

Общеобразовательная школа I – III ступеней №6  
г.Селидово

Цикл уроков с использованием  
интерактивных форм обучения по теме

*“Защита  
окружающей среды”  
10 класс*

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# РАЗРАБОТКИ ФРАГМЕНТОВ УРОКОВ С ИСПОЛЬЗОВАНИЕМ ПРИЁМОВ ИНТЕРАКТИВНОГО ОБУЧЕНИЯ

## Урок №1

### ТЕМА: "Защита окружающей среды"

#### Практические задачи урока:

- ознакомить учащихся с новыми ЛЕ по теме "Защита окружающей среды", активизировать их употребление в устной речи на уровне фраз и сверхфразовых единств;
- организовать чтение тематического текста "The Environmental Protection", беседу по прочитанному тексту.

#### Развивающие задачи урока:

- развивать зрительную, долговременную и оперативную память, языковую догадку, способности анализировать и обобщать языковые явления.

#### Оснащение урока:

учебник английского языка для 10-го класса В.М. Плахотник, опорные записи на доске, наглядность.

### Ход урока

#### I. Начало урока.

1. Приветствие. Организационный момент.
2. Warming- up. Введение в языковую атмосферу. Организация учебного разговора о погоде, климате и погодных изменениях в природе.
3. Сообщение темы и задач урока.

#### II. Основная часть урока.

1. Введение новых лексических единиц по теме, запись их в словарь.

Environment	pollution
Point out	branch
Purify	threat
Threaten	sulphuric acid
Contaminate	awful harm
Exhaust	toxic wastes
Nuclear tests	poisoning

Drought  
Rubbish

chemical fertilizers  
cause damage

2. Активизация употребления ЛЕ в устной речи учащихся.

- ❖ Make up word – combinations and sentences using new words;
- ❖ Ask questions about environment using new words;
- ❖ Answer the teacher’s questions:
  - What is the environment?
  - Who contaminates our environment?
  - What do the industrial facilities purify to the atmosphere?
  - Do the forests and other plants suffer from the sulphuric acids?
  - How do the nuclear tests influence our ecology?

3. Организация чтения текста ”The environmental protection”(Ex.4, p. 34)

a) Этап подготовки к чтению, снятие языковых трудностей.

b) Работа в группах. Чтение текста с охватом всего содержания.

c) Контроль понимания прочитанного по группам, выполнение тренировочных упражнений:

- Find in the text words and word – combinations;
- Give Russian equivalents to the English ones;
- Complete the sentences;
- Agree or disagree with the following statements;
- Answer the questions.

4. Составление плана к прочитанному тексту. Обсуждение текста с опорой на план.

### *III. Заключительная часть урока*

1) Подведение итогов урока, оценивание работы учащихся на уроке;

2) Домашнее задание: Ex. 4, p. 34-35, пересказ с опорой на план; выучить ЛЕ, составить письменно 10 предложений с новыми словами.

## **Урок№2**

### ***ТЕМА: ”Environmental protection”***

#### *Практические задачи урока:*

- активизировать ЛЕ по теме в устной речи учащихся;
- ознакомить с новыми ЛЕ по теме и активизировать их

- при чтении тематического текста;
- организовать беседу по теме и обсуждение текста в группах.

*Развивающие задачи урока:*

- развивать навыки чтения и говорения, логического и последовательного оформления своих мыслей на иностранном языке;
- развивать долговременную память, языковую догадку на основе контекста;
- умение планировать своё речевое высказывание в связи с речевой ситуацией.

Ход урока

*I. Начало урока.*

1. Приветствие. Организационный момент.

Good morning, pupils. Nice to see you. How are you today? I hope you are well today and ready to work.

2. Warming – up. Введение в языковую атмосферу, организация учебного разговора в режиме T---CL о проблемах загрязнения окружающей среды.

T: Why is the environmental protection the main problem nowadays?

In what world do we live?

Are the soil, water and air contaminated with toxic wastes?

What is the cause of ozone holes?

What are acid rains?

What is the greenhouse effect?

How do acid rains influence our planet?

Why is the biological balance disturbed?

