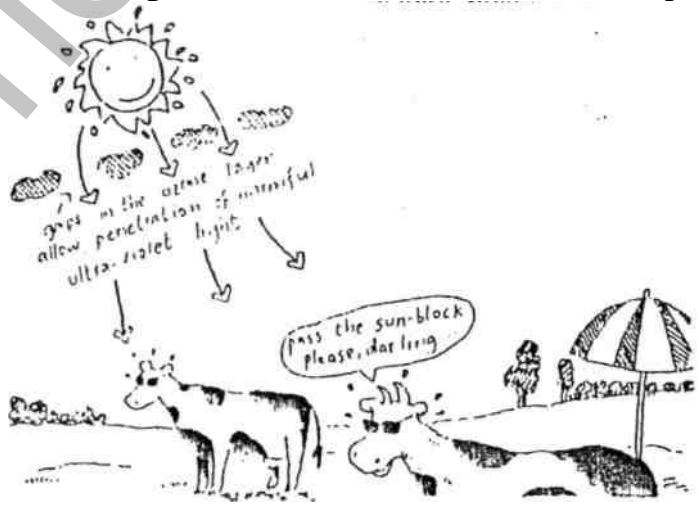
Chlorofluorocarbons (CFCs): these are more commonly mentioned in relation to the ozone layer, but are also a recent addition to the greenhouse gases. Because they are 10,000 times more heat absorbing than carbon dioxide, they are responsible tor 14 per cent of the greenhouse effect.

Ozone: this accounts for 12 per cent ot the greenhouse effect. It's given off in towns and cities as a result of sunlight mixing with airborne pollutants. It is not the same gas as the high-level ozone in the atmosphere that is being reduced.

Nitrous oxides: these are released by nitrogen fertilizers, vehicle exhausts and the burning of fossil fuels, and are responsible for 6 per cent of the greenhouse effect.

- **The destruction of the ozone layer**

Ozone is a gas that forms a layer in the upper atmosphere. It's a kind of oxygen that absorbs the ultra-violet radiation from the sun. It's these ultra-violet rays from the sun that burn our skin. Sunblock creams can screen out these burning rays, but they are not as effective as the ozone layer. Without it we wouldn't be able to go out at all unless we wore dark glasses and covered ourselves completely.



So when scientists discovered a hole in the ozone layer in 1987, it caused much alarm. The hole was over the Antarctic and it was as large as the United States and as deep as Mount Everest. Thinning in the ozone layer was later discovered in the Arctic too.

Chlorofluorocarbons

It's largely the use of chemicals called chlorofluorocarbons (CFCs) that's destroying the ozone layer. It may be hard to believe that by using hairspray you are affecting a gas thousands of miles away, but it's true. The CFCs contained in most aerosols rise into the atmosphere. Their chlorine component combines with an oxygen atom from a molecule of ozone. This forms ordinary oxygen and chlorine monoxide, thus destroying the ozone. CFCs are also used in refrigerators and air-conditioning systems and in the manufacture of the lightweight packaging you see as hamburger containers and some egg cartons.

Britain, is at present the biggest producer and exporter of CFCs in Europe. The whole of Europe produces 36 per cent of the world's CFCs, the United States is responsible for 37 per cent and Japan 12 per cent.

• Acid rain

In 1866, black snow fell in Scotland. It was the result of particles of dirt in the air. Six years later, in 1872, the term 'acid rain' was coined. And that's a good example of just how long it has taken us to wake up to what we are doing to the environment.

We now use 'acid rain' to describe all kinds of pollutants that are carried up into the air and fall back to Earrh in the form of rain, snow or fog. The pollutants combine with the moisture in rain and snow clouds to form sulphuric acid, nitric acid and other chemicals. The rain formed like this is between four and a thousand times more acid than normal rainfall. When it falls to Earth it damages trees, lakes and streams, buildings and people.

The main chemical culprits that reach the atmosphere are sulphur dioxide and nitrogen oxides. Natural events such as forest fires and volcanic eruptions are responsible for a certain amount, but these chemicals are produced in much larger quantities by the burning or fossil fuels - gas, coal and oil.

Power stations produce much of the sulphur dioxide. They can be fitted with devices called flue-gas desulphurization systems to cut the amount of gas given off, but in Britain we have not yet done this. Power stations produce nitrogen oxides too, as do other industrial processes, and half of them come from vehicle exhausts.

• Deforestation

All over the world, the forests are disappearing. This is not just because of acid rain and other pollution. People are cutting the trees

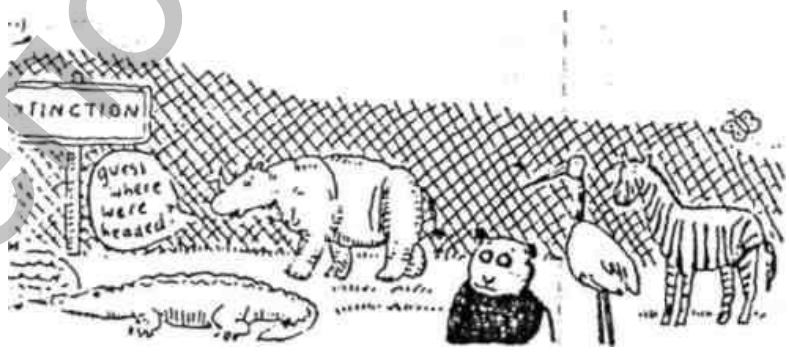
down to clear land for growing crops and keeping cattle. Sometimes they want the timber for building houses and making furniture. Sometimes they simply need it for fuel.

People have always cut down trees to use their wood. But in the past, there weren't so many people. Now the trees are being used faster than new trees can be grown. Forests the size of Belgium are destroyed every year in the less-developed countries of the world. In 1987 alone, Brazil lost 20 million acres of forest. Even if new trees are planted, a hardwood tree, for example, takes many years to mature.

Trees give off oxygen and absorb carbon dioxide - fewer trees mean less carbon dioxide is absorbed. The burning of trees to clear forests also releases more carbon dioxide into the atmosphere, increasing greenhouse gases. Deforestation has other effects as well. The tropical rain forests in central and South America, central Africa and south-east Asia are a particular cause for concern. Many species of animals and plants live in them, and if their natural habitats die, so will they. Many of our modern drugs have been developed from plants found in the rain forest. Friends of the Earth estimate that as many as one quarter of our purchases from highstreet chemists use substances that come from rain forest species. Many of the rain forest plants are being used in research for drugs to help the fight against cancer.

- **The extinction of animal and plant species**

It's estimated that at present we are destroying *100 species every day*. Among the animals that are facing extinction in various parts ot the world are the Asiatic lion, the blue whale, the black rhinoceros, the elephant, the mountain gorilla, the tiger, the giant panda, the snow leopard, some species of crocodile, the peregrine falcon, the bird-winged butterfly - the list goes on and on.



In Britain we are in danger of losing the bat, several species of butterfly, the dormouse, the otter, the barn owl, the golden eagle, the nightingale and many plants. We have lost 95 per cent of our traditional hay meadows, and half of the rest are damaged. Some 99 per

cent of lowland heaths have been built on, ploughed up or planted with conifers. We have filled in 90 per cent of our ponds and destroyed more than half of our wet marshy areas. Four-fifths of our limestone grasslands have gone.

In the last 50 years we have cleared 50 per cent of our lowland woodlands or planted them with conifers, creating conditions too dark for many plants and creatures to live in. This is more than was lost during the previous 500 years. And since 1947 we have destroyed 109,000 miles (175.381 kilometres) of hedgerow and four-fifths of our chalk downlands, which supported 30 different kinds of plants per square yard (square metre).

Not all of the precious resources were natural. Some of them were made by people hundreds of years ago. As they developed, they made homes for many different kinds of animals and plants. Many of these could not live in any other kind of habitat. Now that we are destroying these habitats, we are losing the creatures and plants that they supported, probably for ever.

• **Fossil fuels**

Coal, oil and gas are all fossil fuels. Like most of the energy on Earth, they were produced by the heat of the sun. Coal is the fossilized remains of large plants. Oil and gas are the fossilized remains of small plants and animals that lived on the Earth millions of years ago. But unlike other forms of natural energy, fossil fuels will not last for ever. Their supply is limited; once we have used them all up, we cannot replace them. The environmentalists' term for this kind of energy is 'non-renewable'.

Burning fossil fuels releases sulphur dioxide, nitrogen oxides, carbon dioxide, soot, ash and dust into the atmosphere. These pollutants contribute to the greenhouse effect and cause acid rain.

• **Toxic waste**

Toxic, or poisonous, waste is a by-product of many industrial processes. Of the two billion tonnes of waste produced each year in Europe, 150 million tonnes is industrial waste. Of this industrial waste, 20 to 30 million tonnes are toxic.

People are becoming more and more worried about the toxic waste that industry produces. The facilities we have now can only dispose of 50 per cent of it.

In Britain we even import toxic waste from other countries for disposal. The reason that other countries want to send us their toxic waste to deal with is simple - we do it more cheaply. In West Germany, toxic-waste disposal costs *£25* a tonne. In Holland it costs *£15* a tonne. In Britain it costs a mere *£5* a tonne.

From 1987 to I988 we imported 183,000 tonnes of toxic waste and incinerated 100,000 tonnes of it in the North Sea. As it burnt, it released a deadly poison called dioxin, which can cause cancer in animals and affect their reproductive systems. Fortunately, this process was banned from 1994. Workers in many industries are more likely to develop cancer because of the materials they handle - for example, types of asbestos, dyes and, of course, anything radioactive.

It's not only the workers who suffer. People who live near toxic-waste dumps have a higher rate of illness. And sometimes the pollution reaches catastrophic levels through carelessness. In 1988 the water supply of Camelford, Cornwall, was polluted by 20 tonnes of aluminium sulphate. The lorry driver from the chemical company dumped it into the town's water supply instead of into the aluminium storage tank. Twenty thousand people suffered joint and muscle pains, headaches, vomiting, diarrhoea and blistering of the mouth. Some of them even saw their hair turn green. And 60,000 fish were killed.

• Population growth

In the late 1980s, the world's population topped the five billion mark - a 500 per cent increase in just 150 years. Today the population is growing at the rate of 150 people a minute. That's 9,000 per hour, 216,000 per day and 1,512,000 per week. Altogether, the population is increasing by a staggering 78,624,000 a year - that's just over a third of the population of the United States. It is estimated that, if we keep growing at our present rate, the world's population will level out towards the end of the twenty-first century at around 10 billion people - or twice as many people as today.

Most of this population explosion will take place in the less-developed countries of the world, but the industrialized nations - which currently use a far larger share of the Earth's resources - will also grow. More people will put more of a strain on the Earth's natural resources and habitats. The question is, can the Earth sustain it?

Vocabulary exercises

I. Learn how to read the following words

Nitrate	sulphuric acid
Pesticide	sulphate
Gases	reservoir
Carbon dioxide	algae
Methane	aerosol
Ozone	chlorine
Chlorofluorocarbons	acre
Atom	nitrous oxides
Molecule	ultra-violet

II. Insert prepositions or adverbs and translate them into Russian

A.

To link smth ___ smth	to deprive smb _____ smth
Desire ___	to let _____
To be wiped _____	to screen _____
To be empty _____	to replace smth _____ smth
To contribute ____ smth	

B.

1. Black snow in Scotland is a good example of just how long it has taken us to wake ____ ____ what we are doing ___ the environment.
2. Acid rain is used to describe all kind of pollutants that are carried ____ ____ the air and fall ___ ___ Earth in the form of rain, snow or fog.
3. Power stations can be fitted ____ devices called flue-gas desulphurization systems.

III. Translate the following sentences into Russian. Pay attention to the words in italics. Paraphrase the sentences

1. In the late 1980s, the world's population *topped* the five billion mark - a 500 per cent increase in just 150 years.
2. Altogether, the population is increasing by a *staggering* 78,624,000 a year - that's just over a third of the population of the United States.
3. The world's population will *level out* towards the end of the twenty-first century at around 10 billion people - or *twice as many* people *as* today.
4. More people will *put more of a strain on* the Earth's natural resources and habitats.

IV. Complete the sentences

1. Ozone is a kind of _____ that absorbs _____ from the sun.
2. The hole in _____, discovered in 1987, was over _____ and it was as large as _____ and as deep as _____.
3. It's largely the use of _____ that's destroying the ozone layer.
4. Their _____ combines with an oxygen _____ from a _____.
5. CFCs are also used in _____ and in the manufacture of _____ you see as_____.

V. Explain the following notions

Fossil fuels coal gas oil non-renewable

- Are fossil fuels environment friendly? Explain your answer.

VI. Give English equivalents and reproduce the situations with these words

1. выхлопные газы
2. электростанция
3. питьевая вода
4. ядовитая смесь
5. прилив/отлив
6. канализационные воды
7. потенциальная угроза здоровью
8. водоросли
9. естественная среда обитания
10. парниковый эффект
11. природное топливо
12. тропические леса
13. рисовое поле
14. озоновый слой
15. верхние слои атмосферы
16. солнцезащитный крем
17. озоновая дыра
18. упаковка
19. кислотный дождь
20. частицы грязи
21. лесной пожар
22. извержение вулкана
23. побочный продукт
24. промышленные отходы
25. свалка токсичных отходов
26. высокий уровень заболеваний
27. рост населения
28. вечнозеленые растения
29. пепел
30. сажа

VII. Translate the following words and word combinations into English. Use them in the situations of your own

1) разбрызгивать
2) осушать болота
3) вырубать живые изгороди (деревья) (4)
4) высвобождать (2)
5) быть на грани уничтожения
6) невозобновляемые ресурсы
7) перерабатывать (избавляться)
8) сжигать
9) достичь (превысить) (2)
10) изобретать
11) в три раза больше
12) накапливать
13) улавливать
14) уничтожать (2)

Comprehension exercises

I. Prove the following statements, using the information from the text

1. Human beings are too clever for our own good.
2. Environmental situation in the country is as bad as in the town.
3. Most environmental problems are interconnected.

II. Answer the questions

1. What functions do gases that exist naturally in the Earth's atmosphere perform?
2. What causes the greenhouse effect?
3. What gases account for the greenhouse effect?

III. Complete the table. Speak about these problems

PROBLEM	CAUSES	EFFECTS
Deforestation	1. cutting the trees down to _____, _____ and for _____. 2. _____ 3. _____	1. fewer trees mean _____ because trees _____ 2. many species of animals and plants ___
Acid rain	1. _____ in the air 2. _____ and _____ 3. _____ such as coal, gas and oil 4. production of different chemicals by _____	1. damage to _____, _____ and _____, _____ and _____
The greenhouse effect	1. burning _____, _____, and _____ 2. the cutting down and _____ and replacing them with _____ and _____ 3. nitrogen _____ and vehicle _____ 4. _____	1. the global temperature _____ 2. _____

III. Enumerate those species of animals which face extinction nowadays

What are the causes of this problem?

IV. Summarize the information about toxic waste

V. Complete the sentences with the topical vocabulary and expand on them

1. Man pollutes nature, the air is …….
2. Water is polluted and becomes ……, forests ……
3. Land becomes infertile: plants and animals ……
4. We can't dispose of toxic waste safely: when we …… it releases …….., when we ……..
5. Conservationists fight pollution, protect ……..
6. People get together to protest, to demonstrate ……

Vocabulary study.

I. Look at the following with a neighbour, and check that you understand the words in *italics,* using a dictionary if necessary. Discuss what you think the answers to the questions are

The number *of nuclear reactors* planned or operating in *industrialized* countries and Eastern Europe is 586. How many are planned or operating in the whole of the rest of the world? More than 500, between 100 and 500, or less than 100?

The amount of petroleum used on an average day by a Pakistani is 0.136 kilos. How much is used by a Canadian: 0.5 kilos, between 1 and 3 kilos, or more than 10 kilos?

UK taxes allocated to research into nuclear power in 1991-1992 were £94.1 million.
How much do you think was allocated to *solar power* research: more than £100 million, less than £5 million or around £10 million?

What do you think the lowest reckoning of the area of the world's *tropical forests* felled each working day in 1991 was: over 1,000 square kilometres, between 400-700 sq. kms, or between 200 and 400 sq. kms?

In 1991, how much oil was being discharged into the world's seas each working day by *oil tankers*: about 100 tonnes, 10,000 tonnes or between 3,000 and 5,000 tonnes?

What percent of the world's water is *drinkable* (i.e. not salty): over 20%, around 3%, or less than 1%?

How many *satellites* have been *launched* into space since 1957: about 3,000, about 12 000, or less than 1,000?

II. Look at the real answers now:

- The number of nuclear reactors planned or operating in the rest of the world in 1991: 53
- The amount of petroleum used on an average day by a Canadian in 1991: 10.42 kg
- UK taxes allocated to solar energy research in 1991: £2 million
- Lowest reckoning of the area of tropical forests cut down each working day in 1991: 629 square kilometres
- Quantity of oil discharged into the seas each working day by oil tankers in 1991: 4,230 tonnes
- Percentage of the world's water which is drinkable: 3%
- Number of satellites launched into space: about 3,400

a) How many did you get right? Which did you find most surprising? Which is most worrying for you? Are the figures the same nowadays?
b) Which other facts would you like to know about the environment and natural resources? Why?

III. Which words in the statements above mean the following?
dispose of budget for cut down calculation

IV. *Solar* means 'relating to the sun'. What words, also ending in *-ar* mean 'relating to the moon' and 'relating to the stars'?

V. *Drinkable* means 'can be drunk'. Find words ending in *-ble* which mean: 'can be eaten', 'can't be eaten', 'can't be touched', 'can be disposed of', and 'can't be thought about'.

VI. Satellites can be *launched.* Which of the following can also be *launched?*
a career a boat a publicity campaign a disaster
Make up sentences to illustrate your answers

VII. Match the verbs in column A with their opposites in column B

A	**B**
create	damage
save	neglect
care for	pollute
improve	destroy
purify	waste

VIII. Complete the following table with nouns and adjectives related to the verbs listed

Verb	Noun	Adjective
waste	waste	
damage		
improve		xxxxxx
neglect		
destroy		
pollute		xxxxxx
create		
purify		
congest		

Which endings have you used to make nouns?
Which endings have you used to make adjectives?

IX. Match words from column A with words from column B to make phrases related to the environment

A	B
ozone	*effect*
global	*pollution*
rain	*layer*
food	*explosion*
air	*rain*
greenhouse	*shortages*
acid	*forests*
population	*warming*

Now complete the sentences below by beginning with one of the phrases above and using appropriate forms of verbs from the box

cause play protect make affect result

a . . . life in our cities unhealthy.
b . . . people in several countries in Subsaharan Africa.
c . . . many fish in the lakes of Northern Europe to die.
d . . . from the accumulation of carbon dioxide and other man-made gases in the atmosphere, which absorb and reflect more of the sun's heat than is normal.
e ... an important role in the climate patterns of the whole world.
f ... us from the adverse effects of ultra-violet radiation.

X. The words in the box all have similar meanings

spoil ruin harm damage destroy mar

a Use a dictionary if necessary to arrange them in order on the line below.

WEAKEST ◄ ----------► STRONGEST

b Which would you be most likely to use to talk about the following?

i a car after a slight accident
ii a day of your holiday when things went badly
iii a building after a bad storm
iv a building after heavy bombing
v people's lungs in a polluted city
vi a meal after too much cooking

vii a view from the top of a hill after the building of a road
viii a businessman or woman who is bankrupt

XI. Complete the following using the appropriate form of one of the words in *italics* from the paragraph above, and a verb from the box

reduce control harness affect improve provide repair

Example:
The *recycling* of certain kinds of waste is now common practice. Glass, paper and most metals are now_____ at special plants. But many more such plants need to be _____
Answer: *recycled, provided*

a Air *pollution* is a huge problem in most of the world's big cities, and people complain about it constantly. However, what _____the air most is the exhaust from the vehicles which those same people drive. One solution would be to_____ strictly the amount of driving people can do in cities.
b Cars *emit* poisonous gases such as carbon monoxide and carbon dioxide. Steps are being taken to_____these _____ by fitting new cars with 'catalytic converters' which make most of the gases harmless.
c Thousands of hectares of the world's rainforests are *destroyed* every year. This _____ of the rainforests is expected to _____the global climate, as well as wildlife, in various ways.
d Scientists now believe that the ozone layer is being *damaged* by the chemicals in certain common products, such as deodorants and hair-spray, and the chemicals given off by air-conditioners. The_____ caused to the ozone layer can never be_____.
e Everyone knows that nuclear waste can *harm* the environment. But until it becomes possible to_____the natural energy of the sun, the wind and the waves, it will be impossible to meet man's energy needs without producing _____waste of one kind or another.
f As cities become more *congested* with traffic, local councils tend to widen streets and try to_____the flow of traffic. Of course, this encourages more people to drive in the city, and the _____ increases again.