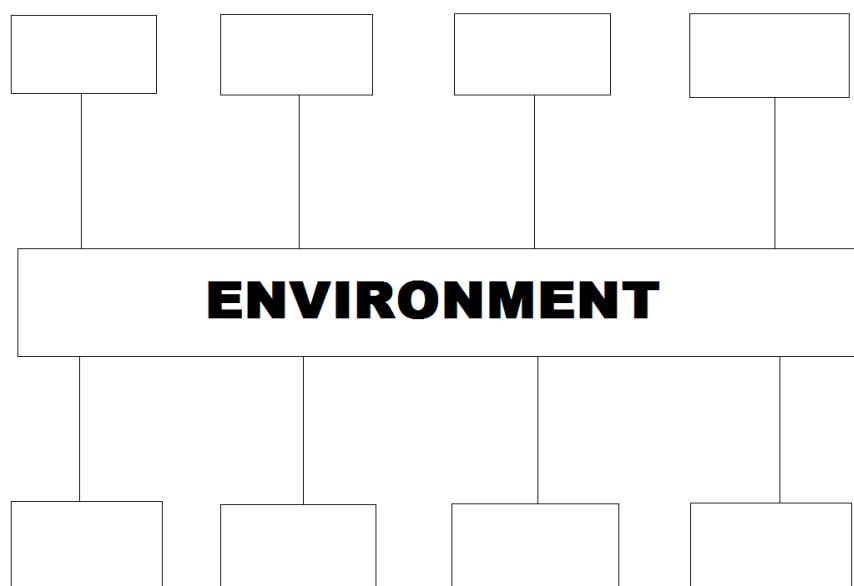
3. Сообщение задач урока.

*II. Основная часть урока.*

1. Активизация ЛЕ и структур в речи учащихся. Организация работы в группах.

T: Brainstorming activity.

a) Think a little, remember the words and make up the mind – map according to the topic of the lesson.



Keys: Pollution, wastes, radiation, climate, air, water, combustion, diseases, soil, etc.

What associates in your mind with the words "Civilization is being poisoned by its own waste products."?

b) Game. Team I and Team II.

Make up as many sentences as you can, using our mind- map.

2. Организация чтения текста "Kinds of pollution. Air pollution."

a) подготовительный этап, ознакомление с новыми ЛЕ:

solid wastes	odorless
particulates	irritate lungs
scatter	respiratory diseases
furnaces	hazy

b) этап чтения текста.

T: Read the text bellow and find the information about the causes and the results of air pollution.

(Вставить текст Air pollution 1 and 2)

d) контроль понимания прочитанного. Post- reading activity.

❖ *Answer the following questions:*

About what are the scientists in many countries much concerned?

By what is the greenhouse effect created?

From what does outdoor air pollution result?

How does air pollution harm plants?

❖ *Complete the sentences:*

Acid rains are the result of...

Weather has been changing due...

In the North of Europe the climate...

In crowded cities...

Poisonous gases in the air can restrict...

❖ *Interview your partner about air pollution.*

Приём "Микрофон".

P1-----P2, P3, P4, P5....

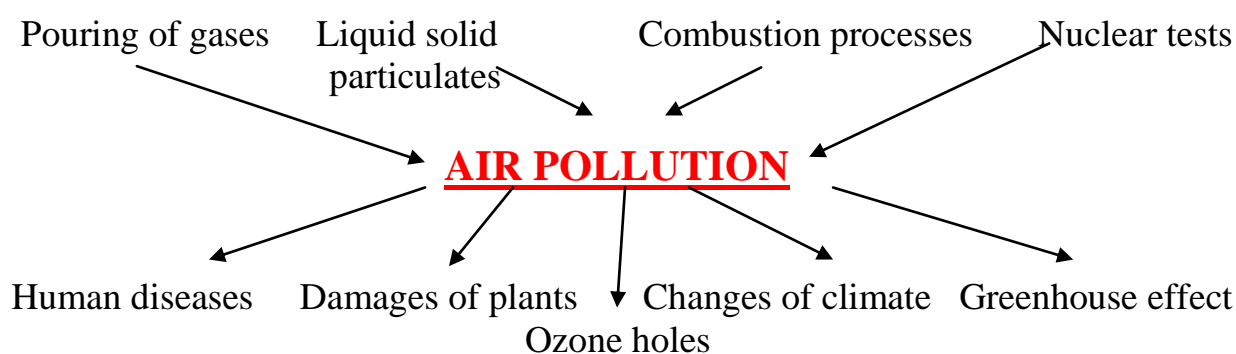
❖ What is the study of the relationship among living things called?