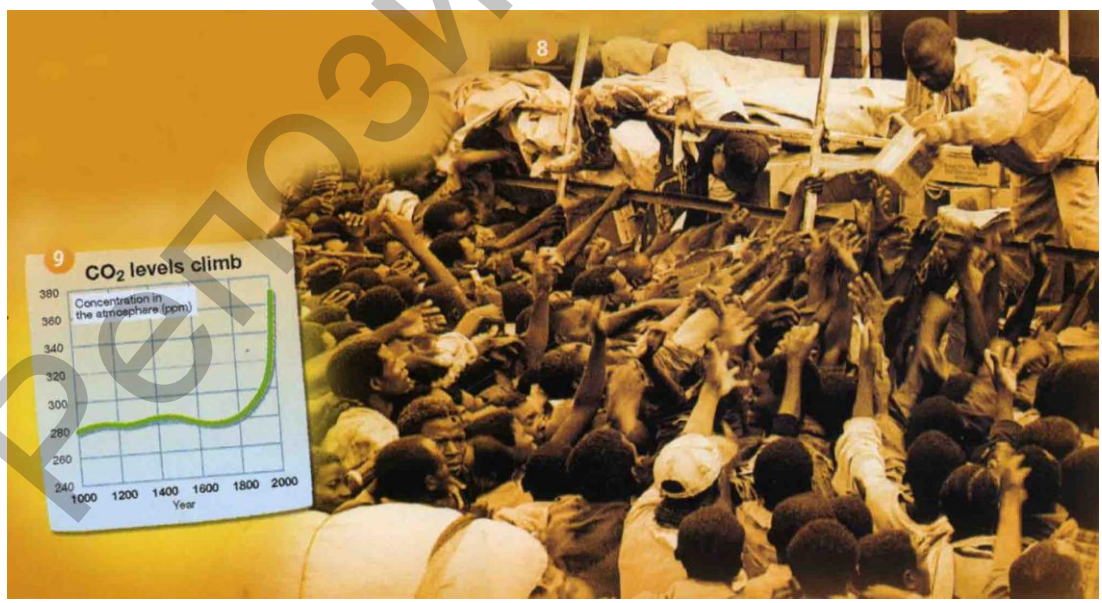
XII. With a partner, write the text for *three* street posters to be used in environmental campaigns. Then design one of these posters

Tune-in.

1 Match the Key Words with the photos, graphs and headlines. Which of these issues are "environmental" and which are "human"? Which are both? Explain your answers

Key Words: **deforestation, the destruction of habitats, endangered species, the exploitation of women, famine, flooding, global warming, the greenhouse effect, malnutrition, natural disasters, overpopulation, poverty**

7. *AID WORKERS UNDER PRESSURE*



2 Listen to four news stories and identify the issues

3 Listen again. What do these figures refer to?

▪ 0.6ºC	▪ 6ºC	▪ 5,000	▪ 11,000
▪ 6 billion	▪ 40%	▪ 9 billion	▪ 12 cm
▪ 3ºC	▪ 22 years	▪ 1910	▪ a quater
▪ a fifth	▪ 11	▪ 1,000	▪ 1970
▪ 200	▪ 1960	▪ 2070	▪ 20%

4 Listen to these reports once again and reproduce them as close to the text as possible

5 Work in pairs. Talk about the global issues on this page. Which issue do you think is the most important for the 21st century?

UNIT 2. THE PLANET STRIKES BACK

Warming up.

The US National Wildlife magazine pointed out 1988 as the year when *"Planet Earth began to strike back through drought, heat waves, soil erosion and other human-induced natural hazards".*

I. The environmental awareness of human kind has become task number one for scientists. Here are two headlines of different publications dealing with human-induced natural hazards which threaten our ecosphere. Read the sentences below and find these two publications. Decide which sentences go with headline a) and b). The first sentence is done for you

a) **GREENHOUSE EFFECT** b) *ACID RAIN*

1													**2**										

1. The atmosphere is a blanket of gases around the Earth.
2. A lot of dangerous gases enter the atmosphere from tall chimneys of factories and power stations.
3. For thousands of years these gases have trapped some of the sun's heat and kept the planet's temperatures at a steady level.
4. The present climate zones and other natural habitats have been formed under those temperatures.
5. Then they mix with water in the air and form a cocktail of acidic chemicals.
6. But now because pollutant gases accumulate in the atmosphere, they trap the heat from the Earth like the glass of a greenhouse stops the sun's heat from leaving.
7. After that the wind carries them for hundreds or even thousands of kilometers away.
8. So, the Earth gets hotter.
9. And finally, this killing mixture falls back on Earth as acid rain.
10. It causes damage or death of forests, lakes, wildlife, humans, buildings, works of art.
11. When the Earth's temperature rises, the weather will change everywhere.
12. The soil in parts of Scandinavia is now ten times more acid than fifty years ago.
13. Leaves and roots of trees are damaged, and they are dying all over Europe.
14. The ice at the North and South Poles will start to melt and as a result, the level of the sea will rise.
15. When scientists in Britain tried to put new fish into one lake, all the fish died in less than two days.
16. There will be serious floods in many countries.
17. This liquid killer is also attacking many of Europe's most famous sculptures and buildings: for example, Notre Dame in Paris and St. Paul's in London.
18. Millions of people will lose their homes.
19. Millions of living organisms will perish.
20. When the climate changes, there will be less food in the world.
21. Vast territories of America and Central Russia will become too hot for farming.
22. Medical statistics show more lung and kidney illness in countries with high levels of acid pollution.
23. Other areas may become wetter, but the soil there isn't as rich.
24. It won't be possible to grow the same amount of food.

II. Discuss in class what these two articles are about

III. Find in the articles the sentences which show that:

1. Acid rain and the warming of the atmosphere are the effects of human activity.
2. Pollutant gases produce the effect of a greenhouse for the Earth's climate.
3. The soil is being degraded very quickly because of acid rain.
4. The wildlife in the Earth's water reserves is endangered with extinction because of acid pollution.
5. The warming of the atmosphere may threaten the world with hunger.
6. The health of people is also in danger.

IV. Say to which of the publications (a) or (b) these sentences belong and where they go in each text. Give your grounds

1. To save the environment in some parts of Norway, the acid level must be 80% lower.
2. This time the climate change isn't happening naturally, but because of pollution and very, very quickly.
3. By the year 2000 Germany's Black Forests may be dead.
4. We can't stop global warming, but we can slow it down.
5. 125,000 years ago the climate was 3 °C hotter than today.
6. Tropical areas are especially in danger of this sort of pollution because of their poor soils.
7. Most scientists agree that without a worldwide effort to lessen pollutant gases emission it may become 1,5-4 °C hotter on the planet by 2030.

V. Ask and answer. Work in pairs. One student completes the question, the other completes the answer. Take turns

1. - Why is the warming of the Earth's climate called...?
   - Because the pollutant gases ....
2. - How does acid rain effect... ?
   - It damages the roots and ....
3. - Why is …….. an international hazard?
   - The wind ... .
4. - What will happen to the ice ... ?
   - It will....
5. - Can we stop ... ?
   - No, we can't, but....
6. - What is ... ?
   - It's a mixture ....
7. - How much and how soon may the global ... rise?
   - By the year 2030 ... .

Vocabulary study.

Ex. 1. Use the words from the text to complete the sentences

1. Seven million hectares of European forests are dead or dying because of ……
2. Carbon dioxide, CFCs (Chlorofluorocarbons), methane and nitrous oxide are the main .....gases that produce ……..… effect.
3. Each molecule of CFCs can ..... 10 times more heat than a molecule of CO_2.
4. Chemical fertilizers are ..... not only for soil, they also add to the ..... of greenhouse gases in the atmosphere.
5. The growing ..... of the ..... of the environmental degradation has led to the organization of the Green Peace Movement.
6. A rise in sea..... will mean a lot of other human-……..losses for environment.
7. Acid rain .....the health of people.

Ex. 2. Here are some causes of pollution and actions needed to stop them. Match the parts A and B

1	2	3	4	5	6

A		**B**	
1.	From the burning of coal, gas and oil ...	a.	... destroy the air.
		b.	... to stop acid rain.
2.	The gases from chemical fertilizers and rubbish …	c.	... nearly 6 billion tons of carbon dioxide enter the atmosphere every year.
3.	The gases from aerosols ...		
4.	South American, Asian and African countries …	d.	... add to the Greenhouse Effect.
5.	The use of natural energy of the sun, sea, and wind ...	e.	... must conserve their rainforests.
6.	We must make our power stations and factories cleaner...	f.	... will help to slow down global warming.

Ex. 3. Find in the text equivalents to the following phrases. Use them in the sentences of your own so that the whole class is able to make up a short situation

При температуре; природные бедствия, вызванные деятельностью человека; в результате; живая природа; убийственная смесь;

газовая оболочка; не пропускают; понимание важности окружающей среды; коктейль кислотных химикатов; эрозия почвы; «жидкий убийца».

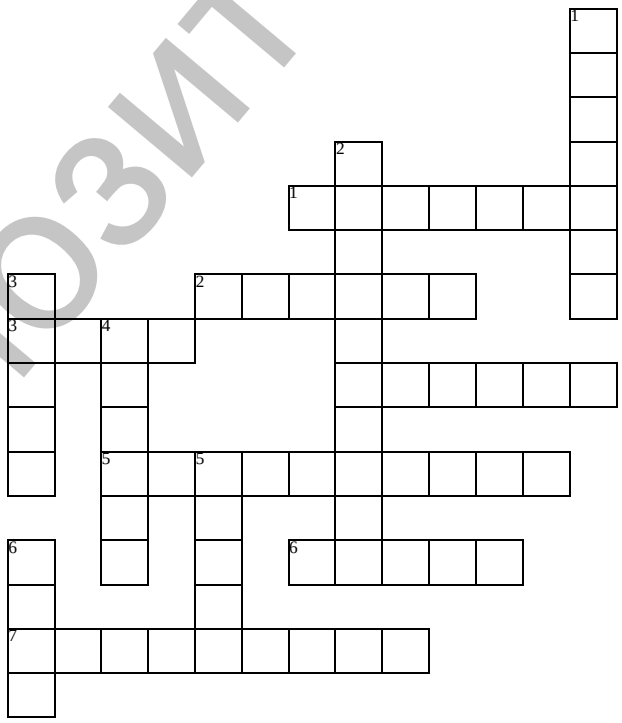
Ex. 4. Do the crossword puzzle. Translate the words across and down

Across:

1. засуха
2. эффект
3. потеря
4. опасность
5. накапливать
6. уровень
7. осознание

Down:

1. грозить
2. теплица
3. наводнение
4. устойчивый
5. вызывать
6. улавливать



Tune-in.

1 Read the following statements about acid rain and try to guess the answers

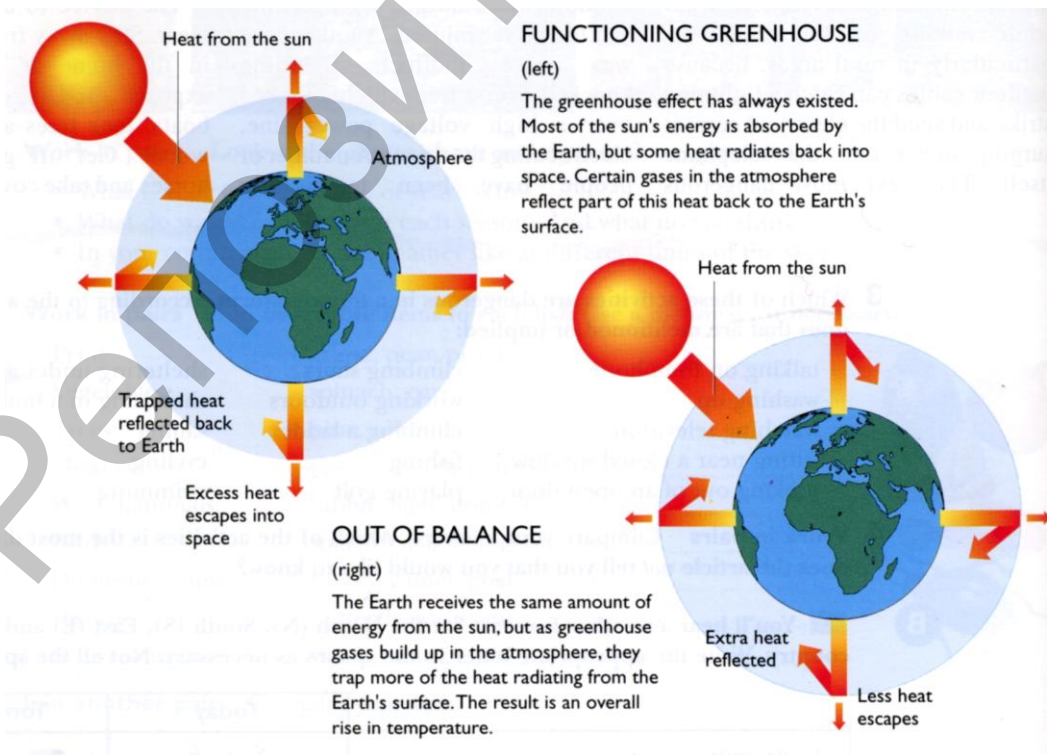
- Acid rain is mostly found in **South America/North America** and Europe.
- Harmful **chemicals/poisons** are released into the air and mix with the water in clouds to produce acid rain.
- Acid rain causes great damage to the plant and animal life in **parks and zoos/lakes and streams.**
- Acid rain can slowly eat away the **debris/stone** on the outside walls of buildings.
- Governments are forcing power stations to **reduce/increase** the amounts of poisonous fumes that they release into the atmosphere.
- We can help by using less **oxygen/electricity.**
- If we used public transport more often, the atmosphere wouldn't become so **polluted/affected** by car exhaust fumes.
- If we all make an effort, we can help to decrease the **strength/threat** of acid rain.

2 Listen to the tape and underline the correct word

3 Listen again and say what acid rain is, what damage is caused and how the problem can be solved

Focus on the Text.

Pre-reading tasks. **Task 1. Work in pairs. Before you read the article, look at these diagrams. Can you work out how the greenhouse effect works?**



Task 2. Six sentences have been removed from the article below. Choose from the sentences A – G below the one which fits each gap 1-6. There's one extra sentence you don't need to use

A Until recently all of this was absorbed by trees and plants, which converted it back into oxygen.
B So the amount of CO_2 in the atmosphere is increasing all the time.
C Some areas may actually benefit: the higher temperatures may allow a longer growing season, for example.
D At the time his predictions were regarded as science fiction.
E But it certainly looks as if inhabitants of this planet will have to get used to living in a warmer world.
F Consequently, the temperature rises.
G Surprisingly, the amount of CO_2 in the atmosphere has continued to fall.

As long ago as the 1960s Professor Bert Bolin predicted that the 'global warming', caused by an increase in the amount of carbon dioxide (CO_2) in the atmosphere, would lead to significant changes in the Earth's climate. [1].....

But most experts now agree that the amount of carbon dioxide in the atmosphere will double from 0.03% to 0.06% in the next 50 years and that temperatures worldwide will rise by 2° Celsius.

Although a temperature rise of 2° may not seem significant, local effects may be much greater: by 2025 a rise of 10° is possible in polar regions and 4° in Northern Europe. Indeed the first effects will be felt by the end of the century – perhaps they are already being felt...

But how does the Greenhouse Effect operate and why should such a tiny proportion of CO_2 have such a harmful effect?

When living creatures breathe out and when things are burned, CO_2 enters the atmosphere. [2]..... But the balance of nature has been disturbed. In power stations, in factories and in cars, we are burning more and more fossil fuels (coal, oil and natural gas). 18 billion tons of CO_2 enter the atmosphere every year. And the destruction of forests means that there are fewer trees to convert the CO_2 into oxygen. [3].....

As sunlight enters the atmosphere, the surface of the earth is warmed. Some of this heat escapes back into space, but the rest is trapped by CO_2, which acts rather like the glass in a greenhouse, allowing sunshine and heat to pass in but not out again. [4].....

As the temperature rises, the amount of water vapour in the air will increase and this too will absorb more of the Earth's heat. The oceans too will become warmer and store more heat, so that they increase the warming effect. According to some scientists, the polar ice-caps will start to melt and the oceans will expand as more snow and ice melts. Because the exposed ground, formerly covered in snow, won't reflect the heat so well it will absorb more sunlight and this will lead to even more snow melting.

Scientists predict that the level of the sea will have risen by ½ to 1½ metres by 2050. This will affect many low-lying areas of the world - millions of people today live less than one metre above sea level.

[5]..... For Northern Europeans, the extra warmth may be welcome - but there is also likely to be increased rainfall.

But many areas may suffer: the southern states of the USA can expect hotter summers and less rainfall, leading to worse conditions for agriculture, and the Mediterranean region may well be much drier and hotter than now.

Many experts believe that the Greenhouse Effect will bring significant changes to the Earth's climate, though they don't all agree how long this will take, or what form it will take. [6].....

Task 3. Find antonyms to the following words

To absorb — to breathe in
To half — to hide, to conceal
To stop functioning

Find synonyms to the following words

To go back — wetlands
Extra heat — to accumulate
To change into

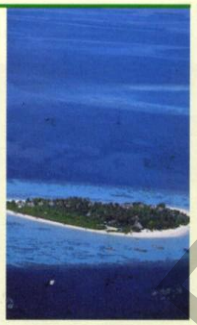
Task 4. Read this information about global warming and then in your own words tell your partner what you have found out

WORLDWIDE EFFECTS OF GLOBAL WARMING

The most dramatic result of higher temperatures would be the rise in sea level. Climate change would also have far-reaching consequences. Some parts of the world would receive more rain than before: others, including the productive croplands of the Northern Hemisphere, very much less.

BRAZIL
Coastal cities like Rio de Janeiro would experience severe flooding. The floods that swept through the slum district of Santa Teresa in 1988 were perhaps a foretaste of even greater destruction to come.

MALDIVE ISLANDS
Rising sea levels would have catastrophic consequences for low-lying islands. If the sea level rises by 3 metres (10 feet), coral atolls like the Maldives will disappear completely beneath the waves.



CARIBBEAN
Tropical storms would become far more frequent, inflicting greater damage than ever on the islands' houses and vegetation.

Governments don't care

Use the sun's energy

TEMPERATURES ARE RISING

Use less energy

PEOPLE ARE DROWNING

Lands are flooding

Crops are dying

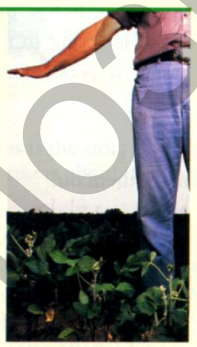
Forests are burning

DISEASES WILL SPREAD

WORLDWIDE EFFECTS OF GLOBAL WARMING

The most dramatic result of higher temperatures would be the rise in sea level. Climate change would also have far-reaching consequences. Some parts of the world would receive more rain than before: others, including the productive croplands of the Northern Hemisphere, very much less.

USA
A farmer in South Carolina shows the effect of the 1986 drought on his soybean crop, five times smaller than in a normal year. Agricultural land in the USA could suffer from greatly reduced rainfall.



SUDAN
In the Sahara and sub-Saharan regions of Africa, scenes of drought and famine like this would become even more common than they are today.

JAPAN
Some parts of the world would benefit as a result of global warming. With changing patterns of rainfall, the area of land in Japan that could be used for rice-growing would double.

The poles are melting

CROPS ARE DYING

People will starve

HURRICANES ARE GETTING WORSE

Droughts are spreading

Governments don't care

USE THE POWER OF THE WIND

Build railways not roads

Seas are rising

Reading tasks.

A PERIOD OF CLIMATE CHANGE

What do you know about the problem of climate change in the global aspect? What are the reasons for it? How has the climate changed in your region over the last decade?

for your notes

The earth is presently going through a period of climate change with increased average global temperature. This is called *global warming*. Today we have the warmest climate since the 14th century. Is it natural or caused by environmental impact by man? The key components in the discussion are the so-called *greenhouse gases*, which make the global atmosphere work like the glass in a greenhouse: they let light in but not heat radiation out. As a result a greenhouse, that is the earth, becomes warmer than it otherwise be.

But there are many other factors that influence the global climate. Natural variations have caused, as we know, both glaciation and warmer periods. During the glaciations the average global temperature is only some 4 or 5 degrees lower than at present. This tells us that the temperature on Earth is a finely tuned system and even small changes might have dramatic consequences. It is not well understood what causes the natural climate fluctuations. Some factors have been identified. Changed solar influx caused by varied solar activity and astronomical long-term variations is one category of factors. Changes on earth are another. In 1991 the eruption of the Volcano Pinatobo in the Phillipines ejected enough ash and sulphate particles to cause an increase in the aerosol in the atmosphere and a temperature drop of about 1°C for one year. Another factor is the amount of cloud cover, which influences the albedo of the planet, which in turn influences the climate. Ocean currents play an important role for the regional climates. In the Baltic region the Gulf Stream is steadily warming us, more in the western than in the eastern part.