❖ What are combustion processes/

❖ What have studies shown? What serious diseases can particulates cause?

❖ Where were many forests damaged by air pollution?

с) устные высказывания учащихся с опорой на прочитанный текст и схему на доске.



3. Организация ситуативной ролевой игры.

T: Now we'll play a role – game. Pretend you are the members of international scientific team who have just discussed the problem of air pollution. Some pupils will be journalists who are asking questions to our scientists.

Pupils – journalists:

So, we see, that our world is an ecosystem, where organisms are adapted to each other. But today the fragile balance in ecosystem is broken. Such problems as pollution, greenhouse effect and acid rains threaten our planet.

❖ What are these changes caused by?

❖ What happens with our planet when we lack forests and a lot of carbon dioxide is gathered in the atmosphere of the Earth?

❖ How do you call this effect?

❖ What does it cause? Etc.

Pupils – scientists:

❖ We have investigated this problem and made some conclusions. If we speak about ecosystem we also have problems concerning acid rains. We noticed that in lakes and streams waters become acidified, microorganisms may be affected.

❖ Acid rains have great influence on buildings and materials, they produce corrosion of materials.

❖ But the greatest harmful effect is produced on our health. We eat products poisoned by acid. We live in places which are under the effect of acid rain.

- ❖ Much of the extra carbon dioxide from human sources has been absorbed into soil and into the soils of high – latitude forests. So the soil became a net”source” of carbon. Etc.

### III. *Заключительная часть урока.*

1. Подведение итогов урока, оценивание работы учащихся на уроке.
2. Домашнее задание: найти дополнительную информацию о загрязнении окружающей среды, подготовить диалог по теме урока.

## Урок №3

### *ТЕМА: ”Environmental protection”*

#### *Практические задачи урока:*

- организовать устную речь учащихся по теме с опорой на изученный текст, дополнительную информацию;
- организовать групповую работу по текстам ”Water pollution”, ”Soil pollution”, чтение текстов про себя с целью полного понимания, проверить умения учащихся получать необходимую информацию из текста, устную речь по проблемам.

#### *Развивающие задачи:*

- развивать технику информационного чтения;
- развивать долговременную память, языковую догадку на основе контекста, умения определять значимые части текста;
- развивать речевую реакцию, умения планировать своё речевое высказывание, логично и последовательно излагать мысли.

### Ход урока

#### I. *Начало урока*

1. Приветствие. Организационный момент.

T: Good morning, dear friends. Nice to see you again. How are you today?  
Are you ready to work hard?

2. Warming- up activity. Сообщение темы урока. Введение в языковую атмосферу. Организация учебного разговора в режиме T----CL о проблемах окружающей среды.

T: Today our lesson is devoted to environmental problems. You know that with the development of crowded industrial cities which put huge amounts of pollutants into small areas, the problem has become more important.

Why is pollution a complicated problem?

What can environmental pollution cause?

Why wasn't pollution such as a serious problem earlier?

Can pollution be stopped immediately?

What can government and individuals do to reduce pollution?

3. Сообщение задач урока, форм работы на уроке.

## II. Основная часть урока.

3. Организация устного говорения по теме "Air pollution".

а) активизация ЛЕ и структур в речи учащихся

❖ give Russian equivalents to the following English words:

poisonous gases

settle in lungs

weather conditions

to scatter

earth's surface

ozone layer

harmful substances

❖ give English equivalents to the following Russian words and word combinations:

загрязнение воздуха

живые существа

процессы сгорания

атмосфера

раздражать лёгкие

наносить вред

изменение температуры

сокращать

препятствовать

земная поверхность

озоновый слой

парниковый эффект

❖ организация устного говорения учащихся по схеме (см. Урок №2)

❖ диалогические высказывания учащихся по теме с использованием дополнительной информации (контроль домашнего задания)

4. Организация интерактивной групповой работы "Поиск информации" по изучению проблем загрязнения воды и почвы.

❖ объединение учащихся в группы, разъяснение задания и определение времени работы.

❖ самостоятельная работа в группах, чтение текстов "Water Pollution", "Soil Pollution", выполнение тренировочных упражнений.