Greenhouse gases are natural components of the atmosphere and contribute to the heat balance of

…… the earth. The most important of the greenhouse
…… gases is water vapour; second comes carbon dio-
…… xide. The concentration of this gas has steadily in-
…… creased, which might explain part or all of the tem-
…… perature increase. Enormous amounts of carbon
…… dioxide have been transferred to the atmosphere
…… since the large scale combustion of coal, oil and
…… other fossil fuel started with industrialization some
…… 200 years ago.
…… The effect of greenhouse gases has been known
…… since the end of the 19th century, when the Swedish
…… chemist Svante Arrhenius first suggested that they
…… would lead to global warming. Today sophisticated
…… computer models, climate models, are used to as-
…… sess the importance of each of the many factors
…… that influence the climate on earth. In summary
…… there is now near consensus not only that there is
…… an increase in global average temperature, but also
…… that the elevated concentrations of greenhouse gas-
…… es, most importantly carbon dioxide, is the major
…… reason for this, due to an enhanced greenhouse ef-
…… fect. Energy production is therefore indirectly the
…… major cause of global warming. Climate change
…… is generally regarded as the most important envi-
…… ronmental problem of our time.

Task 1. Make collocations of the following words with *have, make* or *take.*

Model: to have consequences

consequences	place
years	use
influence	steps
it possible	properties

Suggest some more collocations with the same verbs and illustrate their meaning with the sentences of your own.

Task 2. Complete the following sentences with the collocations from Task 1. Use the correct form of *have, make, take.*

Model: Genetic farming made it possible to produce biological pharmaceuticals.

1. Genetically modified organisms might …… not thought possible earlier.

2. New genetic techniques …… to design the genomes of plants and animals.
3. The Pacific stream, called Il Nino, ……on the climate of the southern Hemisphere.
4. Even small changes might……dramatic ……for Earth.
5. First……to set up an international programme to reduce greenhouse gas emissions.
6. It …… several thousand ……to come all the way to the Baltic region.
7. Today people……of a very large proportion of land for either crop or animal production.

Task 3. Fill in the missing prepositions:

1. The natural mechanisms……withdrawing carbon…… the atmosphere are far too slow to keep ……
2. The elevated concentrations……greenhouse gases is the major reason……an increase …… global average temperature.
3. Changed solar influx caused ……varied solar activity is one category……factors.
4. The earth is presently going……a period climate change …… increased average.
5. The Pacific stream …… the South American continent and Indonesia has a large influence …… the climate …… the southern Hemisphere.
6. Increasing the area……cultivated land has been an important contributor……atmospheric carbon dioxide.

Task 4. Put the adjectives into comparative and superlative degrees. Make all necessary changes:

Model: Today we have warm climate. - Today we have warmer climate than ever before. Today we have the warmest climate since the 14th century.

1. The earth is becoming warmer.
2. During the glaciations the average temperature is low.
3. Only a small part of total carbon dioxide is stored in the atmosphere.
4. Two bad flooding events took place in Europe.
5. Extensive research activities are ongoing to understand well climate change.

THE ENHANCED GREENHOUSE EFFECT

for your notes

Greenhouse gases in the atmosphere are part of the biogeochemical cycles on the earth.

Carbon dioxide is part of the carbon cycle. Only a small part of total carbon dioxide is stored in the atmosphere, while much larger amounts are contained in soils, plants and oceans. These reservoirs exchange carbon dioxide on a massive scale. Each year, some 700 GT (Giga tons) of carbon is emitted to the atmosphere, and absorbed again - mainly through photosynthesis in plants. Human activities interfere with these cycles, disrupting their balance. Fossil fuels are extracted from the ground and burnt, releasing carbon dioxide. Forests are cut, releasing carbon dioxide, and replaced by pasture and arable land, constraining the capacity to absorb carbon dioxide from the atmosphere. At present human activities add some 6 GT of carbon to the atmosphere, of which only 3 GT is immediately absorbed by the ocean and land surfaces. The result is a slow but steady increase in the amount of carbon dioxide in the atmosphere. Since the start of the industrial transformation, atmospheric carbon dioxide has risen by 30% from 280 ppm (parts per million, equals 0.028%) in 1790 to 370 ppm in 1999.

Other natural trace gases, with "greenhouse properties" show similar trends. Methane (CH_4) and nitrous oxide (N_2O) are the two most important of these rising from 700 ppb (parts per billion) to 1700 ppb, and from 290 ppb to 340 ppb, respectively in 1996. Methane sources include rice paddies, cows, termites, natural gas leakage, biomass burning, landfills, and wetlands. Nitrous oxide sources include oceans, fossil fuel and biomass combustion, agricultural fertilizers, and land disturbances. In addition, a number of artificial gases with similar effect are released to the atmosphere, particularly chlorofluorocarbons (CFC). These gases are present in lower amounts than CO_2 but are more efficient greenhouse gases.

Task 1. Locate the actions and phenomena using prepositions of place: *in, on, to, from, around:*

1. Fossil fuels are extracted ……the ground and burnt, releasing carbon dioxide.
2. Greenhouse gases……the atmosphere are part of the biogeochemical cycles……the earth.
3. This tells us that the temperature ……Earth is a finely tuned system.
4. Forests are cut constraining the capacity to absorb carbon dioxide ……the atmosphere.
5. The enhanced greenhouse effect will profoundly affect natural and social systems……the whole world.
6. The implementation mechanisms for the protocol were agreed on……Marrakech, Morocco.

Task 2. Juggle the words. Put the words in the correct order to make questions. Answer the questions

1. kind absorb of infrared gases what radiation outgoing
(What.....?)
2. are from fossil extracted where fuels
(Where..... ?)
3. dioxide atmospheric when risen carbon since has by 30%
(Since when..... ?)
4. interfere do activities with human these cycles
(Do..... ?)
5. gases fumes or car are greenhouse atmosphere in the earth of the cycles of the biogeochemical a part
(Are.....or..... ?)
6. by what arable pasture land and replaced is
(What.....?)

Task 3. Identify these words

1) average weather conditions at a place
2) climate change with increased average global temperature
3) fuel obtained from the Earth
4) exhaust, discharge of gases (2)
5) the process in which land becomes covered by glaciers
6) rise and fall irregularly in number or amount
7) the effect that leads to global warming caused by anthropogenic release of greenhouse gases
8) low land that is often covered with water from the lake, river or sea next to it
9) a serious lack of food that continues for a long time and causes many people in a country to become ill or die

10) a long period of time when there is little or no rain and crops die
11) the capacity of any surface to reflect the sun rays

Task 4. Find synonyms to the following words

Harmonious, balanced	to raise
Inflow, invasion	to uproot
Long-lasting, long-standing	to restrict, to limit
To emit	dumps
Extensive, wide-ranging (2)	fixed, stable
To move, to shift (2)	burning
To estimate	

Task 5. Complete the following sentences, using the vocabulary from the text

1. Greenhouse gases ____ light __ but not _____ out.
2. It is not well understood what causes the natural _____.
3. Another factor is the amount of _____ which influences _____ of the planet.
4. Greenhouse gases are _____ of the atmosphere and contribute to the _____ of the earth.
5. Today _____, _____ are used to assess the importance of each of many factors that influence the climate on earth.
6. Only a small part of _____ carbon dioxide _____ in the atmosphere while much larger amounts _____ in soils, plants and oceans.
7. Forests are cut and replaced by _____ and _____.
8. Other natural _____ with "greenhouse properties" show _____.
9. A number of _____ with similar effect are considered to be more _____ greenhouse gases.

After-reading task. **Split into two groups. One group adheres to the idea of dramatic climate changes in the 21st century, the other considers them to be insignificant. Prove your points of view.**

Tune-in.

1 Complete the sentences below. Write **NO MORE THAN TWO WORDS AND/OR A NUMBER** for each answer

1. 'Canadian Clean Air Day' will be held on _____.
2. Air pollution may be responsible for _____ deaths every year in Canada.

3. The sector most responsible for smog-producing pollutants is _____.
4. Scientists now know that even _____of pollutants can be harmful.

2 Complete the notes below. Write **NO MORE THAN TWO WORDS AND/OR A NUMBER** for each answer

Reducing Air Pollution

Individual action
• respond to the **1** '..... Challenge'
• walk, cycle or car-pool to work
• use public transit
• **2** .....
• **3** ..... your domestic equipment

Government action
• emission reduction in the **4** ..... region of the US and Canada
• move towards **5** ..... (e.g. less sulphur in gasoline & diesel)
• reduction of pollutants from **6** ..... and power plants

3 Summarize the information about air pollution. Speak about its causes, effects and solutions. Which of the solutions do you consider the most reasonable? Give your grounds

UNIT 3. WILL RENEWABLE ENERGY COME OF AGE IN THE 21ST CENTURY?

Warming up.

I. Read the green poem entitled Save Our Planet *and fill in the gaps with the words from the list. What is it about? Dwell upon its main ideas*

air	***reason***	***warming***	***planet***	***cars***
litter	***wildlife***	***clean up***	***waste***	***burning***

There's so much pollution poisoning the (1) …….
There is so much (2) …… we can see it everywhere
(3) …… is disappearing while everyone stands by
The world we love is dying and we're the (4) …… why
Why are we killing our world, why aren't we doing our share

We can save our planet, we can help it survive, all it needs is a little care
If we work together something can be done
We need (5) …… campaign which involves everyone
We can slow down global (6)……, we can stop acid rain
We can heal our (7) ……, we can help it live again
If we don't act quickly our world will soon be dead
We must leave our (8) …… at home and use bicycles instead
We must stop using chemicals and (9) …… fossil fuels
We must recycle all our (10) ……, it's easy to do.

II. Read the following statements and say how you understand them. Do you agree or disagree with the ideas expressed? Give arguments and your own examples to support your views

- Nature is conqured by obeying Her. – Robert C.Ingersoll
- Man is Nature's sole mistake! – W.S.Gilbert
- Nature is not a temple, but a workshop and man's the workman in it. – I.Turgenev
- In Nature there are neither results nor punishment; there are consequences. – Horace Annesley Vachell
- Treat the Earth well: it was not given to you by your parents but was loaned to you by your children. – African proverb
- Nature admits no lie. – Thomas Carlyle
- The whole of nature is a conjugation of the verb to eat, in the active and the passive. – William Ralph Inge

Focus on the Text.

ENERGY PROBLEM

Almost all energy on Earth comes from the sun. Even the fossil fuels were produced originally by the heat of the sun. Unlike these non-renewable fuels, the sun's energy is limitless. It might sometimes seem as if the sun doesn't come out very much. Yet if we could learn to trap all the sunlight that falls on Earth in just one hour, we would have enough, energy to supply the whole world with fuel for a year.

So far, scientists have not discovered any way of doing this. We must still get our energy from burning fossil fuels and wood. We can harness the rivers to make hydroelectricity, and of course we can use direct solar power - that is, the sun's heat. We can use the power of the wind and the tides and the heat that is locked deep in the Earth - geothermal power. In the less-developed countries, people use animal power. And, of course, we have discovered nuclear power.

Each person in the Western world uses a quantity of energy each year that is equivalent to burning 6 tonnes of coal. Where is this incredible amount of energy going to come from as populations increase and fuel reserves decrease?

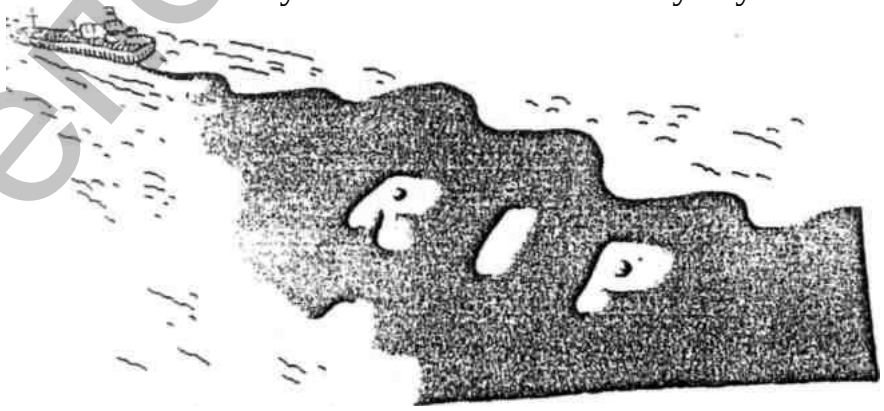
Solar power, wind power, tidal power and the power from living creatures are renewable resources. As long as the sun and Earth exist, the sun will provide heat, the tides will ebb and flow and the winds will blow. An ox or a donkey that pulls a cart or works a water-pump can be replaced by another animal when it grows old. And if we plant fast-growing trees and do not use them more quickly than we can grow more, we won't run out of wood to use for fuel.

As we've already seen, coal, oil and gas are non-renewable resources. So is nuclear fuel. Strictly speaking, geothermal power is non-renewable too, but we usually think of it as a renewable source because it seems to be limitless. Most of our energy comes from non-renewable resources:

Oil	40%
Coal	30.3%
Natural gas	19.6%
Hydroelectricity	6.7%
Nuclear fuels	3.9%

The non-renewable, fuels that account for almost 90 percent of our fuel-use are not simply pollutants: they are hazardous in other ways as well.

Coal-mining, particularly open-cast mining, destroys the landscape, it creates ugly and dangerous tips that look like small mountains. In 1966 one of these tips slid on to a school in Aberfan, south Wales, killing 116 children and 28 adults. Coal-miners suffer from lung disease because they breathe in coal dust every day at work.



An oil spillage spells catastrophe for the environment. The huge oil tankers sometimes collide or run aground and their oil then leaks

into the sea. The worst disaster to date was in 1989, when the *Exxon Valdez* leaked 11 million gallons of oil off Alaska. This created an oil slick measuring 1,000 square miles (2,590 square kilometres) and 2 million gallons of oil was washed on to the beaches. Thousands of birds and animals died, including peregrine falcons and bald eagles, which are both endangered species.

Supporters of nuclear power say that it is a clean fuel. This is because it does not produce fuel by burning and so cause pollution. Instead, it releases energy by the splitting of the nuclei of atoms of elements such as uranium.

Mrs. Thatcher has said in the House of Commons: 'Nuclear power does not produce greenhouse gases and therefore reduces global warming.' British Nuclear Fuels, who control nuclear power in Great Britain, spend thousands of pounds on advertising to tell us the same thing. This is in part due to the public being so alarmed by the Chernobyl accident in Russia in 1986. After this incident, Peter Vey, the director of public affairs for the Central Electricity Generating Board, said, 'A growth in adverse public opinion could halt the nuclear programme . . . We urgently need a campaign to educate and reassure the public'.

In spite of this campaign, most people *are* worried by nuclear power. In fact, 70 per cent of the population are against it. It's very expensive to produce, and very inefficient. Worst of all, its effects are highly dangerous and very long-lasting.

Nuclear fuel gives off radioactive radiation. In a high enough dose, this kills people immediately. Smaller doses that build up over a number of years cause cancer. The fuel gives off radiation for thousands of years after it has been used, and we simply don't know how to dispose of it safely.

Nuclear fuel is due to run out in only 60 years. Closing down nuclear power stations and trying to dispose of their contents will be very expensive. And the most frightening thing is that if the fission process, - the splitting of the atomic nuclei - got out of control, the nuclear power station would explode. This would cause loss of life and environmental catastrophe on a scale we can hardly imagine.

When the Chernobyl reactor overheated, it gave off clouds of radioactive gas and dust. All animals and plants in the area close to the reactor died. A cloud of gas drifted over Europe, killing thousands of migrating birds. As the cloud passed over Britain a few days after the accident, heavy rain in the hilly districts of Wales, Cumbria and Scotland brought radioactive dust with it. Cows and sheep that ate the

grass were affected by radiation, and their milk and meat was declared unfit for human consumption.

Four years after the accident, 400.000 acres (162.380 hectares) of British farmland was still radioactive. 1,200 miles (1,930 kilometres) away, in Chernobyl, the trees and plants near the site have strange, unnatural forms and nobody is able to live there.

In San Francisco the earthquake of 1989 has made the Americans realize how dangerous nuclear power is. Luckily, none of California's nuclear plants was in the danger zone. Michael Mariotte, director of the Nuclear Information Research Service, said the nuclear plants could not have withstood the quake. "In a shut-down plant in Sacramento, fuel rods are being removed from the radioactive core," he said, "If an earthquake had knocked one rod loose, it would have been a real disaster".

Where should the waste go?

There is a lot of argument about nuclear waste. No one wants it near them, but it has to go somewhere. Even Dr Edward D. David, science adviser to the former American president, Richard Nixon, admits, "One feels queasy about something which has to stay underground and be pretty well sealed off for 25,000 years before it is harmless."

It's a huge problem. The figures on the possible dumping of nuclear waste at Dounreay, Scotland, give an idea of its scale. The dump would cost £1.6 million. It would cover 550 to 400 acres (142 to 162 hectares) underground and 200 acres (81 hectares) on the surface. That's the size of 190 football pitches below ground and 100 above. There would need to be 26 caverns 820 feet (250 metres) square. These would be 1,500 feet (457 metres) underground. For safety, the nuclear waste would have to be stored for thousands of years. But Britain is only a small island. How many of these nuclear dumps would we have room for?

Some, nuclear waste has been released into the Irish Sea. Many people are concerned about this. The Department of the Environment says that plutonium from the Sellafield plant in Cumbria is polluting the Solway coast of Scotland. Greenpeace, the environmental organization, says that 85 per cent of the radioactive plutonium discharged from Sellafield is trapped in coastal sediments. These are stirred up by storms and blown as sea-spray inland. There they settle as dangerous dust in people's homes.

The children who live near Sellafield are ten times more likely to develop leukaemia (a kind of cancer of the blood) than the average child in Britain. Child leukaemia is also high in areas surrounding

other nuclear plants. Yet British Nuclear Fuels says there is no proof that radioactivity is the cause.

Although nuclear fuel is now expensive, John Collier, chairman of the Atomic Energy Authority, says that fast reactors are the answer for the future because they are more efficient. But Peter Roche of the Scottish Campaign to Resist Atomic Menace (SCRAM) says, "The European collaboration on fast reactors has disintegrated. The French fast reactor at Superphenix hardly works, the Germans are unable to open theirs at Kalkar because of political opposition, and the Italians have pulled out because we have withdrawn funding."

In July 1989, more than 100 top British scientists, including two Nobel prize-winners, signed their names to an advertising campaign. This warned that concentrating on nuclear power will worsen global warming because people will neglect to tackle its causes. The money used for developing nuclear power would be better spent combating global warming. For example, the scientists calculated that using energy more efficiently would be seven times more effective in cutting the production of carbon dioxide than the use of nuclear power.

So wouldn't it seem sensible to develop safer, cleaner forms of energy? But in 1986 Britain spent just £14 million on researching new forms of energy. In the same year we spent £300 million on nuclear power. Nicholas Ridley, a former Environment Secretary, called 'green' solutions 'vapid romanticism'. He said they called for 'a massively expensive programme of environmental measures without any justification, let alone any acknowledgement, of the costs and the effect those costs would have on people's incomes and the national economy.' In other words, he thought that trying to find 'green' solutions to the energy problems was idealistic, too expensive and simply not practical.

Wasting energy

In Britain we are very wasteful with energy. In the oil crisis of the 1970s, petrol supplies were running low. People in the Western world were told to save fuel by not making unnecessary car journeys and by driving more slowly. We were encouraged to turn the heat down in our homes. Yet in 1989, Cecil Parkinson, who was then Energy Secretary, said that 'market forces' must decide how big a part Britain would play in fighting the greenhouse effect. He said that the people of Britain could not be forced to save power. But if we can save fuel when there is a crisis, surely we can save it all the time so that there is no crisis in the future.

As our power stations produce electricity, they lose more heat than is gained from North Sea gas every year. This heat could be

saved and used to heat homes. It is in Denmark - 32 per cent of home heating comes from Combined Heat and Power Stations (CHP) or from District Heating. District Heating is a system in which one central source heats many buildings, often from burning rubbish. In Britain just 3 per cent of home heating is produced in this way.

Our houses, too, waste energy. They are often badly insulated and very draughty, so they are expensive to heat. Some time ago, experimental houses were built in Salford and Milton Keynes to see how much energy could be saved. The people who lived in them spent only a quarter as much money on heating them, yet they were warm and cosy. But builders did not follow this example. The Building Regulations, which give rules on how buildings are constructed, were not changed to save energy in new houses.

Woodruff T. Sullivan III, Professor of Astronomy at the University of Washington in Seattle, America, produced a fascinating example of the way we use energy as if it were unlimited. He put together photographs of the Earth at night that had been taken by satellites. All the world's cities could be seen lit up. Housing developments along America's main highways and the Trans-Siberian railway across Russia could be seen. So could Japan's fishing fleet, which uses light to attract the fish. In contrast, most of China, Africa and South America were lost in darkness. His photographs showed clearly how a quarter of the world's population uses three-quarters of its electricity.