### **Group 1 "Water Pollution"**

*I. Match the meaning of the words:*

1) sewerage system

2) harmful to human health

3) fertilizers

4) drain off

5) waste treatment plant

6) to decay the wastes

7) oxygen

а) мусороперерабатывающий завод

б) стекать

в) наносить вред здоровью

г) канализационная система

д) кислород

е) удобрения

ё) гнить, разрушать

*II. Finish the sentences:*



- 1) The pollutants that affect water come from...
- 2) Wastes from farms include...
- 3) Nearly all cities have waste treatment plants that...
- 4) Aerobic bacteria use oxygen to break down...

*III. Translate from Russian into English:*

- 1) Загрязнённая вода уменьшает количество чистой воды, необходимой для питья, мытья, для плавания и рыбной ловли.
- 2) Промышленные предприятия скидывают в воду отходы, включающие
- 3) Химикаты, отходы после животных и сотни других веществ.
- 4) Если слишком много отходов сбрасывается в воду, естественный цикл Нарушается и вода становится грязнее.

*IV. Write down the causes and the results of water pollution.*

**Group 2 "Soil Pollution"**

*I. Match the meaning of the words:*

- |                               |                          |
|-------------------------------|--------------------------|
| 1) fertile soil               | а) бытовой мусор         |
| 2) fertilizers and pesticides | б) свалки                |
| 3) destroy weeds and insects  | в) плодородная почва     |
| 4) dumps                      | г) шлак                  |
| 5) slag                       | д) сорняки и насекомые   |
| 6) household wastes           | е) окружающие территории |
| 7) surrounding areas          | ё) удобрения и пестициды |

*II. Finish the sentences:*

- 1) Soil pollution damages...
- 2) People use fertilizers and pesticides to...
- 3) Burning produces smoke that...
- 4) Slag and other wastes from mining...

*III. Translate from Russian into English:*

- 1) Твёрдые отходы представляют серьёзную проблему, т. к. большинство методов их ликвидации, вызывают разрушение окружающей среды.
- 2) Свалки являются источниками болезней, которые переносят тараканы и крысы.
- 3) Многие твёрдые отходы зарывают на больших открытых территориях, называемых могильниками.
- 4) К твёрдым отходам относятся свалки битых машин, тряпья, холодильников, консервных банок, упаковочных материалов, бумаги и пластика.

*IV. Write down the causes and the reasons of soil pollution.*

- ❖ Выступления каждой из групп с выполненными заданиями.

*III. Заключительная часть урока.*

1. Подведение итогов урока, оценивание работы учащихся на уроке.
2. Домашнее задание: а) report about different kinds of pollution;  
б) 20 questions to your partner about environmental problems.

## Урок №4

### ТЕМА: “Environmental protection in Ukraine”

#### Практические задачи урока:

- организовать чтение и Аудирование текстов об экологии в Украине, работу по прочитанному и прослушанному материалу;
- организовать беседу по теме, обсуждение проблемных вопросов.

#### Развивающие задачи урока:

- развивать слуховую и оперативную память, слуховой контроль;
- развивать технику информационного чтения, логического и аналитического мышления;
- формировать жизненные компетенции в сфере экологии, ответственное отношение к природе и окружающей среде.

### Ход урока

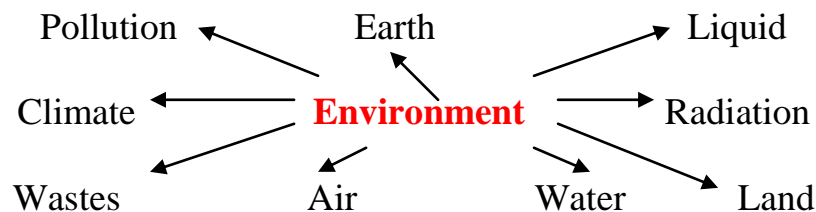
#### I. Начало урока.

1. Introduction. Приветствие. Организационный момент. Сообщение темы и задач урока.

T: Good morning, pupils. Today we'll speak about our environment. Environment means the land, water and air that animals and plants live in. It's usually used when talking about the way people use or damage the natural world.

2. Warming – up activity. Организация работы ”Мозговой штурм”:

- ❖ T: When we speak about environment, what words do you associate with it?



- ❖ T: Read the clues 1-11 and write the correct word in the puzzle. What are the missing letters? What does the puzzle spell?

Ultraviolet

factory

Generator	natural
Health	climate
Tree	sprays
Reduce	future
Oil	

- 1) A machine that makes electricity.
- 2) We have to find ways to... pollution.
- 3) Oil, coal, wood, air and water are all resources.
- 4) Many people in cities now have... problems.
- 5) ....is a thick, black liquid that comes from the ground.
- 6) The special type of oxygen around the Earth is important because it stops... radiation.
- 7) Many aerosols... destroy the atmosphere.
- 8) A place where they manufacture things/
- 9) We must change the way we live. We have to think about the ...
- 10) Many scientists say that the... is changing.
- 11) A very large plant that helps to make oxygen.

### *III. Основная часть урока.*

#### 1. Discussion. Организация обсуждения проблемных вопросов.

T: Let's discuss the questions about changing environment:

- 1) Why has the problem of environment protection become so vital lately?
- 2) What is meant by "environment"?
- 3) Why does it need protection?
- 4) What causes the pollution and contamination of environment?
- 5) Why has the health of people worsened?
- 6) Why should we take care of our planet?

#### 3. Организация работы в малых группах.

The pupils are divided into 4 groups. The task is to put the words in the right order.

##### **Group 1**

- ❖ Important, ecologically, that, person, every, clean, it, world, is, very, should, be, responsible, for.
- ❖ Can, protect, to, be, done, them?
- ❖ 1986, nuclear, energy, disaster, showed, in, that, extremely, Chernobyl, dangerous.

##### **Group 2**

- ❖ Necessary, learn, sources, of energy, is, it, to, to, as, etc. sun, wind, use, natural.
- ❖ World, we, in, a, live, changeable.
- ❖ People, all, of, millions, over, fight, the world, pollution, against, for, everything, alive, Earth, survival, on.

##### **Group 3**

- ❖ From, water, contaminate, wastes, the, plants, and, soil, factories, and.
- ❖ Problem, cities, another, wastes, big, of, is.
- ❖ Agricultural, very, are, harmful, man, often, products, for, a.

#### Group 4

- ❖ Many, there, of, problems, are, environment, the.
- ❖ Humanity, today, problem, the, greatest, for, pollution, is.
- ❖ Power, also, are, thermal, plants, pollution, great, source, a, of.

#### 3. Организация чтения информационного текста:

T: Twenty- two years ago in 1986 there was an accident at the Chernobyl nuclear power plant. The trouble is that the accident caused the contamination not only of “a thirty kilometers zone” but spread to many parts of Ukraine and some other countries of the world, Since then the problem of environmental protection has become more important for Ukraine.

- a) этап подготовки к чтению текста, снятие языковых трудностей.
- b) Самостоятельное чтение текста

T: Read the text and fill in the gaps using the following words:

**Damaged, save, dangerous, radiation, atmosphere, ecological, enemy, under, of the world, can.**

#### *The tragedy in Chernobyl*

*Mankind will remember the 26<sup>th</sup> of April 1986 forever. The tragedy in Chornobyl showed how great (1)...the power of atom could be. And it is especially dangerous when it is not under control.*

*On the 26<sup>th</sup> of April 1986 there was the blast at the Chornobyl Nuclear Power Station.*

*And a lot of radioactive substances got into the (2)...*

*During the liquidation of the consequences of the accident, people all over the world could see the courage and selflessness of the people who tried to (3)... the situation.*

*During the first weeks of the tragedy a large number of men of letters and journalists from Ukraine and other countries (4)... visited Chornobyl Zone. In their articles they told us about our compatriots such as Vladimir Pravik, Mykola Antoykin and many others. They got into struggle with the threatening and invisible (5)...*

*The rescuers did impossible. A lot of them perished, but they managed to stop the fiery element that had been storming over the (6)... station for some days. The courageous heroes saved people who had got dangerous doses of (7)...., they cleaned fields, gardens and houses.*

*We (8)... say that it was a national feat. People did impossible: in history there hadn't been such an example before. The damaged reactor was covered with steel and concrete and buried under them.*