Vocabulary exercises

I. Find English equivalents to the following words and word combinations and reproduce the situations with them from the text

Обуздать	разлив нефти
Солнечная/геотермальная/ядерная энергия	нефтяное пятно
Энергия воды/прилива/ветра	распад атомного ядра
Открытая разработка угля	процесс распада
Сесть на мель	ядерный реактор
Вытекать	выдержать землетрясение
Исчезающий вид	сквозняк

II. Find synonyms to the following words in the text

To flow away	to fight
To crash, to bump into	to decrease, to lessen
To cause to deteriorate (2)	to isolate

III. Explain the meaning of the following expressions from the text, find the sentences with them and translate them into Russian

To run out of wood	to be trapped in coastal sediments
Tips slide onto smth	to be blown as sea-spray inland
To spell catastrophe for the environment	to feel queasy about smth
To drift over	to disintegrate the collaboration on sth
To halt the nuclear programme	to tackle causes
To be unfit for human consumption	vapid romanticism
To have strange, unnatural forms	

IV. Insert prepositions

1. Supporters of fast reactors are convinced that a wide use of nuclear energy is the only way to supply mankind ____ fuel ____ thousands of years.
2. The energy wasted due to bad insulation in one flat is equivalent _____ burning one tonne of coal.
3. Ecologists warn us that in 200 years mankind will run ____ ____ all fossil fuels which can't be replaced ___ alternative energy sources.
4. Small doses of radioactive radiation given ____ by nuclear fuel can build ____ and cause cancer.
5. When the fission process gets ____ ____ control in Chernobyl, nobody could predict the effect the explosion would have ___ the ecological situation in the world.
6. The nuclear waste discharged _____ atomic submarines was released ____ the sea.
7. Many famous people even science advisers ___ our president sign their names ____ a green campaign against new nuclear power stations.
8. If the nuclear power station explodes this will cause environmental catastrophe ___ a scale we can hardly imagine.
9. One feels queasy ____ something which has to stay ____ and be pretty well sealed ___ for 25000 years before it is harmless.
10. The figures ___ the possible dumping of nuclear waste are unbelievable.
11. In fact, our planet doesn't have any room ____ these nuclear dumps.
12. Chemical particles are stirred ____ by storms and blown inland.
13. People are very wasteful _____ energy.

V. Fill in the chart

Verbs	*Nouns*	*Adjectives*	*Adverbs*
to release			
to produce			

to discharge			
to affect			
to dispose			
		efficient	
	solution		
	waste		

VI. Translate into English using the topical vocabulary

1. Так как ущерб, наносимый рекам и морям в результате разлива нефти, означает катастрофу для окружающей среды, общество должно усилить меры по предотвращению просачивания нефти в водоемы и почву.
2. Добыча угля, особенно открытая разработка угля, разрушает ландшафт и создает опасные свалки. Кроме того, шахтеры страдают от заболеваний легких, т.к. каждый день они вдыхают углевую пыль.
3. Сегодня, после чернобыльской катастрофы защитники окружающей среды требуют остановить ядерные программы, особенно в районах, подверженных землетрясениям, т.к. ядерные реакторы обычно не выдерживают землетрясений и могут взорваться.
4. Когда огромный нефтяной танкер сел на мель, в море вылилось много нефти. В результате образовалось нефтяное пятно, которое достигло берегов и погубило тысячи исчезающих видов.
5. Многие считают, что ядерная энергия является самой чистой и возобновляемой энергией, т.к. производится не через сжигание природного топлива, а через процесс распада атомного ядра. Однако, ядерное топливо выделяет радиацию, которая, накапливаясь, становится потенциальной угрозой здоровью всего человечества.

VII. Match the following set expressions with their explanations and find Russian equivalents to them. Use them in the sentences of your own or make up a short text using all of them

To split the difference — *to run riot*
To challenge smb to a single combat — *to spill the beans*
To leak out — *to run rife*
To cry over spilt milk — *to split one's sides*
Mortal combat

- The sitiation when a lot of people find out about secret information
- It is when people behave in a violent, noisy and uncontrolled way or you can't or don't control your emotions, thoughts and imagination
- To spread quickly and in an uncontrolled way
- To tell something that someone wanted you to keep a secret

- To waste time feeling sorry about an earlier mistake or problem that can not be changed
- To agree on an amount that is exactly between two things, when the difference is really too small to be important
- To laugh a great deal
- Fighting until one person kills another
- To invite someone to compete or fight against you

VIII. Discuss the following questions

1. What types of energy do you know? Speak about their nature.
2. Give examples that prove that the non-renewable fuels are hazardous.
3. Work in pairs. Give arguments for and against nuclear power.
4. How do people dispose of nuclear waste? What problems do these methods cause?
5. What are the "green"solutions to the problem of nuclear waste? Do you consider them "vapid romanticism"? Why or why not?
6. Prove the statement that people are very wasteful with energy.
7. Create energy contracts and persuade people to sign them:

Contract № _____

(The name of the company or person), hereinafter referred to as the "Supplier" and (the name of the company or person), hereinafter referred to as the "Customer" have signed the Present Contract for possible means of saving energy. The terms and conditions of the contract are as follows:

— The Supplier shall ……..
— To ensure successful saving of energy the Customer shall ……
— The Customer at his own expense shall ensure ……
— If the Customer fail to fulfil his obligations ……
— After signing the present Contract all other previous discussions and correspondence between the parties shall be considered null and void.
— All alterations and amendments to this Contract shall be made in writing and signed by the representatives of the parties concerned.
— The present contract shall be valid from the date of its signing.

Legal Addresses of the Parties:

Customer … Supplier …

IX. Read this short extract and make up a list of advantages and disadvantages of these alternative energy sources. What source of energy is the most advantageous to exploit?

Renewable Energy Technologies

An energy technology is renewable when the energy source can be managed to sustain indefinitely average annual energy output levels.

- *Photovoltaic* cells convert solar radiation directly into electricity. PV systems include rooftop and freestanding arrays.
- *Thermal electric* technologies produce electricity by concentrating sunlight onto a working fluid or engine – parabolic troughs, for instance, concentrate sunlight as much as 80-fold onto a tube at the focal line of the trough.
- *Wind* machines convert the kinetic energy of wind into rotational energy that drives electricity generating turbines.
- *Biomass* is primarily wood, wood wastes and wood by-products, but also agricultural wastes and municipal solid waste and is combusted to produce both heat and electricity.
- *Geothermal* energy is heat trapped up to 3000 feet below the surface of the earth. At present, *hydrothermal* energy – steam, hot water and hot brine located within 900 feet of Earth's surface – is the primary form used commercially for generating electricity and heating buildings.
- *Hydropower* – a mainstay of industrial revolution in the United states – is by far the most important renewable energy technology for electricity today.

Tune-in.

1. Discuss the following questions:

- What sources of energy are you familiar with?
- What does the expression "alternative source of energy" mean?

2. Listen to the panel discussion on the problem of energy and reproduce the situations with the following numbers:

450 years	*25 years*
50 years	*26 reactors*
30 years	*18 atom bombs*

3. True or False

1. More and more fossil fuels are being discovered all the time.
2. Nuclear power is the only real alternative.
3. We must invest in further research to be able to face the future.
4. Lots of people protest against extracting fossil fuels.
5. It's quite safe to work down a coal-mine.
6. In many parts of the world where there are no fossil fuels, solar energy is the only alternative.

4. Complete the sentences

1. The tragedy is that fossil fuels are far too _____ to waste _____.
2. If we don't start _____ these things now, it will be too late.
3. _____ in power stations are very strict.
4. If we spent money on research now, we could develop stations which _____ and _____.
5. We'll for sure go back to the _____, if we _____ on nuclear research.

5. Complete the table. Expand the arguments

Guest	Arguments
Jennifer Hughes	First, there is no _____ Next, _____ Next, _____
Dr Catherine Woodstock	We can develop _____ We should be concentrating on _____ We should spend more money on _____

6. Find English equivalents to the following sentences. Pay attention to the use of conditionals. Make up your own conditional sentences

1. Если бы это случилось в вашей местности, вы бы не получили ни цента компенсации.
2. Если бы ядерная промышленность не замалчивала подобные случаи, общественность давно бы уже возмутилась.
3. Террористы смогли бы взять в заложники целую страну с требованиями о выкупе, если бы они захватили реактор.
4. Если мы не будем проводить исследования солнечной энергии, энергии ветра, волны, приливов и отливов, гидроэлектрических схем и т.д., наше природное топливо закончится, и мы все замерзнем или умрем с голоду.
5. Если бы мы слушали только пессимистов, то никто бы не смог спать по ночам.
6. Я не работал бы здесь, если бы не был оптимистом.

7. Make notes of Charles Wicks's opinion. Do you agree or disagree with him? Whose opinion do you share? Give your grounds

8. Where must the government spend money: on conservation of present resources or on research into new forms of power?

Focus on the Text.

What do you know about Chernobyl catastrophe? What are the consequences of this disaster?

CHERNOBYL, THREE MILE ISLAND, HIROSHIMA - A Message of Shared Fate

The radioactive particles from Chernobyl are nothing less than a message of shared fate. To begin to understand that message, we must look at precisely what has been neglected by commentators on the Soviet accident, as well as by designers of nuclear plants and weaponry everywhere: the psychological factor. In addition to possible physical danger from radiation, millions of people in the Soviet Union, other parts of Eastern Europe, Scandinavia and elsewhere throughout the world have been exposed to a 1ifelong psychological immersion in death: permanent fear of invisible contamination.

I encountered that fear first in Hiroshima survivors and later in the people exposed to the nuclear accident at Three Mile Island. Deadly harm is threatened not by a visible substance like fire or flood water, from which one can flee to a relatively safe position, but by something far more insidious because it cannot be detected by senses and may strike at any time. While one can speak of invisible contamination in connection with exposure to toxic chemicals, radiation disasters have an added aura of dread associated with limitless danger, fearful mystery and images of Hiroshima and Nagasaki. Efforts by authorities to control such a disaster can, for those exposed, assume qualities of absurdity and deception - beginning with characteristic reassurances of safety, followed by partial reversals and by harried and contradictory evacuation arrangements. At Three Mile Island, as in Hiroshima, people sensed that no one really knew the extent of the danger. As one woman put it: "I believe the amount of radiation has never been and never will be known - perhaps until people start having effects from it."

Five years after the Three Mile Island accident, people in the area remained haunted by fear of delayed radiation effects. One man, referring to his family, wondered whether they would "die before their time." Women pregnant at the time of the accident were especially fearful about the transmission of abnormalities to children born after the accident: "Are their genes going to be affected? Are they going to have children who are disfigured or become diseased?" As in Hiroshima, people tended to associate any illness or discomfort - general fatigue, a cut that does not quickly stop bleeding, a common cold -

with radiation effects. For they felt themselves to have been exposed to an endless chain of potentially lethal impairment that, if it did not manifest itself in one year - or in one generation - might well make itself felt in the next.

Those most exposed to invisible contamination may be shunned or even ostracized. This fear of contagion was described by people at Three Mile Island in a number of ways. One man expressed rage toward his brother-in-law because "he wasn't going to allow us back into his house because we were diseased…….. you know, like lepers." In Hiroshima, that rejection became almost a second victimization, to the extent that, for a period, survivors were known as "A-Bomb outcasts."

This overall pattern, sometimes known as the "radiation response syndrome," can occur in any culture, and is not a manifestation of outside attempts to exaggerate a disaster, as the Soviet Union has claimed. Rather it stems from the nature of nuclear disaster itself and is a predictable consequence of such a disaster. People exposed to nuclear disaster sense very quickly that they are in a situation that cannot be controlled. One man at Three Mile Island, noting a continuous disparity between the authorities' claim to have the situation in hand and their confusing statements and actions, said mockingly: "Everything's under control? Nothing's under control....To this day, nothing's under control. How dumb do they think we are?"

Terrifying rumors containing varying degrees of truth are invariably part of the response. At both Three Mile Island and Hiroshima, there were stories of people experiencing endlessly bizarre symptoms, of grotesque diseases among animals and of the most extreme alterations of the general environment. At Hiroshima, the most disturbing rumor of all was that from that time onward, no grass, trees or flowers would ever grow again in the city. While the rumor turned out to be false, it symbolized a fear that nature was drying up altogether, that life was being extinguished at its source.

All these reactions, in some degree, will emerge from Chernobyl. There, the Soviet Union combined the patterns of denial characteristic of all nuclear accidents with its own habit of secrecy and obsession with maintaining control at all times over people, institutions and events.

Quite a number of our officials have succumbed to the temptation of scorning the Soviet Union for its lax arrangements, conveniently forgetting not just about Three Mile Island but also about other smaller, dangerous accidents that have occurred in this country.

While the Soviet Union's failure to alert neighboring countries was morally scandalous, merely gloating over Moscow's subsequent political embarrassment can be part of an impulse to reassert, in nuclear matters, Soviet evil and American virtue.

There are wiser attitudes and conclusions. One is that nuclear disasters can readily destroy or radically disrupt the lives of millions of people, and take on dimensions that simply cannot be controlled. Moreover, whatever the precautions taken, the interplay between humans and technology is always fallible. The most fundamental conclusion, however, is that we are all, as citizens of the world, in this together. The primal truth of the nuclear age is universal vulnerability. The scientific findings of "nuclear winter" make clear that every nation is subjected to the possibility of extinction if a certain level of nuclear megatonage is used. Chernobyl teaches us that similar vulnerability applies to all nuclear disaster.

It has sometimes been said that only a frightening nuclear disaster would enable people to overcome their psychic numbing and avoidance of the issue. Chernobyl could serve as that kind of warning. I believe that ordinary people throughout the world, in their most profound psychological reactions, correctly associate Chernobyl with nuclear-age vulnerability.

Chernobyl thereby provides an opportunity for a deeper understanding of the principle of shared nuclear fate. We must seize that opportunity out of the pure self-interest of everyone. We must press all governments starting with the United States and the Soviet Union, toward measures that can help alleviate the nuclear threat and shape our shared fate into a genuine human future.

Vocabulary exercises

I. **Match the words from the two columns the way they collocate in the text. Be ready to paraphrase them. Which of the nouns are countable? Make up your own sentences with these word-combinations**

a) vulnerability	1) physical
b) diseases	2) psychological
c) fear	3) permanent
d) harm	4) invisible
e) numbing	5) deadly
f) reversals	6) limitless
g) impairment	7) partial

h) contamination
i) danger
j) consequence
k) radiation effects
1) disparity
m) truth
n) factor
o) symptoms

8) delayed
9) potentially lethal
10) predictable
11) continuous
12) bizarre
13) grotesque
14) primal
15) universal
16) psychic

II. Find these phrases and word-combinations in the text. Translate these sentences into the Russian language

1) to be exposed to a life-long psychological immersion in death
2) to be detected by senses
3) the extent of danger
4) to be haunted by fear
5) to die before one's time
6) transmission of abnormalities to children
7) to be shunned or ostracized
8) "A-bomb outcasts"
9) to have the situation in hand
10) varying degrees of truth
11) to maintain control over people
12) to take on dimensions
13) to take precautions
14) to seize an opportunity

III. Find words with these meanings in the text. Make up a situation to illustrate the usage of these words

1) secretly harmful
2) the process of moving all people away from the place
3) to display, to reveal, to show something plainly
4) spreading the disease by touch
5) to cause somebody suffer unfairly
6) not paying enough attention to what is needed
7) to look at or think about something with unpleasant satisfaction
8) to bring into disorder
9) able to be wrong
10) to make less (pain, suffer, etc.)

IV. Translate into English, using the topical vocabulary

1. После аварии на Чернобыльской АЭС многие люди боялись, что жизнь на земле будет уничтожена в зародыше.
2. Многие официальные лица страны поддались искушению использовать типичные модели отрицания и полного контроля над людьми, событиями и институтами.
3. Как доказала практика, взаимодействие человека и технологий полно ошибок.
4. Ядерная зима показала, что при использовании определенного уровня ядерной мощности могут погибнуть целые нации.
5. Люди боятся заражения и потому относятся к тем, кто пережил катастрофу, как к прокаженным.

Comprehension tasks

I. Answer the following questions

1. Was the Chernobyl catastrophe the first accident of this kind? Speak about other accidents and compare them.
2. What factor has always been neglected by designers of fast reactors? Discuss its effects on people.
3. What does the long-term aftermath consist in?
4. How did politicians behave after the explosion took place?

II. Work in pairs to discuss:

⇒ The various aspects of the accident at Chernobyl
⇒ The way you feel about the disaster and its 'deadly legacy'
⇒ The measures that ought to be taken in order to diminish its devastating consequences

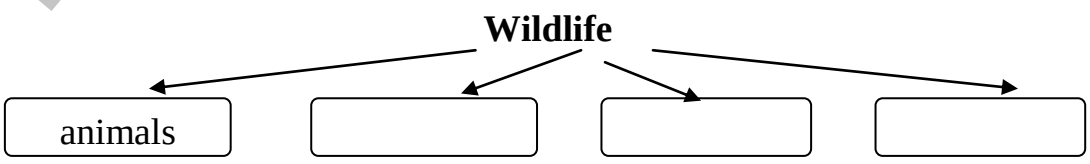
III. Make up a list of actions one should take in case such an accident occurs

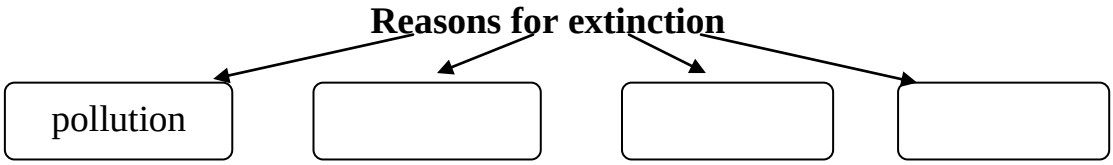
UNIT 4. WHERE THE WILD THINGS ARE

Warming up.

I. *Look at the pictures with the captions below. Why are these animals in danger? What can we do to protect them?*

II. *Complete the following diagram and say why wildlife on the planet is in danger. What can be done to save wildlife?*





Tune-in.

1. Discuss the following questions

a) What do you know about mountain gorillas? Are they on the Endangered Species List?
b) Where do they live? What is their habitat?
c) In what ways are they threatened by man?
d) What are people doing to save them?

2. Read this summary, then listen to the tape and underline the correct word

Only 600 mountain gorillas remain in the wild. People view gorillas as fierce, **1) vicious/savage** animals. However, if you look into a gorilla's **2) face/eyes**, you'll see gentleness and **3) intelligence/strength**. Gorillas spend their lives peacefully in forests eating thistles and bamboo **4) shoots/leaves**. Yet, gorillas have suffered greatly. In the first part of this century more than **5) 50/15** gorillas were killed in Virunga. In 1925, Belgium established Africa's first national **6) zoo/park**. When civil war broke out, hunters were free to **7) hunt/trap** the gorillas. The animals' heads and hands were sold to **8) tourists/explorers** as souvenirs. Fortunately, a wildlife conservation **9) society/association** in New York began "gorilla tourism". As a result, tourists paid a lot of money to see the mountain gorillas and Rwanda became a model of conservation. People and gorillas need each other. The Rwandans need the money and gorillas desperately need **10) protection/food**.

3. Listen again. For questions 1-7 choose the answer (A, B, C or D) which you think fits best according to the tape

1 According to the text, mountain gorillas

A have completely died out
B now number between 285 and 600
C now number only 300
D live in only two areas in the wild

2 The speaker was under the impression that gorillas

A were fiercer than chimpanzees
B were afraid of chimpanzees
C were aggressive
D could show no emotions

3 Carl Akeley

A made Africa establish a zoo
B captured gorillas in a national park
C built a zoo in Belgium
D helped to protect the gorillas

4 Between 1960 and 1981,

A many gorillas were killed
B there was a war between the hunters and the Belgians
C there was a war between Belgium and Uganda
D 250 gorillas disappeared

5 The wildlife conservation society in New York

A sold gorillas as souvenirs to tourists
B arranged cheap holidays in Rwanda
C encouraged people to go and see the mountain gorillas
D trained gorillas to observe people

6 Why do the Rwandans depend on the gorillas?

A Because people need to be safe
B Because gorillas are peaceful
C Because of economic reasons
D Because gorillas are threatened with extinction

4. Answer the following questions

- Why have conservationists put in years of hard work in Central Africa?
- How many gorillas remain in Central Africa nowadays?
- Where do these gorillas live?
- How do people view gorillas?
- How do gorillas differ from chimpanzees?
- What do gorillas eat?
- What did Carl Akeley do to help gorillas? Were the gorillas safe after that?
- What did hunters do to the gorillas?
- How did the conservation society in New York help to protect the gorillas?
- How are people and gorillas dependent on each other for survival?
- What does Nshogoza think of gorillas?

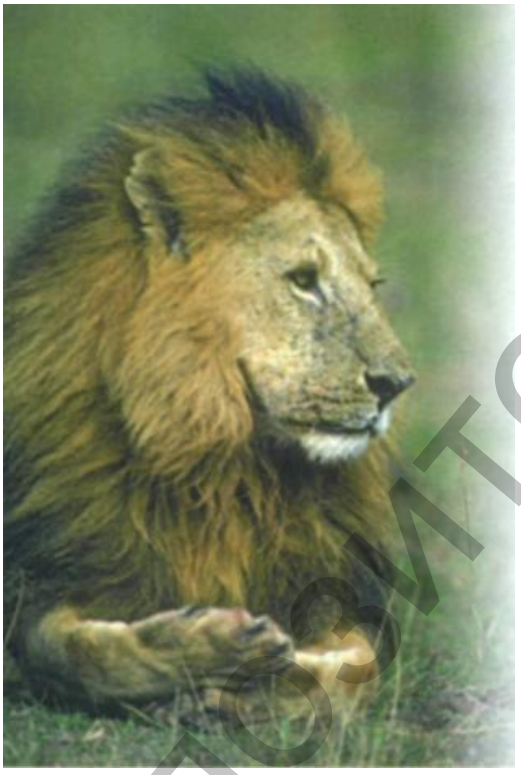
5. Fill in the correct word(s) from the list below. Use the words only once. Reproduce the situations with them from the text

to make	*bamboo*	*high*
tourist	*close*	*to pay*
civil	*to become*	
to need	*wildlife*	

1 .....extinct	6 ..... schemes
2 ..... a profit	7 .....war
3 .....spirits	8 ……. conservation society
4 .....shoots	9 .....large amounts
5 at.....quarters	10 .....protection

6. Fill in the correct word from the list below:

habitat	*threatening*	*established*
prevent	*cautiously*	*create*
extinct	*captured*	*forested*
conservation		



1 Wild animals should be approached …… as they may be dangerous. ***(with care)***

2 When the last animal of a certain species dies, that species becomes …… ***(no longer in existence)***

3 Many animals find it more and more difficult to survive as their natural …… is destroyed. ***(home)***

4 A new group has been……to protect rare European birds. ***(set up)***

5 ……groups try to protect animals and the places where they live. ***(environmental protection)***

6 Animals for zoos have to be …….. by experts as they must not be injured in any way. ***(caught)***

7 Pollution is ……the lives of many animals. ***(endangering)***

8 It is hoped that educational programmes will ……an understanding of the earth's environmental problems. ***(produce)***

9 Several environmental groups are working to……the world's rain forests from being destroyed. ***(stop)***

10 The earth's……areas are in danger of disappearing completely. ***(tree covered)***

7. Fill in the correct idioms from the list below
work like a dog, kill two birds with one stone, fight like cat and dog, a memory like an elephant, straight from the horse's mouth

1 If you're going to Manchester on business, you might as well visit cousin May - that way you can …… ***(to do two tasks with one action)***

2 Paul never forgets anything - he's got …… ***(the ability to remember many things)***

3 Since Dina started her own business, she's had to …… - she never has any free time. ***(work very hard)***

4 Of course it's true that Sally quit her job - I heard it…… ***(directly from the person involved)***

5 Tim and Ann used to ……but now they get on very well. ***(argue all the time)***

8. Fill in the correct particle(s)

1 The Conservation Society meeting has been **put**……until next month because the director is in Africa. ***(postponed)***

2 I'm going to sell my car if they **put** ……the price of petrol again. ***(raise)***

3 I refuse to **put** …… that noise; I'm going to call the police. ***(tolerate)***

4 Fortunately the fire brigade were able to **put** ……the forest fire. ***(extinguish)***

5 Jim has **put**……a lot of time and effort in order to finish his project. ***(devoted)***

9. Fill in the correct preposition, then choose any five items and make sentences

1) to prevent sb …… doing sth; **2)** to be attractive …… sb; **3)** to suffer …… sth; **4)** to invest …… sth; **5)** to be dependent ..... …… sth/sb; **6)** to protect sb…… sb else/sth; **7)** …… a sense; **8)** to fight …… sth; **9)** to be threatened …… extinction.

10. Discussion points

- ◊ **What other animals are threatened with extinction? Why? What can be done to help them?**
- ◊ **Select one particular animal that you believe is at risk of extinction and prepare a report describing the animal and its habitat, the reasons why it could become extinct and any ac-**

tion that you think that could help save its future. Conclude your report by saying why you believe this animal in particular deserves the support of any environmental organisation

Focus on the Text.

BACKGROUND READING

Somewhere between 10,000 and 15,000 years ago, man's first clash with nature may have begun. Historians and philosophers agree that since the development of agriculture, human beings have had an effect on the natural ***habitat*** of many plant and animal ***species***. As human populations have increased, so has the ***demise*** of other living things: As many as 6,000 species are disappearing each year from deforestation, a number 10,000 times greater than before man appeared on the planet. Each minute of the day, approximately twenty-six hectares (about the same as thirty-seven football fields) of forest are cleared. As a result, thousands of species have been ***wiped out***.

In 1977, the United States Congress took an important step to help the ever-increasing number of ***endangered*** species; it passed a law known as the Endangered Species Act. Through this law, the government officially recognizes the right of all species to share life on the planet. The law mandates protection for "endangered species," those that may become ***extinct***, and "threatened species," those likely to become endangered in the near future. The act has already helped to save the gray wolf, the bald eagle, and the alligator from extinction. At the same time, the act has been powerful in altering or stopping many plans for land construction and development. For example, a highway-widening project in Illinois was rerouted in order to protect a rare plant, the prairie bush clover. The construction of a dam was stopped in Tennessee to protect a tiny endangered snail.

With the enforcement of the Endangered Species Act, some species have gained more public recognition than others. Some conservation groups have pushed to protect those endangered animals that people love and adore. Elephants, whooping cranes', whales, and the spotted owl, for example, have received far more media attention than have the smaller, less known, and less attractive species that are also endangered. The World Wildlife Fund asserts that the large animals, such as the giant panda, inspire conservation, which helps all species. Indeed, it is the tiny species, such as bugs and bacteria, that keep the planet in balance. Scientists are becoming ever more concerned with the fact that without equal concern for these species, the planet's biological ***diversity*** will be destroyed, leaving us with a loss of potential

new foods and drugs. Their forecast for the future of this planet is a ***somber*** one.

On the other hand, some scientists argue that the extinction issue is being exaggerated and that people are "crying wolf" by describing the loss of species as more alarming than it really is. History proves that every species will eventually become extinct. They argue that conservationist-scientists may be ***overselling*** their case by creating fears of ***doom***. Evolution of species, they say, naturally involves the extinction of species; man has no control.

In addition, many people point to the fact that the world is already lacking in resources, food, and adequate health care. Concerned more with economic survival, they ask whether it is, in fact, realistic to ***make a fuss*** over saving the elephant or other species that may become extinct many years from now when people have families to feed tomorrow. They see saving endangered species as somewhat ***schizophrenic***, as it interferes with or contradicts human goals. These people question a law that puts the continuance of lower forms of life above man's own survival.

While the debate continues over how much effort should be made to save species from extinction, the addition of 3,800 species to the endangered species list is ***impending,*** and many loggers, real estate developers, ranchers, and shrimpers find decreasing opportunities to make a living.

A. VOCABULARY

Look at the boldfaced words and phrases in the background reading. Try to determine their meaning from the context, give synonyms. Complete the following sentences to show you understand the meaning of the boldfaced word. Compare your sentences with those of another student. Use a dictionary if necessary.

1. The natural ***habitat*** of the whale is _____
   _____
2. One ***species*** that once lived on the earth but no longer lives here is _____
3. If someone has reached his or her ***demise***, he or she is _____
   _____
4. If the fish in a lake were ***wiped out***, they would be_____
   _____
5. An ***endangered*** species that has made a comeback is_____
   _____
6. An animal that has been ***extinct*** for millions of years is the_____
   _____

7. If a nation has cultural ***diversity,*** it probably has_____
_____
8. A ***somber*** prediction for the future is_____
_____
9. People who are ***overselling*** their ideas are usually_____
_____
10. Fortune-tellers who predict ***doom*** are predicting_____
_____
11. When people ***make a fuss*** about politics, they usually _____
_____
12. If you have a ***schizophrenic*** attitude toward a problem, it means that_____
13. If there is an ***impending*** storm, the sky is _____
_____

B. SUMMARIZING THE ISSUE

Work in small groups. Take notes on the following points in the background reading. Summarize the issue.

1. The issue *(state in your own words):*_____
_____
_____
_____
2. Proponents' (of saving endangered species) arguments:_____
_____
_____
3. Opponents' (of saving endangered species) arguments:_____
_____
_____

C. VALUES CLARIFICATION

Work in small groups. Discuss your answers to the following questions.

1. What is your reaction to the Endangered Species Act? Where do you stand in the debate between saving species from extinction and allowing human development?
2. Is there an issue of endangered species in your country? What opinion do you have toward your government's policies, if there are any, on endangered species?

Tune-in.

A. LISTENING FOR THE MAIN IDEA

Listen to the commentary. Check the statement that best summarizes the commentator's main idea.

1. Because of human beings, many living things have become extinct.
2. The dangers of extinction may not be as serious as they are made out to be.
3. The extinction rate today is much more serious than it was in the past.

B. LISTENING FOR DETAILS

Listen again and circle the best answer to the questions

1. What will be the consequence of a new dam in the Amazon?
   a. The Amazon will start to dry up.
   b. A part of the rain forest will be flooded.
   c. Endangered species will be saved.
2. Which of the following issues are Jim Trefil's colleagues concerned about?
   a. Animals are being destroyed faster than plants.
   b. Tropical rain forests cannot be reproduced.
   c. Mankind contributes to the death of animals and plants.
3. How does Trefil react to his colleagues' arguments?
   a. With concern because of his family
   b. In two different ways
   c. By starting to cut down more trees
4. What conclusion does he reach about the dangers of extinction?
   a. He is disturbed by the exaggeration.
   b. He worries that people are not concerned about them.
   c. He is afraid that the situation is worse than it seems.
5. How does Trefil explain the death of species?
   a. The death of species is natural.
   b. The death of species was rare 600 million years ago.
   c. Governments haven't done enough to prevent the death of species.
6. How does Trefil view the current rate of extinction?
   a. It should never be compared.
   b. He says no one thinks it is severe.
   c. He is skeptical of the warnings about it.
7. What problem does Trefil have with the word "species"?
   a. No spectacular species are considered endangered.
   b. Most people are only interested in saving well-known species.
   c. All beetles are counted as one species.

8. Why might people stop listening to scientists?

a. Scientists haven't been honest about the real extinction issue.

b. Scientists are more concerned about the extinction of bugs than the extinction of large animals.

c. Scientists cannot make objective decisions about extinction.

C. TEXT COMPLETION AND DISCRETE LISTENING

Read the commentary. Fill in the missing words

Introduction

Seven weeks from now, a new_____in the Amazon will flood millions of trees and animals out of the rain forest. Environmentalists have criticized the plan because they say many_____ _____animal species will be destroyed. Physicist Jim Trefil has been thinking about the situation in the Amazon, and he has these observations.

Commentary

Some of my_____are starting to publicize their worries about the rate at which plants and animals are disappearing from the earth. Things like the destruction of the tropical rain forest are described in_____tones. The destruction of a_____ _____, we are told, is equivalent to the destruction of all the species that live in that habitat. We are told that mankind must not contribute to the_____of other living things.

I have to admit that my reaction to this line of reasoning is a bit _____. On the one hand, I have a strong emotional commitment to the notion that any argument that keeps people from cutting down a tree is a good argument. For years, I've managed a twenty-acre wood lot in Virginia, taking out dead _____ to keep my family warm in the winter.

And yet, I've been trained as a scientist. And one of the first _____of that training was to learn to put feelings aside and examine arguments _____on their merits.

When I do that with the arguments about the dangers of extinctions and loss of biological_____, some very disturbing questions arise in my mind. I worry that the people involved may be_____their case, that the situation may be neither as serious nor as dangerous as they say.

Species, like individuals, do not live_____. Over the past 600 million years, almost every form of life that existed on the earth has become _____. Paleontologists estimate that, even in normal times, species become extinct at the rate of several hundred

per year. Governments can no more pass laws to stop the death of species than they can pass laws to stop the deaths of individuals. _____ _____ is just another part of life.

So the real question is how the extinction_____ _____today compares to what it's been in the past. I don't know the answer to this question, but I don't think anyone else does _____. I do know that until it's answered, I'm going to be very skeptical of headlines about impending _____.

Another problem I have is with this word *species.* When we hear that a species is endangered, we usually think of whales or_____ _____cranes or ivory-billed woodpeckers — something spectacular. In fact, most of the tropical species that are being_____ _____today are insects that live in very restricted locations. The beetles in one mountain valley may look just like their _____in the next valley. But they're counted as separate species because of very fine technical differences between them.

My experience has been that when people learn that all this _____is being made over bugs and not large animals, they feel cheated and lose interest in the whole_____question. People listen to what scientists have to say because they believe we are capable of making objective _____, regardless of our own beliefs and feelings. If the public comes to regard us as just another pressure group crying wolf, they may just stop listening. If that happens, we will have lost the most important_____ _____of all.

D. DISTINGUISHING OPINIONS

Read the statements below. Choose those with which Trefil would agree. Explain your choice finding arguments in his commentary. Express your own opinion on the statements

1. Mankind is primarily responsible for the destruction of other living things.
2. It is best to examine the arguments of extinction like a scientist, without feelings.
3. The death of a species is part of life.
4. Too much attention has been paid to the cute, attractive animals that are endangered rather than the less attractive species that are most endangered.
5. The media needs to give more attention to the extinction of species.
6. It’s hard to be concerned about the extinction of species we’ve never seen or never knew existed.

7. No one really knows how dangerous the situation for animals and plants is.
8. Man’s survival on this planet is of most importance in the extinction question.

Focus on the Text.

Zoos: the best animal attractions or real conservation programmes?

There's no doubt about it, animals - particularly those that roar loudly or swing through the trees - capture the imagination of children of all ages. A group of mischievous chimpanzees can rival even the most hi-tech theme park for entertainment value, and it's hard not to be impressed by the sight of a baby giraffe standing shakily on impossibly long legs for the first time, or a lolloping great hippo yawning in the mud.

If you haven't been near a zoo in twenty years, you'll be delighted to see that attitudes towards animals in captivity have definitely moved on. Good zoos still offer plenty of opportunities to get close to exotic species, but animal welfare is paramount.

In the zoos mentioned here, you won't find moth-eaten penguins around stagnant ponds or monkeys gazing sadly from tiny cages. The emphasis is now on providing a stimulating, spacious environment. But if your natural inclination is against any type of captivity for wild animals, it's worth knowing that many species would be extinct without zoo conservation programmes. Some animals, such as various species of desert antelope, are extinct in the wild - they cling to a fragile survival solely through captive breeding. Happily, many programmes have been so successful that they have been reintroduced into their natural habitat. As David Gill, owner of South Lakes Animal Park says, "We're putting animals in an ark - this time not to save them from a flood of water, but from a flood of people." And of course, all these projects need money - Colchester Zoo costs around £6,500 per day to run.

So join the animals down at the zoo for a varied day out with some effortless education thrown in - and contribute to saving some of the most beautiful creatures on earth.

Marwell Zoo, Winchester, Hampshire

■ This beautiful park has a hundred acres for the animals to roam around freely in large paddocks - you can enjoy looking at everything from the white rhino and tigers, to the giraffes and pygmy hippos without feeling sorry for them. It's a truly lovely environment with lots of mature trees and beautiful flowers to catch your eye.

The zoo's conservation programme - particularly of threatened species – also means that there's a serious "aaaahhh" factor and new additions are arriving all the time.The most recent include Holly the warthog, a baby zebra, ring-tailed lemurs and dorcas gazelles. The Encounter Village even allows children to see newly hatched chicks and get up close to different breeds of domesticated animals.

All that creeps and crawls resides in Tropical World, a steamy rainforest packed with plants. Chameleons blend into the background, brightly coloured poison arrow frogs hop about and the Goliath bird-eating spider both delights (small boys) and disgusts (sane adults). Aside from the animals, the free zoo tour by road train is a great source of excitement for young children and a welcome rest for parents.

Children can handle cute newly hatched chicks at The Encounter Village

Longleat House and Safari Park, Warminster, Wiltshire

In 1966, Longleat caused a huge stir when it became the first location outside of Africa to open a drive-through safari, with dire predictions that the lions would either escape or eat the visitors for dinner. In fact, it paved the way for giving more freedom to captive animals.

Today, there are eight main sections to drive through at Longleat. Some are strictly car only such as Lion country and Tiger territory, but in the East African Reserve visitors can leave their cars and picnic in close proximity to the giraffes and zebras. Once back in the car, you can head to the Big Game Reserve where the white rhino roam, and as part of the park's conservation programme, ten critically endangered animals have been born there since 1970. And in the Monkey Jungle, the curious rhesus monkeys need no invitation - they like to climb on the cars, without causing too much damage!

There's the new *Ugh! Show* - a close encounter with some of the world's creepiest creatures guaranteed to make children of all ages go "ughhhh!"

But Longleat's greatest strength is its variety. New for 2003 are the Enchanted Storytellers who, alongside costumed characters such as Postman Pat and George the Lion, entertain with stories, singalongs and animal tales. Older children will love *Doctor Who's* Tardis, the huge Adventure Castle and the World's Longest Hedge Maze. And the grown-ups get to visit one of the most beautiful stately homes open to the public. If that's too much to fit into one day, a Passport ticket allows you to come back another day to see what you've missed.

Woburn Safari Park, Bedfordshire

Visitors can enjoy the acrobatic antics of lemurs (top) and children will love seeing the close bond between a mother and her young

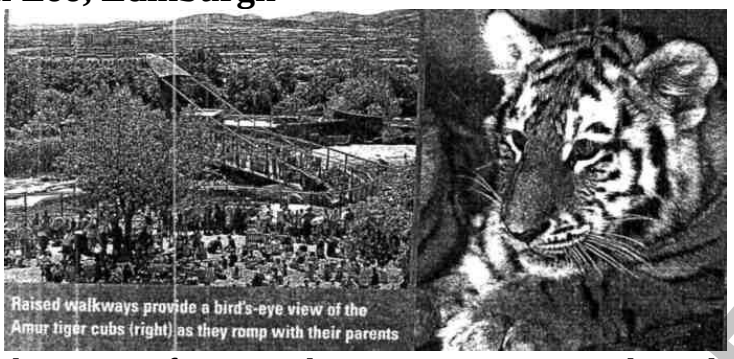
Woburn has a long history of conserving endangered species since the early 1900s, when Pere David deer were first bred at the park and saved from extinction in their native China. More recently, other endangered animals have been brought to the zoo - including Rothschild giraffe, white rhino and the Addax antelope.

As part of Woburn's ongoing conservation programme, a brand new attraction - The Land of the Lemurs - opened at Easter. A raised walkway up through the trees allows visitors to walk among these most primitive of primates as they leap from branch to branch. Sadly they face extinction in their native land, Madagascar, because they are hunted for food and their rainforest habitat is rapidly disappearing around them.

The drive-through safari is a thrilling way to view some of the most exciting - and dangerous - animals from Africa and Asia, including the park's three young Asian elephants, who can often be seen playing around and wallowing in the mud.There are also zebras, colobus monkeys, barbary apes, patas monkeys and vervet monkeys and three Siberian tigers in the 19-acre jungle.

As well as regular daily demonstrations, such as penguin feeding and putting the sea lions through their paces, there is also a large adventure playground where kids can let off steam on slides, rope bridges and ball pools. It's a full day out, so be sure to get an early start!

Edinburgh Zoo, Edinburgh



Raised walkways provide a bird's-eye view of the Amur tiger cubs (right) as they romp with their parents

From the tiniest frogs to the most enormous white rhinos, Edinburgh Zoo is increasingly involved in conservation programmes. The Amur tigers are one of the highlights of the zoo. Best of all, their newly refurbished habitat with aerial walkways and viewing platforms allows you to get a good look at the latest additions - three baby cubs born in March this year.

Two other big cats have recently joined the zoo too - Asiatic lionesses, Kamlesh and Gita, are a majestic presence in a new enclosure. Unlike some zoos where the object of interest is a tiny dot in the distance, it's easy to get right up close at Edinburgh - in fact, the brand new area for the red-ruffed lemurs has these agile creatures running across ropes just above the visitors' heads.Throughout the day, keepers talk about their work with a variety of different animals and there's also a chance to watch the sea lions in action.

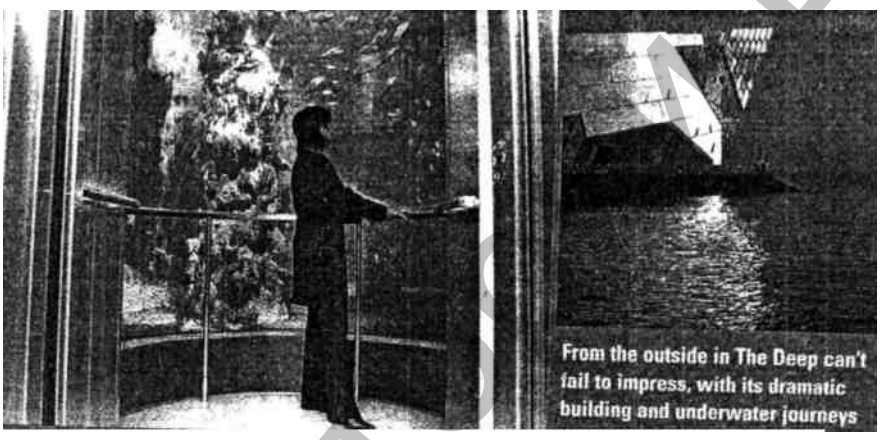
Twycross Zoo, Atherstone, Warwickshire

If you want to monkey around, then this is the place to be. It's a leading primate breeding centre and the only place in Britain where you can see critically endangered bonobos - the closest living relative to humans, with only one molecular difference between their DNA

strand and ours. Twycross plays an extremely important role in European captive breeding programmes and has had great success with the golden lion tamarin (right), which numbers just 1,000 in the wild. Some have even been released back into a protected reserve in Brazil.

The zoo has many well-loved characters ranging from Joe, a 40-year-old silver back gorilla, to Danny and Genet the chimps and Maliku, the mischievous orang-utan. Among the 1,000 animals from 200 different species at Twycross, there are two baby Asian elephants, Tara and Karishma, as well as lions and mhorr gazelles, which are actually extinct in the wild.

The Deep, Hull

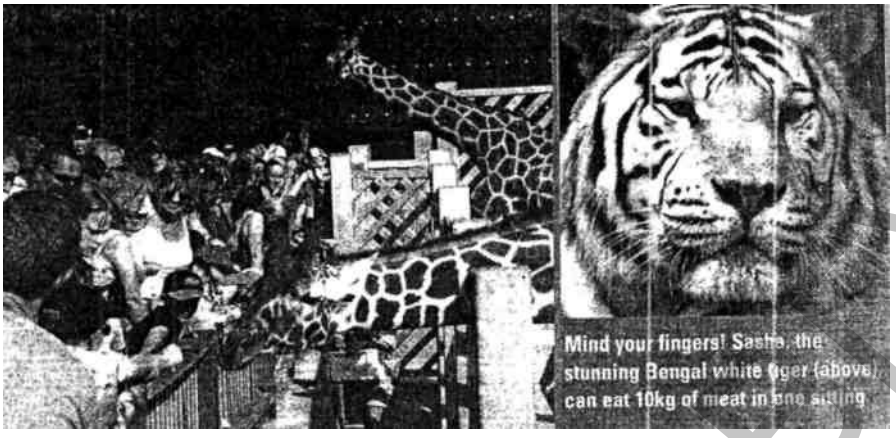


From the outside in The Deep can't fail to impress, with its dramatic building and underwater journeys

You'll never go swimming in the sea again once you've seen what's lurking in the depths of the oceans. Never mind the crabs, what about the red warty frog fish and the short-nosed bat fish? This impressive 'submarium' spans the history of the oceans from the creation of the world to the uncertainties of the future.The main tank is the deepest in Europe with an acrylic lift ride through the centre to make sure you don't miss the opportunity of eyeballing a shark! There are seven different species at The Deep and this is the only aquarium in the UK where you can see grey reef sharks, new this year.

One of the most colourful exhibits is the Coral Realm, where you can shinny up a ladder to put your head right among the exotic fish from tropical reefs worldwide - from the surgeon fish with tail blades as sharp as scalpels to the brightly coloured damsel fish. Even the most restless child can satisfy their urge to touch everything at the futuristic research station on the ocean floor. It brims with interactive experiments and computer simulators, where you can pilot a submarine, plan a crew's diet or work out the research station's energy needs.

Colchester Zoo, Colchester, Essex



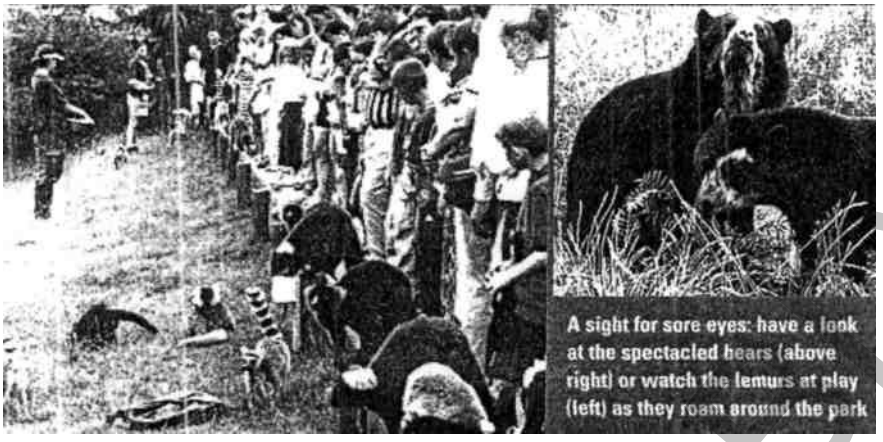
This gloriously spacious zoo tries, where possible, to take a different approach from the usual separate enclosures for each species of animal. Kingdom of the Wild, which cost a whopping £2 million to build, houses a range of African species in a specially recreated savannah environment. Giraffes, zebra, ostriches and white rhinos mix together in the spacious paddocks, just as they would in their natural environment.

There's also the elephant enclosure - home to a herd of African elephants and the zoo's latest arrival, Kito - the first elephant in the world to be born as a result of one artificial insemination. This success is no surprise as Colchester has a worldwide reputation for conservation, particularly for primates and big cats - there's a stunning Bengal white tiger, Sasha, who can put away 10kg of meat in one feed!

Millions of pounds are regularly spent on brand new enclosures to ensure the best quality of life for the animals. This summer sees the opening of a new £1.75 million world-class sea lion pool, with an underwater 24m (78ft) tunnel that allows visitors to walk underneath these playful creatures.

Throughout August, there's a Sunday workshop at the zoo, focusing on a different set of animals each week from reptiles to carnivores, with a variety of touch tables and craft activities. Plus each day there's the opportunity to hand feed giraffes and elephants, touch snakes and reptiles, (should you really want to!) and watch the penguins on parade.

South Lakes Wild Animal Park, Dalton-in-Furness, Cumbria



This zoo differs from others because it is privately owned. It's the vision of David Gill who, since 1993, has worked to transform an empty field into the world's top Sumatran tiger conservation centre - the only place in the world where you can see Amur and Sumatran tigers together.

But what really makes this zoo unique is how close you can get to the animals. Lemurs roam unhindered around the park. Parrots fly free in the trees. Even the lions are in open enclosures with just thin electric fences keeping them at slightly more than arm's length. The animals are encouraged to interact with other species and many are grouped into their native areas.

In the African section baboons, rhinos and giraffes share a field. In the Australian section, you can walk shoulder to shoulder with emus and feed kangaroos. And this is the only place in the UK that you can see real-life Paddington Bears - spectacled bears - here as part of an international breeding programme. This is animal conservation at its most passionate.

Vocabulary exercises

I. Learn how to read the following words and then distribute them among the zoos

Marwell Zoo Longleat House and Safari Park Twycross Zoo
Woburn Safari Park Edinburgh Zoo The Deep
Colchester Zoo South Lakes Wild Animal Park

Zebra, giraffe, Pere David deer, white rhino, pygmy hippo, Siberian tiger, Amur tiger, Asiatic lioness, Sumatran tiger, red warty frog fish, reptile, baboon, warthog, rhesus monkey, primates, colobus monkey, golden lion tamarin, surgeon fish, ostrich, kangaroo, ring-tailed lemur, red-ruffed lemur, chameleon, Rothshild giraffe, maned wolf, penguin,

grey reef shark, carnivore, emus, silver back gorilla, Goliath bird-eating spider, Addax antelope, chimpanzee, orang-utan, damsel fish, spectacled bear.

II. Match the words with their definitions

enclosure submarium conservation area theme park paddock drive-through safari aerial walkway zoo breeding centre

1) a large park where people go to enjoy themselves, for example by riding on large machines such as roller coaster, and where much of the entertainment is connected with one object or idea.
2) a place where many kinds of wild animals are kept for the public to see and where they are studied, bred and protected.
3) a small field in which wild animals are kept.
4) a piece of land that is surrounded by a fence or wall and is used for a particular purpose.
5) a trip to see wild animals without having to get out of your car.
6) an area where the natural environment is protected by law from being damaged or destroyed.
7) a place where people keep animals or plants in order to produce young ones in a controlled way.
8) a passage or path for walking along, raised above the ground.
9) a building located under the sea, where people can go to see fish and other water creatures.

III. Match the words to make up collocations and reproduce the situations with them from the text. Explain their meanings in short dialogues

To pave	"aaahhhh!" factor
To capture	steam
To rival for	unhindered
Natural	a fragile survival
To cling to	insemination
A serious	the way for
To blend into	go "ughhhh!"
To cause	entertainment
To make smb	the imagination
To let off	the background
Artificial	inclination
To roam	a huge stir

IV. Find the odd one out and explain your choice

a) lollop;	wallow;	roam;	monkey around
b) gazing;	staring;	touching;	eyeballing
c) creep;	crawl;	squirm;	swing
d) fine;	sunny;	bright;	dire
e) hop about;	climb up;	shinny up;	mount
f) story;	tale;	singalong;	legend
g) hop;	creep;	jump;	leap
h) staggering;	whopping;	enormous;	tiny
i) extinguish;	eliminate;	breed;	wipe out
j) mischievous;	naughty;	restless;	playful

V. Give synonyms from the text and match these words with their antonyms

Up-to-date, modern (2)	freely, openly
Important, significant	common, ordinary
Dirty, polluted	ignored, disregarded
To inhabit	empty of
Closeness, nearness	trite, banal
Meeting	herbivore
Centre of interest	out-of-date, old
To renovate, to repair	clean, pure
Hidden, concealed	remoteness
Packed with, full of	inconsiderable, non-essential
Impressive, marvellous	separation
Exclusive, extraordinary	to desert, to abandon
Predator	to neglect

Comprehension tasks

I. Prove the following statements, using the information from the text. Illustrate your answers with examples

1. Zoos provide some effortless education and contribute to saving some of the most beautiful creatures on earth.
2. Longleat House and Safari Park has paved the way for giving more freedom to captive animals.
3. Twycross Zoo is a leading primate breeding centre.
4. Colchester Zoo is putting animals in an ark – this time not to save them from a flood of water, but from a flood of people.
5. South Lakes Wild Animal Park is animal conservation at its most passionate.

II. Imagine you work in a tourist agency. Recommend a zoo for those who want to spend their weekend enjoying:

a) monkeys;
b) big cats;
c) the sea world;
d) a drive-through safari
e) lemurs

III. Describe each zoo. Which one would you like to visit and why?

IV. Work in pairs. Make up dialogues comparing two zoos.

UNIT 5. UNNATURAL DISASTERS

Warming up.

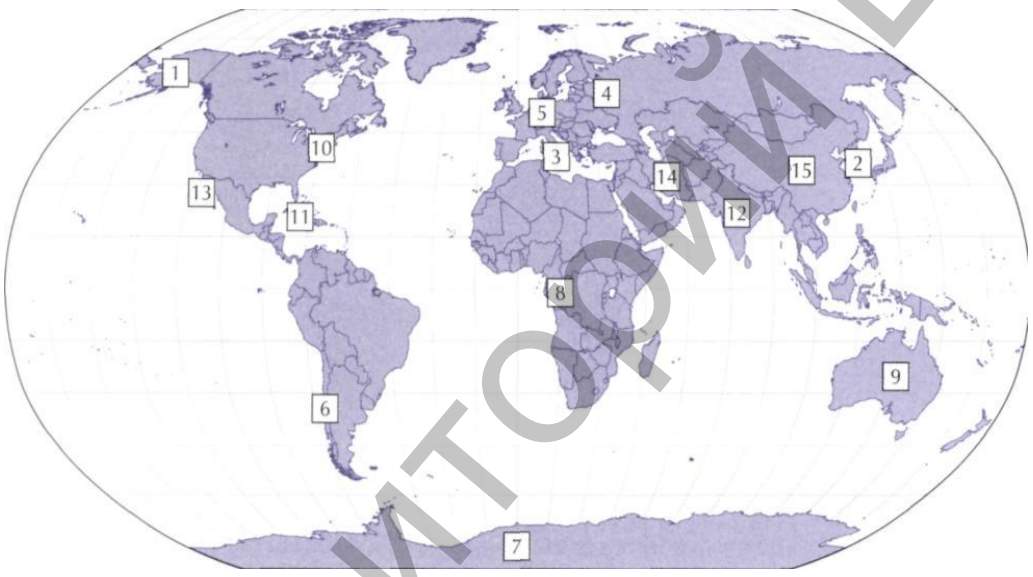
I. Look at the photographs and the title of the unit. Take notes. Then discuss these questions with a partner

1. What is happening in each of the natural disasters?
2. What problems do you think people will have after the disasters are over?

II. Work with a partner. Look at the photographs once again and review your notes. What happens in a natural disaster? Match the pictures with some of the common occurrences listed below. Some occurrences may happen during more than one type of disaster

sand in your eyes
heavy or strong rain
fast-moving clouds
trees and limbs of trees breaking and falling
limited visibility (difficulty seeing)
strong, hot winds
overflowing rivers
no available drinking water

III. Work with a partner. Look at the map and find the country where you were born. According to the map, what natural disasters have happened near there recently? Do any other natural disasters occur there that are not shown on this map? Have any of these disasters become more common in the past few years? Have you experienced any of these disasters? Discuss.



1. Denali National Park, AK, United States: Earthquake, 2002
2. South Korea: Typhoon, 2002
3. Sicily, Italy: Earthquake, 2002
4. Moscow, Russia: Smog, 2002
5. Germany, Austria, Czech Republic, Slovak Republic: Floods, 2002
6. Chile: Landslides, 2002
7. Antarctica: High temperatures, 2002
8. Democratic Republic of the Congo: Volcano eruption, 2002
9. Australia: Brushfires, 2001
10. Buffalo, NY, United States: Severe snowstorm, 2001
11. Cuba: Hurricane, 2001
12. India: Heavy rain, 2001
13. Baja California, Mexico: Hurricane, 2001
14. Iran: Drought, 2001
15. China: Drought, 2001

Tune-in.

1 Read this piece of information. Imagine you are in the disaster. Describe your physical and emotional feelings

Some scientists believe that changes in our climate in the last century have caused an increase in the number of natural disasters, such as droughts and floods. In 1944 and 1945 in particular, Australia experienced one of the worst droughts in modern history. Large rivers dried up. Land and vegetation dried up and blew away. Drought-related dust storms were frequent. In southeastern Australia, the state of New South Wales was hit hard with dust storms that lasted for hours; some storms lasted for days at a time. Red dust clouds filled the sky. Animals were covered with sand, could not breathe, and eventually died. Houses were filled with sand and dust. Yards were buried in dust. In Mildura, a city near the New South Wales border, four children on the way home from school became disoriented in a strong dust storm and got lost. They weren't rescued until the storm stopped.

2 Dust storms are accompanied by severe winds containing dust and sand. Imagine you are outside your house and see a dust storm (such as the one in the photo on page 96) approaching. With a partner, talk about how you would prepare for a dust storm.

3 Match their words with their explanations and then complete the sentences below

- every part of a place
- to create a situation in which there is a lot of damage or a lack of order, especially so that it is difficult for something to continue in the normal way
- caused by people to happen
- to start a process in which everything that happens causes something else to happen

to have a knock-on effect ***to play havoc***
nook and cranny ***human-induced***

1. When this dust is deposited, it can penetrate the smallest _____.
2. One of the most examples of modern _____ environmental degradation is the drying up of the Aral Sea in Central Asia.
3. This dust can _____ with the way things operate because most of the dust is made up of quartz which is very hard.

4. A _____ of this ecological disaster has been the release of significant new sources of wind-blown material, as water level has dropped.

4 Answer the questions

1. What is the main focus of this lecture?
2. Describe the two main types of human activities which cause dust storms.

5 Complete the table

Name of area	**Year**	**Details**
USA 'dust bowl'		Caused by (1)_____ Decade renamed the (2)_____
West africa		Steady rise of (3)_____ to (4)_____ a year Visibility reduced to (5)_____ Hazard to (6)_____ and (7)_____
Arizona		Worst dust clouds arise from (8)_____ Dust deposits are hazardous to (9)_____ Officials developed an (10)_____
Sahara		Caused by (11)_____ which results in (12)_____ Increased (13)_____ has occurred along with long-term (14)_____

6 Complete the flow chart

Drying-up of Aral Sea

Intensive (1)_____ in Central Asian Republics

A dramatic decline in (2)_____

Total volume of water in lake reduced by (3)_____

Increase in (4)_____

Lake has become more (5)_____

Serious effects on (6)_____ nearby

Focus on the Text.

Pre-reading activity. Look at the key words and explain them. Which of the disasters in the Key Words do you think are:

- caused by people?
- made worse by people?
- natural?

Key Words: Disasters

avalanches, cyclones, droughts, earthquakes, floods, forest fires, hurricanes, landslides, volcanic eruptions, windstorms

Reading activities.

1. **Read the article and check your answers to the exercise in pre-reading activity.**
2. **Now complete the gaps in the text (1-6) with these sentences (a-g). There is one extra sentence you do not need**

a) But geological evidence shows that 73,000 years ago there was a much greater eruption.

b) Even prosperous Europe has suffered and large areas of France, Britain and Germany have all been under water.

c) That is probably not the most important factor either.

d) Third, the other bits of land you might have been able to farm are now useless.

e) On top of all that, add climate change and the spectre of global warming.

f) For example, the Yellow River, once notorious for flooding the Chinese landscape, failed to reach the sea at all on 226 days in 1997.

g) One answer is overpopulation.

Hell and High Water

The last few years have been the worst period on record for environmental disasters and experts are predicting far worse to come. Tim Radford reports.

A. Here is how to become a disaster statistic. Move to a shanty town on an unstable hillside near a tropical coast. Crowd together as more and more people arrive. Wait for the world to get a little warmer. More evaporation means more rain, which means the slopes will get progressively more waterlogged. One day, the land will turn to mud,

and the neighbourhood will begin to go downhill. Literally. And if the slope is steep enough, the landslide will accelerate to more than 200 miles an hour. Peter Walker, of the international federation of Red Cross and Red Crescent societies, has seen it all too often. "First, your house has been washed away. Second, the land that you farmed has disappeared. (1) _____".

B. In the last decade, floods, droughts, windstorms, earthquakes, avalanches, volcanic eruptions and forest fires have become increasingly common. There has been disastrous flooding in Asia, Africa, Central and South America and Oceania. (2) _____. Storms have been getting worse everywhere too, with a growing number of hurricanes hitting the US, the Caribbean and Central America. Drought has affected large areas of Sub-Saharan Africa for years and many other zones are becoming drier. (3) _____. A number of nations have already been in armed conflict over water, and drought in the West of the US has resulted in enormous forest fires.

C. Volcanic eruptions and earthquakes have always been a threat in certain parts of the world. A volcanic eruption virtually wiped out the small Caribbean island of Montserrat in 1997 and there have been serious earthquakes in Greece, Turkey and El Salvador. The quake that rocked the small Central American country of El Salvador in 2001 came as the people were still rebuilding their houses and recovering from 1998's Hurricane Mitch.

D. So why is nature beginning to turn on us? (4) _____ _____. The population of the world is growing at the rate of 10,000 people an hour, 240,000 every day, nearly 90 million a year, with most of the growth in the developing world. People in agricultural areas, unemployed and sometimes undernourished, move to the cities, and then set up homes on poor soil, crowded into substandard buildings. (5) _____. This has mainly been caused by the mismanagement of the world's resources: carbon emissions from rich countries; the activities of the big multinational companies; the deforestation of the world's forests. As a result, a hotter ocean breeds fiercer cyclones and hurricanes. It surrenders greater quantities of water as evaporation, and more powerful winds dump this water against mountainsides with increasing fury. Atlantic hurricanes, for instance, are 40% more intense now than they were 30 years ago.

E. Volcanoes and earthquakes are even more dangerous than in the past as around half the world's population now lives in cities. There are more than 500 active and semi-active volcanoes, about fifty of which erupt each year, and more than 500 million people now live within range of a volcanic eruption. An even greater number live at risk, in some degree, from earthquakes which have taken a toll of more than 1.6 million lives in the last hundred years.

F. All the betting from the disaster professionals is that things will get worse. Professor McGuire, of University College London, is a volcanologist who has been warning for years that the world has not seen the worst nature can do. The worst eruption in human history was probably Mt Tambora in 1815, in Indonesia. It pumped so much dust into the stratosphere that it effectively cancelled the following summer in Europe and America. (6)_____. "It reduced temperatures by maybe 6°C in some places and the whole planet was plunged into winter for years. And there are about two of these events every 100,000 years ..."

3. Read the text again and answer these questions

1 What is the attitude of the journalist towards the future?
2 Who is most likely to be a victim of natural disasters?
3 Why are there now more hurricanes, floods and droughts?
4 Why are volcanoes and earthquakes more dangerous now?
5 What could be the biggest threat to the planet in the future?
6 What effects might this threat have?

Vocabulary:

1. Give English equivalents and make up short dialogues with them

- Постепенно становиться более затопленным
- Оползень увеличивает скорость
- Находиться в вооруженном конфликте с водой
- Прокатиться по стране
- Некондиционные здания
- Высвобождать большое количество воды в виде испарений
- Унести жизни
- Выделять пыль
- Погрузиться в зиму
- Порождать сильные, неистовые циклоны
- Ветра приносят эту воду к горам

2. Look at the words from the text (1 -10) and the other examples in brackets. Match the prefixes with the meanings (a-j)

1 overpopulation (overgrown, oversleep)
2 substandard (subway, submarine)
3 deforestation (defuse, dehydration)
4 downhill (downstream, downgrade)
5 undernourished (underpaid, undercooked)
6 rebuild (replace, rewind)
7 unstable (unusual, uncommon)
8 semi-active (semi-circle, semi-final)
9 multinational (multi-purpose, multi-racial)
10 mismanagement (misunderstand, misplace)

a) again
b) badly
c) below
d) too much
e) many
f) opposite of an action
g) not enough
h) downwards
i) opposite of an adjective
j) partly / half

3. Complete the sentences with words from Exercise 2 in a suitable form

1. After the storm they had to…….hundreds of houses which had been damaged.
2. Many people in the developing world suffer from diseases because they are …….
3. Our team was knocked out in the …….of the competition.
4. The bomb was about to go off but the experts managed to……it.
5. I……the question and failed the exam.
6. I……yesterday and arrived an hour late for class.
7. A lot of houses collapsed in the earthquake because of……. construction.
8. Floods are not…….these days; they happen more and more often.

After reading activity. I. Work in pairs. Discuss these questions

1 What natural disasters have happened in the last few years? Speak about them.
2 What do you think governments can do to prevent natural disasters?
3 What organisations do you know that provide aid after disasters or work for the environment?

4 What can we do as individuals to improve the environment and help victims of natural disasters?

II. Work in a small group. Research a natural disaster and prepare a report that includes the following information. Present your report to the class.

- Date, type and description of disaster
- Visuals of the disaster (photos, drawings, paintings)
- Aftermath (what happened as a result of the disaster; for example, an amazing survival story, a description of the damages and losses)
- Statistics (people injured or killed, monetary amount of damage)

Tune-in.

1. Discuss the following questions

a) What are Vesuvius and Krakatoa? Which countries are they in? What else do you know about them?

b) Name different types of natural disasters that you know. Do you know any actual examples? What happened?

2. Combine the words to make collocations. Use Russian equivalents as a hint

To match smth for	possible indicators of future activity
To be due for	the signals
To treat smth with	vent
Specific alignments of	gives way
To be cited as	an astonishing blend of ignorance and complacency
To read	sheer destructive power
The rock plug	another massive explosion
Central	the sun and moon

a) центральное входное отверстие
b) распознавать сигналы
c) специфические совпадения осей солнца и луны
d) сравниться только по разрушительности силы
e) ожидать еще одного мощного взрыва/извержения
f) экструзивный бисмалит скалы взрывается
g) определяться как возможные индикаторы будущей активности
h) относиться к чему-либо с поразительным смешением невежества и спокойствия

3. Listen to a talk about volcanoes and reproduce the situations with the following numbers

• 6000 km	• 165 villages
• 200 seconds	• 6200 BC
• 700.000 people	• 100 seconds
• 13 days	

4. Listen again and complete the notes for questions 1-8.

VOLCANOES

After-effects of Krakatoa eruption:
a) drop in world's temperature
b) (1)_____
c) ash and aerosol circled the equator

Number of volcanoes that have erupted over last 10,000 years: (2)_____

Country where first eruption recorded: (3)_____

Number of people threatened by volcanic eruption: (4)_____

Possible reasons for volcanic eruption:
a) changes in sea level
b) positioning of (5)_____
c) underlying earthquake patterns
d) ground deformation
e) release of (6)_____

Official time allowed for evacuation around area of Vesuvius: (7)_____

Dobran's suggestions:
a) advise (8)_____
b) build 30m high barriers

5. Answer the questions

1) When did the volcanic eruption in Krakatoa occur? What were the consequences?
2) When was the first eruption recorded?
3) What are the causes of volcanic eruptions?
4) What does Dobran suggest? What do you think of his suggestions? Are they sensible or alarmist?

UNIT 6. GREEN CONSUMERISM AND GREEN ORGANIZATIONS

MODULE 1

Warming up.

I. Read the following text. Pay attention to the words in italics

There are two sides of the food issue. In poor countries it's a question of life and death. In rich countries it's a question of health and *diet.*

•*Food* has become the source of anxiety to many people. Behind it lies a revolution in the way our food is now produced. The problem is that a vast range of chemicals used on the modern farm have crept into our food. Our *diet* - the food we eat - is not always *healthy.*

•30% of Americans and 25% of Europeans are fat because they eat too much *junk food:* humburgers, popcorn, pizza, chocolate. Why is junk food bad for us? The answer is simple. It contains too much sugar and fat. This is the reason why so many people die of heart diseases.

•Finally, there are *"additives"* - a group of chemicals which food factories use. They make food look better, taste better, last longer. The best recommendation is to stop eating *processed foods.* Instead there is *a diet* of fruit, vegetables, brown bread, fish and other *"health" foods.*

•But even health food isn't always healthy. People don't just pollute the atmosphere. They pollute themselves too. Modern farmers and food factories use over three thousand chemicals. Some are *"fertilizers"* - these help crop to grow. Others are *"pesticides"* which kill insects. A third group are *"hormones"* - these make animals, like pigs, grow more quickly.

•Concern about the health risks caused great demand for *organic food,* grown without chemicals. Chemicals are replaced by crop rotation. Organic agriculture is also kinder to the environment, the soil and the farm workers.

•You may turn your worry about food to action. As a shopper you have a great deal of influence. How you choose to spend your money shape *the supply chain* policy. Citizens can choose and *campaign* for food that is safe to eat, healthy for themselves and environment.

Comprehension tasks

Ex. 1. True or false? Give reasons for your answers based on the text

	Right/wrong	
1. All our food is healthy.	□	□
2. Junk food is very good for men.	□	□
3. Chemicals used on a modern farm pollute our food.	□	□
4. Fruits and nuts, vegetable and wheat are health food.	□	□
5. Food additives can add colour, flavour, artificial sweetness.	□	□
6. Hormones help plants grow.	□	□
7. Fertilizers are used to kill insects and weeds.	□	□
8. Chemicals make agriculture safer and healthier.	□	□
9. All food grown on a farm can be called organic.	□	□

Ex. 2. Ask and answer. Work in pairs. One completes the question, the other gives an answer

1. What are two major ... ?
2. Why has our food become ...?
3. Why are there so many ...?
4. Why is junk food ...?
5. What food do we call ...?
6. Why isn't health food ...?
7. What substances help ...?
8. How do farmers grow ...?
9. Why do we say that organic agriculture ... kinder...?
10. How can people change ...?

Vocabulary exercises

Ex. 3. Find in the text the equivalents to the following words and phrases

источник беспокойства;

огромное количество химических веществ; ……..

то, что мы обычно едим; ……..

очень полные люди; ……..

нездоровая пища с большим количеством химических добавок; ……..

готовая к употреблению пища; ……

ядохимикаты; ……

пищевые продукты, выращенные без применения химических веществ; ……..

формировать политику поставок пищевых продуктов (в магазин); ……..

Ex. 4. Use the above words to describe the food most people eat. Say what diet is good for man.

Ex. 5. "Adopt" a word. You are responsible for one vocabulary word.

Diet	***junk food***	***additive***	***processed food***
"health" food	***fertilizers***	***pesticides***	***hormones***
organic food	***the supply chain***		

Introduce it to the class telling the word's part of speech, derivations, definitions, synonyms, antonyms. Use the word in several sentences with context clues. Make up several sentences with your word in Russian and ask your groupmates to translate them

Ex. 6. Here are some useful words from the text. Can you remember the sentences you saw each word in? Make similar to the original sentences

Junk food	***grow***
Additives	***environment***
Health food	***soil***
Pollute	***choose***
Crop	***substance***

Ex. 7. Find in the text the word or phrase which means:

1. Things we eat.
2. Sort of food usually eaten by a person or community.
3. Food of little or no value.
4. Substance added in small amounts to food for special purposes.
5. Food which is good for men.
6. Chemical substances which kill insects and weeds.
7. Foods grown without chemicals.
8. Take part in an action against something.

Tune-in.

1 What is organic food? Work in pairs and prepare a list of advantages and disadvantages of growing organic food. Discuss your lists in class

2 Jackie and Allan Gear run Henry Doubleday Research Association, a leading force in the organic food movement in Britain. Listen to Jackie Gear who forecasts a steady increase in the number of farmers who will grow food in Britain as consumers demand more and fill in the chart

the name of TV series	
the rating of the TV programme	
the number of members of the association	

the number of research scientists	
the organization they are doing major research into vegetable-growing for	
the number of trees grown in Africa	
they advise on	
the per cent of the growing British organic food market a year	

3 Match the words to make up collocations. Fill in the gaps with these collocations

Seen as	***trees***
Wholesome	***information***
To set up	***the indulgence of cranks***
Tough and versatile	***seed banks***
A database of	***food***

1. Several years ago organic farming was _____ but today it's widely understood to be sensible and environmentally sound way of growing _____.
2. Henry Doubleday Research Association has _____ of prosopis trees to help developing countries such as Africa.
3. Prosopis trees are _____ and _____ and are used for shade, firewood and soil improvement.
4. Henry Doubleday Research Association have developed _____ which supports their advice to people in developing countries which type of tree will suit their land.

4 Discussion points

1. Speak about the main directions of Association's work.
2. Do you approve or disapprove of such organisations and their mission? Explain your answer

Focus on the Text.

I. *Read the text and underline the words and phrases which explain the meaning of the title "Shopping Goes Green."*

Shopping Goes "Green"

Millions of tons of glass, paper, plastic and metal containers are produced, and these are difficult to dispose of.

Most of the packaging is never recycled and it contributes to the pollution problems of our cities. However, today more and more consumers are choosing "green" and demanding that the products they buy are safe for the environment. They buy products made of recycled materials.

Before they buy a product, they ask questions like these: "Will this hairspray damage the ozone layer?" "Is the packaging biodegrad-

able - will it break down in a rubbish dump?" "Can this metal container be recycled or can it only be used once?"

A recent survey showed that two out of five adults now consider the environmental safety of a product before they buy it. We use billions of shopping bags that don't degrade. Now the shoppers began bringing their own shopping bags. They look at the packaging on every product.

This means that companies must now change the way they make and sell their products to make sure that they are "green", that is, friendly to the environment.

Only a few years ago, it was impossible to find green products in supermarkets, but now there are hundreds. Some supermarket products carry labels to show that the product is "green". Some companies have made the manufacturing of clean and safe products their main selling point and emphasize it in their advertising.

The concern for a safer and cleaner environment is making companies rethink how they do business. No longer will the public accept the old attitude of "Buy it, use it, throw it away and forget it." The public pressure is on, and gradually business is cleaning up its act.

Ex. 1. Complete the sentences.

a. Many people choose green products because they are ... .

1. *cheaper;* 2. *better made;* 3. *environmentally safer.*

b. Corporations are producing more green products because ...

1. *they have to pay higher taxes;*
2. *it costs less;*
3. *consumers want to buy them.*

c. Nowadays ... shoppers consider the environmental safety of products before they buy them.

1. *all;* 2. *many;* 3. *no.*

Ex. 2. Now use your own words to write definitions for these words or phrases

- "green" products ……..
- biodegradable ……..
- recycle …….
- selling point ……..

Ex. 3. Pick out from the text actions you would join to help things change

1. Buy products in recyclable containers.
2.....
3.....
4.....
5.....
6.....

Ex. 4. Translate the sentences from Russian into English

1. Сегодня все больше и больше людей беспокоятся о качестве пищи, которую они едят.
2. Мне нравится пища, которую едят японцы: рис, овощи, рыба.
3. В Америке люди едят большое количество нездоровой пищи, изобилующей искусственными добавками и наполнителями. Поэтому в Америке очень много полных людей.
4. Искусственные добавки используются вместо естественной пищи для усиления цвета, вкуса и увеличения веса пищи.
5. Особенно много искусственных добавок в готовой к употреблению пище.
6. Естественное землепользование означает, что фермеры не используют химических удобрений и ядохимикатов.
7. Почва - это верхний слой земной поверхности, на котором растут растения.
8. Производителям запретили использовать гормоны для увеличения роста свиней и кур.

Ex. 5. Write a questionnaire to find out what kind of food your groupmates eat. Include these questions and add some of your own. Prepare a report on the eating habits of young people based on the answers to your questionnaire

Questions	**Yes**	**No**
• 1. Are you vegetarian?	□	□
• 2. Do you eat only health food?	□	□
• 3. Do you worry about food safety?	□	□
• 4. (humburgers, pizzas)	□	□
• 5. (label)	□	□
• 6. (organic food)	□	□
• 7. (fruit, vegetables)	□	□
• 8.	□	□
• 9.	□	□

Tune-in.

Pre-listening

1 *Read the article. Use the information to fill in the missing words and phrases in the interview below*

STOPPING ALAR

• The apple, a symbol of healthy eating, came under suspicion in 1989 as fears that the pesticide spray Alar could cause cancer led worried parents to stop feeding their children apple juice.

• Calls for the ban of the apple spray began in the US, where researchers discovered that Alar's active ingredient, daminozide, could potentially cause cancer in one child out of every thousand. Daminozide could not be washed or peeled off the fruit, and risks were highest when apples were cooked, processed or made into juice.

•The London Food Commission undertook tests which found that five out of six apple juices, five out of 12 samples of eating apples and two out of three tins of ready-to-eat baby food contained detectable amounts of daminozide.

• When publicity over Alar hit the headlines, some stores announced their own ban. Concerned over negative publicity, "Uniroyal" agreed to end production.

The Interview

In a supermarket our reporter talked to a lady-customer. She is the mother of three. Here is what she thinks.

R: Do you like these green apples?

C: Yes, I must love them, for me the apples is a symbol of... .

R: Why didn't you buy these beautiful green apples?

C: I read that they use ... and daminozide ... can potentially ... .

R: But why don't you wash, peel or cook the fruit?

C: It... off the fruit. When you ... or ... the apples the risk is the highest.

R: So, you approved of... .

C: Certainly! Buying organic is one answer. I wish I could afford it.

2 *Discuss the following questions*

1. What can you do in your own home to reduce damage to the global environment?
2. List five household goods which you would classify as ‘green’, and describe how buying them would help the environment.
3. List three things which could be recycled and used for further manufacture after you have used them.

Listening

3 *Listen to the speaker and answer the questions*

1. Which green items does the speaker mention?
2. Why has she changed to green items only gradually?
3. Why does the speaker think that simply buying more expensive goods can help the environment?
4. When did green issues become news in Britain?
5. In the speaker's opinion, why have supermarkets started selling green goods?
6. What materials does the speaker recycle?
7. How does Sheffield City Council help the environment?
8. What particular problems might there be in doing the same in Brighton?

4 *Listen again and complete the sentences*

1. I've gradually changed over to all _____.
2. I sort of _____ washing up liquid to start with. And that sort of _____ very well.
3. Large manufacturers are _____ for economic reasons.
4. I think they want to actually collect recycled goods from houses in the normal _____, _____.
5. I think that's the _____.

After-listening

5 *Discussion points*

1. What's your opinion of shopping green? How does Britain compare with your country in developing green goods and services?
2. Work in pairs. Think of any other ways in which households can help the environment.
3. Work in two groups. What are the advantages and disadvantages of green consumerism for: ***a) consumers; b) manufacturers?***

MODULE 2

1. THINK AHEAD

In groups, discuss your answers to the following questions:

1. Have you made any changes in your daily life that reflect a concern for the environment? If so, what are they?
2. What is "green consumerism"? Can it contribute to the solution to our environmental problems? If so, how?
3. How much of an impact has the environmental movement had on your country? How does it compare with what's happening in other countries?
4. Have you seen any examples of false advertising for protecting the environment? If so, give examples.

2.VOCABULARY

Read the text. The words in italics will help you understand the interview. Try to determine the meaning of these words. Then match the words with their definitions or synonyms in the list at the end of the text. Write each word next to its definition or synonym.

In recent decades we have become more aware of all the problems that humans have created for the earth. Ozone depletion, acid rain, the greenhouse effect, and deforestation are only some of the environmental issues that were unknown three decades ago.

With all these environmental problems, people have begun to look for ways to save the earth. ***Consciousness-raising*** groups have been formed, whose work is primarily to get each and every one of us to realize that we have a part to play in helping to save the planet. Even small changes in the way we live can help to save the earth. For example, many families now turn food waste into ***compost*** rather than throw it away as garbage. Compost can then be put back into the soil to help gardens grow.

Yet environmental ***watchdogs*** tell us that we must be careful not to ***jump*** too quickly ***on the*** green ***bandwagon.*** One ***pitfall*** to contributing in small ways to help save the environment is that we may feel a false sense of ***complacency***. How many of us end up feeling good and satisfied that we have helped save the earth after only recycling our cans and bottles, for example? The real tasks in saving the planet are much greater than just recycling.

Another problem environmentalists point out is that just because a product claims that it is "environmentally safe" does not mean that using it is really good for the environment. They point out that, even in the area of environmental protection, there are dishonest people trying to make their own profit out of a good cause: ***Hucksters*** exist in all areas of life. We must be ***leery*** of ***"greenwash"*** and those people who falsely advertise or claim environmental concern where it doesn't exist. In the area of green consumerism, this is especially important. For example, Texaco has offered its customers a free tree ***seedling*** for the purchase of gas. The message here is that if you plant a tree you will help make the earth a greener place. But the gas we buy from Texaco will continue to harm the earth.

We need to convince corporations to change their policies, ***revitalize*** our transportation systems, and generally just consume less of everything if we're really going to make a difference.

— young plant newly grown
— bring back to life
— natural fertilizer
— join what seems to be successful
— danger

— persons interested in making their own profit
— making people aware of issues
— unethical advertising for the environment
— self-satisfaction
— people who look for illegal or wasteful practices or dishonest behavior
— suspicious; wary

3. TASK LISTENING

Listen to the interview. You will hear some examples of absurd advertising. As you listen, draw lines to connect each product with its false advertising promise.

Product	**False Advertising Promise**
gasoline	eat good cereal
cars	save the environment
candy	encourage new values

4. LISTENING FOR MAIN IDEAS

Listen to the interview again. The interview has been divided into five parts, each expressing a main idea. You will hear a beep at the end of each part. A word or phrase has been given for each part to help you focus on the main idea. Write the main idea in your own words. You should have five statements that make a summary of the report. Compare your summary with that of another student.

PART 1 false complacency

_____

_____

PART 2 shopping

_____

_____

PART 3 longer-term issue

_____

_____

PART 4 green marketing

_____

_____

PART 5 revitalizing

_____

_____

5. LISTENING FOR DETAILS

Read the statements for Part 1. Then listen to Part 1 again. As you listen, circle the best answer. Compare your answers with those of another student. If you disagree, listen to Part 1 again.

PART I

1. Which of these book titles is *not* mentioned in the introduction to the interview?
   a. *The Green Consumer*
   b. *Shopping for a Better World*
   c. *Fifteen Simple Things You Can Do to Save the Planet*
2. What general purpose do these books have?
   a. to broaden the environmental movement
   b. to make our ordinary lives more complete
   c. to lull consumers into a false complacency
3. What do Alan Durning and Alice Tepper Marlin have in common?
   a. They are both researchers at the World Watch Institute.
   b. They are both members of the Council on Economic Priorities.
   c. They are both authors of the book *Shopping for a Better World.*

Repeat the same procedure for Parts 2-5.

PART 2

4. What one thing does Tepper Marlin feel we can do to help the environment?
   a. consume less
   b. grow better foods
   c. throw away the compost heap
5. What should we do when we shop?
   a. not use shopping carts
   b. change the places where we shop
   c. look at product contents

PART 3

6. How does Alan Durning *truly* feel about the advice on shopping?
   a. It's a really great idea.
   b. It's only a first step.
   c. It's a good long-term goal.

7. Who is responsible for overconsumption, according to Durning?

a. one hundred billion people in developing countries
b. people living in developed countries
c. the majority of the world's population

8. Which of the earth's environmental problems is *not* mentioned?

a. greenhouse effect
b. acid rain
c. deforestation

9. What specific solution does Durning propose?

a. We need to consume our way out of this.
b. We have to shift our emphasis to gross consumption.
c. We have to simplify our lifestyles.

PART 4

10. How does Durning see green consuming?

a. He thinks it's like rearranging the deck chairs on the *Titanic.*
b. He thinks it's an initial educational step.
c. He is critical of it.

11. Where do we see a lot of "greenwash" going on?

a. in corporate advertising
b. at tree farms
c. in supermarkets

12. Which of the following areas is *not* mentioned as an area where we can find hucksters?

a. in health clubs
b. in food marketing
c. in green consumerism

13. How does Tepper Marlin suggest we deal with hucksters?

a. We need to throw out the entire concept of green consumerism.
b. Consumers need to listen to hucksters.
c. Federal guidelines need to be established.

PART 5

14. What negative result could occur from the green-consuming movement?

a. People won't feel good.
b. "Yuppies" will stop recycling bottles and newspapers.
c. People won't do as much as they need to do.

15. What example does Toyota use for green advertising?

a. Their cars have a new series of valves.

b. Their cars don't need excess gas.
c. People who drive their cars have the right values.

16. What does Durning think we need to focus on?
    a. reforming transportation
    b. limiting public transportation
    c. controlling rail transportation
17. What happened in the 1980s, according to Durning?
    a. We didn't reach the people who wanted to help.
    b. We focused too much on little things.
    c. We began to make a difference.

◦ *Titanic:* a passenger ship that sank and in which many people died. The message in this statement is that simply changing the position of the chairs would not have saved the ship; it would have required much more. Likewise, green consuming will not be enough to save the earth.

◦ Young urban professionals; *yuppies* has also taken on a negative sense in referring to young people who focus a great deal on material wealth.

6. LISTENING FOR INFERENCE

Listen to the excerpts from the interview. Try to understand the speaker's meaning by listening to his or her tone of voice and choice of words. Choose the best answer for each question

Excerpt 1.

1. Which of the following *best* describes Durning's attitude toward Tepper Marlin's suggestions?
    a. He thinks they are a great idea.
    b. He thinks they are useful, but not the complete answer.
    c. He thinks they won't work very well.

Excerpt 2.

2. Why does the interviewer, Steve Curwood, compare green consuming to the Titanic?
    a. Green consuming will lead to a disaster in the environment.
    b. Green consuming will have a big impact on the environment.
    c. Green consuming only helps the environment on the surface.

Excerpt 3.

3. What does Durning think about Toyota's ads?
    a. He doesn't believe they are honest.
    b. He thinks they focus excessively on recycling.
    c. He admires their focus on friends and community.

7. LOOKING AT LANGUAGE

Exercise 1. *Look at the following statements made in the interview:*

1. It seems to me that the green-consuming movement could get people just sort of feeling good about what they're doing. . . .

This sentence could be rewritten:

It seems to me that the green-consuming movement could ***get*** people ***to feel*** good about what they're doing. . . .

2. There's a definite risk that this will ***make*** us ***feel*** better than we really are. But it's a risk that we have to take.

How do the two verb forms in italics differ in terms of meaning and form?

Exercise 2. *To save the earth, there are many things we can do at home, school, or work. Use the following cues to form complete sentences with* ***have, make,*** *or* ***get,*** *and make suggestions for saving the earth. Use active sentences in 1-6 and passive sentences in 7-10 to express your own ideas about how we can influence others to help save the earth.*

1. our family/consume

_____

2. the government/pass laws

_____

3. our community/change

_____

4. our friends/take important steps

_____

5. our supermarkets/sell

_____

6. our politicians/consider

_____

7. trees/plant

_____

8. transportation systems/revitalize

_____

9. products/label

_____

10. advertising/control

_____

8. FOLLOW-UP ACTIVITIES

I. In groups, discuss your answers to the following questions:

1. Do you believe that green consuming is a "vehicle for raising people's consciousness?" Why or why not?
2. Alan Durning states that "we at the top are the problem." Do you agree that industrialized countries have more of a responsibility toward saving the earth than developing countries do? Why or why not?

II. Choose one of the following topics:

1. Write a letter to either Texaco or Toyota expressing your view on their green advertising.
2. To what extent should individuals contribute to saving the earth? How much should we each change our lifestyles to improve the environment? Write an essay in which you express your opinion.

III. Listen to the interview again. Take notes on the practical suggestions that are given for protecting the environment. Key areas of concern have been listed for you. Write the suggestions that relate to each concern. In the right-hand column, indicate whether the interviewees express a positive (+) or negative (—) view of the suggestion.

	Practical Suggestions for Saving the Environment	**+ or -**
Consumption:	_____	_____
	_____	_____
	_____	_____
	_____	_____
Planting the earth:	_____	_____
	_____	_____
	_____	_____
	_____	_____
Education and public policy:	_____	_____
	_____	_____
	_____	_____
	_____	_____

Recycling: _____ _____
_____ _____
_____ _____
_____ _____

Transportation: _____ _____
_____ _____
_____ _____
_____ _____

IV. Work in groups. Read the list of things you can do to save the earth. Then categorize them into five general areas of concern: consumption, planting the earth, education and public policy, recycling, and transportation. After you have categorized the items into the five general areas, rank each of the general areas in the order of most important (1) to least important ways to "save the earth." Try to reach a group consensus. Present your categories and ranking to the rest of the class.

A few years ago, a book was published to help people get involved in protecting the environment. *50 Simple Things You Can Do to Save the Earth* quickly became a national bestseller. Other publications included *100 Ways You Can Save the World* and *101 Ways to Heal the Earth.* Below you will find thirty simple things you can do.

1. Buy plain white toilet paper, tissues, and paper towels. Dyed paper pollutes.
2. Walk or ride a bike instead of using the car for short trips.
3. Keep your car tires inflated to the proper pressure to improve fuel economy.
4. Turn off lights in rooms you aren't using.
5. Plant trees. This can reduce heating and cooling bills, help prevent soil erosion, and reduce air pollution.
6. Investigate the environmental record of companies you invest in. Write a letter as a shareholder to the company president, or sell your stock.
7. Return your recyclable cans and bottles for your deposit.
8. Share rides to work, or use public transportation.
9. Buy a fuel-efficient car: thirty-five miles per gallon.
10. Read labels and research the products you buy.
11. Buy products packaged in recycled paper or cardboard.
12. Limit your use of "disposable" items.
13. Close off unused areas of your home. Shut off or block

heat vents.

14.Compare energy-guide labels when buying appliances.

15.Tune up your car regularly for maximum gas mileage.

16.Learn about global climate change.

17.Rent or borrow items you don't often use. Efficient use of products conserves resources.

18.Avoid products made from tropical-rainforest woods.

19.Instead of toxic mothballs, buy cedar chips.

20.Don't litter. Pick up any garbage you see, especially plastic rings that can trap birds and fish.

21.Join an environmental organization.

22.Buy recycled paper products, stationery, and greeting cards.

23.Shop at your local farmers' market. Products are fresh, packaging is minimal, and foods are less likely to be contaminated with preservatives and pesticides.

24.Start an organic garden.

25.Buy in bulk to avoid overpackaging.

26.Avoid optional equipment on cars that decreases fuel economy.

27.Urge your community to start a recycling program.

28.Start a recycling program where you work.

29.Give leftover paint to theater groups, schools, or church groups.

30.Educate your children about the environment.

MODULE 3

Warming up. Read the information and answer the questions below

The WWF (World Wide Fund For Nature) and Greenpeace are well-known environmental campaign groups in the UK. The WWF was established as the World Wildlife Fund in 1961 to raise funds from the public for conservation of particular species, for example the Giant Panda, and habitats. Greenpeace is an international environmental pressure group, operating a policy of non-violent direct action supported by scientific research.

- What similar environmental campaign groups exist in your country?What are their aims?
- What kind of activities are they involved in?
- Are you a member of such a group? Why/ Why not?

Tune-in.

Pre-listening task. Read the extract from an interview with Jonathon Porritt, and answer the questions:

Interviewer: What's the difference between an environmentalist, an ecologist, and a conservationist?

JP: A *conservationist* is really someone who, in my mind, wants to keep things exactly as they are, and, as long as they can keep the world around them in the same familiar shape that they've always known it, then they're happy.

An *environmentalist* is someone who accepts that there's going to have to be change, but they want that change to be of such a kind that it doesn't destroy the earth's resources, or cause too much pollution, or anything else.

An *ecologist* is likely to look a lot deeper than that, into the economic and political systems that govern our lives, and to understand that there are going to have to be profound political and economic changes if we're going to preserve the environment.

So it's a sequence, if you like, or a hierarchy of depth, in terms of the extent to which one looks at the root causes of what's going wrong. And I think it has to be said that the ecological movement, or the green movement, as I call it, is more radical, because it goes right to the root of what's going wrong. You can actually be an environmentalist, and get away with thinking that the systems aren't going to change much. It's an illusion, but a lot of people do it.

a) What is the difference between an environmentalist, an ecologist and a conservationist? Does Jonathon Porritt see himself as an ecologist, an environmentalist, or a conservationist?
b) What do you understand by the term “green movement”? Do you agree with Porritt’s understanding of this term?
c) What are the aims and objectives of green movements?

Listening tasks.

I. Guess these phrasal verbs by their definitions. Match them with the words they are used with in the text

To draw into; to end up with; to use up; to feed on; to dawn on; to get away with; to put across; to carve out; a build-up

1) a gradual increase in smth;
2) to succeed in achieving or getting something for yourself;
3) to begin to realize something;
4) to make someone notice or become interested in smth;
5) to be in a situation that you did not intend or want to be in;
6) to not be noticed or punished when you have done smth wrong;

7) to explain your ideas, opinions clearly;
8) to use all of smth so that there is none left;
9) to use smth in order to become stronger or more successful, especially people's fears or worries.

a) the path;
b) the arms;
c) spiritual values of the alternatives
d) oil, gas;
e) Green politics;
f) "Friends of the Earth"
g) the absurd things
h) pessimism
i) people

Now complete the sentences with these phrasal verbs

1. The aim of organic agriculture is to _____ a much bigger share of the UK market.
2. Nowadays we can observe a _____ of pressure which lots of environmentalists put on government.
3. The size of the task in front of us was slowly _____ me.
4. I found myself being _____the discussion of vital environmental problems.
5. Green activists organized an illegal demonstration in front of the local council and _____ in prison for public disturbances.
6. These are people with money and influence, so they can _____ toxic waste disposal into the local reservoirs.
7. There is a documentary series on Channel 4, that _____ environmental issues _____.
8. In 45 years the coal will be _____.
9. After Chernobyl disaster lots of charlatans _____ people's fear of invisible contamination.

II. Explain the meaning of the following expressions

- To wrap one's mind around the economics of the issues
- Constructive pessimism
- To get into a very sorry state
- Unsustainable system
- Absolutely crude pursuit of material affluence
- Short-sightedness

III. Translate into Russian

1. The crucial problems we face now are largely those of population which is unfolding remorselessly and will really hit us in the middle of the next century.
2. The problems of the misuse of the planet are very daunting.
3. The arms build-up has reached really staggering immoral levels.
4. I personally love the work I do, although I am depressed by the sheer irrationality and selfishness of the way in which people treat the planet and treat each other.

5. There are more and more examples building of people who are prepared to do things for others in an unstinting way, to take care of the planet, to think responsibly about the fate of other people in the Third World.

IV. Comprehension check

Part 1.

1. How did Porritt become interested in the environment?
2. Why do you think he says that "you can't really talk about ecology as a science, you have to consider ecology within a social and political context"?
3. He says economics is "the key to it all…" To what? Do you agree?

Part 2.

1. Why does he call himself a constructive pessimist?
2. He refers to four crucial problems that the planet faces. Fill in the following chart

Problems	**Notes**
1.	
2.	
3.	
4.	

3. What are the roots of all these problems? Do you agree?

Part 3.

1. He gives three reasons for optimism. Fill in the chart

Reasons	**Notes**
1.	
2.	
3.	

Part 4.

1. He refers to the "dark bits" and the "points of light" in his job. What examples does he give of each?

Summarize each part of the interview

PART 1: _____
PART 2: _____
PART 3: _____
PART 4: _____

After-listening tasks.

I. Work in groups

Group A: Make a list of some of the problems faced by people living in previous centuries that are not such problems now. Speak about them in class.

Group B: Make a list of some of the problems we face in the twenty first century that didn't exist before. Speak about them in class.

II. Discuss modern problems in pairs. One is a pessimist, the other is an optimist.

III. How active is the green movement in your country? Is there much public interest in the environment? Prepare a three-minute talk, to be given to the rest of the class, arranged like this:

• what the important environmental issues are in my country
• what different parties (or people) want to do about them
• how popular 'green' ideas are generally
• how much influence 'green' ideas have with the government
• whether or not you think 'green' ideas will have an influence in the future

Focus on the Text.

FRIENDS OF THE EARTH

Pre-reading

I. Discuss with your partner:

What environmental pressure organisations do you know? What do they campaign for / against? Would you like to join any of them?

Friends of the Earth is one of the leading environmental pressure organisations in the UK, and a major force behind today's growing green movement.

Our message is a simple one: it is only in protecting the earth that we can protect ourselves - against pollution, the destruction of our urban and rural environment, mass unemployment and the horrors of global famine and war.

This is a message which - at last - is beginning to be taken seriously by politicians and economists. Their concern is genuine. But their readiness to act is still very limited.

And that's where Friends of the Earth comes into it. It is our role to put the pressure on politicians and decision-makers at every level. Changes in the law and public opinion are testimony to our successes.

Such pressure is vital if we are ever to learn to live in harmony with the earth, and thus to improve standards of living and the real quality of lives everywhere.

Organisation

Friends of the Earth is a national campaigning organisation (Friends of the Earth Ltd) established in Britain in 1971, with a net-

work of 250 local groups. Each group is financially independent and decides its own policies and priorities. In practice, groups support national campaigns, organised by Friends of the Earth Ltd, and also initiate campaigns on local issues.

In 1981, Friends of the Earth Trust was set up as a charity to do non-political education and research work.

Friends of the Earth Ltd has a Board of Directors, the majority of whom are elected by the local groups, which is responsible for the overall running of the organisation. The staff run the campaigns and handle the finances and administration. In addition, there are a number of consultants with specialist knowledge and a team of enthusiastic volunteers who provide invaluable support. Hundreds of people are employed by local groups on environmental community projects funded by the Manpower Services Commission and the Inner City Partnership programme.

There are Friends of the Earth groups in thirty-five countries in four continents, all linked under the umbrella of Friends of the Earth International. A small secretariat is based in the Netherlands.

Finance

There are about 50,000 registered Friends of the Earth supporters who provide about 40 per cent of the annual income. Special fundraising events raise 25 per cent and another 15 per cent is received as donations. Campaign appeals and trading operations each contribute about 10 per cent.

Campaign Methods

Friends of the Earth first hit the headlines in 1971 by dumping 1,500 throwaway bottles on the doorstep of Schweppes, the soft drinks people. With no money or public support, Friends of the Earth had hit on one of the best ways of reaching a wide audience. Since then, always backed by excellent research, we have used a variety of imaginative methods to get the environmental message across and to influence decision makers. Thousands of people have participated in consumer pressure campaigns, protests against acid rain, direct action to stop the destruction of irreplaceable wildlife sites, public meetings to stop nuclear waste dumps, cycle rallies, and many more events. In addition, Friends of the Earth has published reports, promoted legislation in Parliament and participated in public inquiries.

Friends of the Earth staff and groups are constantly addressing public meetings; giving radio, TV and newspaper interviews; and meeting politicians, civil servants, local government officers and representatives from industry.

Friends of the Earth is politically impartial and works with all political parties and other organisations wherever there are areas of agreement.

How To Get Involved

Become a Friends of the Earth supporter and we will send you information about the campaigns in the Friends of the Earth newspaper.

If you have the time, the best way to campaign for the concerns of Friends of the Earth is through your local group. Each group carries out a wide variety of activities and there is a role for everyone.

We ask you to think about the environmental consequence of everything you do: refuse to buy overpackaged goods; insulate your home to save energy; travel by bicycle or public transport wherever possible; and persuade your family, friends and work colleagues to do the same. It all helps.

So far the twentieth century has been a disastrous one for the earth. Let's reverse the trend while there is still time. Simply by joining Friends of the Earth you are giving much needed financial support. Every new member is another vote for a better world.

Friends of the Earth

"...the UK's most effective environment group"

The Guardian

Recently, we have:

helped stop World Trade Organisation talks which threatened terrible consequences for people and the environment;

forced delays of at least 3 years to the full commercialisation of GM crops;

helped pass no fewer than 5 Acts of Parliament;

revealed secret plans to import American nuclear waste into the UK;

helped stop over 250 unnecessary new trunk road projects;

exposed Britain's biggest industrial polluters;

helped persuade the Chancellor to put 22 green measures in the 1999 Budget - Britain's greenest ever;

pressured Government to introduce plans for a tough new wildlife bill and

persuaded supermarkets to ban GM ingredients from their own-brand products.

WORD STUDY

I. What is the English for "компания" and "кампания"? Explain the difference.

The word "campaign" was used in the text 9 times. Study the context and translate the sentences where you meet it.

II. Explain the following:

- urban and rural environment
- fundraising events
- throwaway bottles
- irreplaceable wildlife sites
- cycle rally
- under the umbrella
- global famine
- GM ingredients
- Pressure group

III. Join the words to make combinations used in the article. Use them in the sentences of your own

To hit	green measures
To insulate	GM ingredients
To reverse	a plan
To force	a polluter
To reveal	the headlines
To expose	homes
To put	a delay
To ban	the trend

COMPREHENSION

I. Answer the questions

1. What is Friends of the Earth? Specify the message and the role. What are the methods to get this message across?
2. What testifies to the success of Friends of the Earth?
3. Describe its structure: how is it organized, elected, directed, financed?
4. What are the activities/ events/ campaigns/ protests organised by its volunteers?
5. How can you campaign for the concerns of Friends of the Earth?

FOLLOW-UP

I. Make up dialogues:

a) A volunteer from Friends of the Earth is interviewed by a newspaper correspondent about the structure and campaign methods of this organisation.

b) Two Friends of the Earth activists discuss how to organise a march of protest against smoking.
c) Discuss what you would campaign for / against in Belarus.
d) A young man is asking a Friend of the Earth activist how to join the group.
e) One of you wants to join Friends of the Earth, the other is really skeptical.

II. You are members of Friends of the Earth. Organize a campaign the purpose of which is to make more people environmentally-minded.

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THE CHANGING ENVIRONMENT: A CURSE OR A BLESSING?

ИЗМЕНЕНИЯ ОКРУЖАЮЩЕЙ СРЕДЫ: ПРОКЛЯТИЕ ИЛИ БЛАГОСЛОВЕНИЕ?

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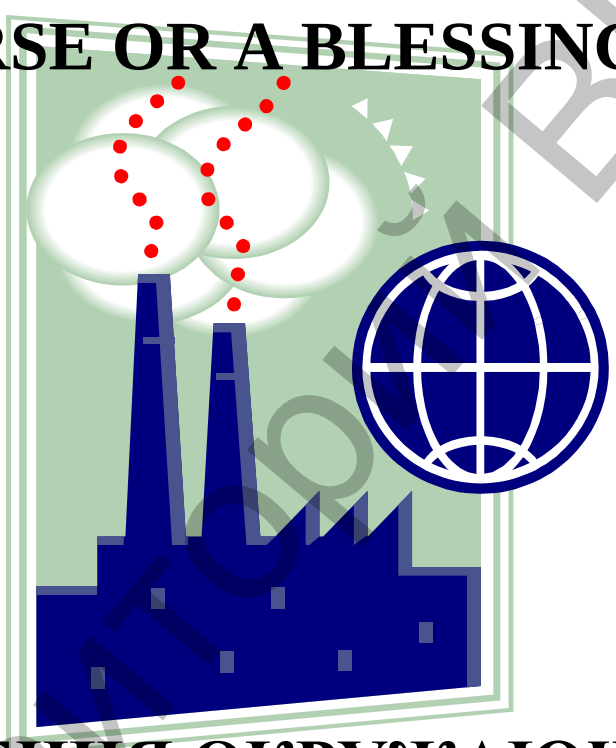

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