*Nowadays the Chornobyl Nuclear Power Station is (9)... control.  
It certainly effect the (10)...situation in Ukraine. On the 13<sup>th</sup> of December  
2000 it was closed.*

**Keys:**

- 1) dangerous
- 2) atmosphere
- 3) save
- 4) of the world
- 5) enemy
- 6) damaged
- 7) radiation
- 8) can
- 9) under
- 10) ecological

c) работа по прочитанному тексту. Post-reading activity

**- Agree or disagree (True / False)**

- 1) The tragedy in Chornobyl showed how weak the power of atom was.
- 2) The accident happened on the 26<sup>th</sup> of April 1986.
- 3) During the liquidation of the consequences people all over the world could see the courage of the Ukrainian people.
- 4) A few journalists visited Chornobyl Zone.
- 5) A lot of rescuers did common things.
- 6) The rescuers couldn't stop the fiery element.
- 7) The courageous heroes saved people who had got dangerous doses of radiation.
- 8) It was a national feat.
- 9) The damaged reactor was covered with leaves and wood.
- 10) Nowadays the level of radiation is higher at the station than it should be.

**Keys: 1. F, 2. T, 3. T, 4. F, 5. F, 6. F, 7. T, 8. T, 9. T, 10. F.**

4. Организация аудирования текста. Listening comprehension.

**T.** We live in a changeable world where it is difficult to keep up with new ideas and inventions. But we seldom think that the majority of inventions, new technologies bring harm to a man.

а) этап подготовки к прослушиванию текста, снятие языковых трудностей.

Б) этап аудирования.

T: Listen to the text and be ready to work with it.

**Protection of nature in Ukraine**

*We are living in time of rapid scientific and technological progress, which is accompanied by an ever increasing consumption of the world's natural resources.*

*Such vital sources of life as air, water, minerals as well as fauna and flora are being wasted and destroyed.*

*Protection of nature has become one of the actual problems of the 20<sup>th</sup> century. More and more people in all countries are raising their voices in defence of Mother Nature, According to the 27<sup>th</sup> Session of the United Nation General Assembly, July 5 is Environment Day.*

*Our country pays much attention to the question of nature conservation. Article 67 of our constitution reads “Citizens of Ukraine are obliged to protect nature and conserve its riches”.*

*New laws and resolutions are adopted every year. Their aim is to protect the atmosphere from pollution, protect the country’s natural resources, and control the use of water resources and save plants, birds, animals from extinction.*

*The earth provides people with mineral resources, rivers, forests, meadows, fields and pasture lands – everything that makes the foundation of industrial and agricultural production.*

*That’s why we should pay much attention to the rational use of the natural resources.*

*Success in protecting nature is possible only if all countries all over the world join their efforts. We hope we shall preserve the wealth of our land and even add wealth in the future.*

с) выполнение тренировочных упражнений по прослушанному.

Post-listening activity.

**Task 1. Tick true or false statements.**

- 1) We are living in a time of rapid scientific and technological progress.
- 2) The protection of nature hasn’t become an actual problem of the 20<sup>th</sup> century.
- 3) People only in our country are rising their voices more and more in defence of Mother Nature.
- 4) According to the 27<sup>th</sup> Session of the United Nation General Assembly, July 5 is World Environment Day.
- 5) Our country pays much attention to the problem of saving animals.
- 6) “Citizens of Ukraine are obliged to protect nature and conserve its riches”.
- 7) New laws and resolutions are adopted every month.
- 8) Their aim is to destroy the atmosphere.
- 9) Their aim is to protect the country’s land resources.
- 10) Success in protecting nature is possible only if all countries join their efforts.

**Task 2. Choose the correct ending corresponding to the contents from the suggested variants given below.**

- 1) We are living ...
  - a) in an epoch of industrial progress;
  - b) in a time of rapid development of science;
  - c) in time of rapid scientific and technological progress.
- 2) The protection of nature has become one of the actual problems...
  - a) of the last century;
  - b) of the 20<sup>th</sup> century;
  - c) of the 21<sup>st</sup> century;
  - d) of the 19<sup>th</sup> century.

- 3) More and more people in all countries are rising their voices...
  - a) in defence of children;
  - b) in defence of rivers;
  - c) in defence of animals;
  - d) in defence of Mother Nature.
- 4) According to the 27<sup>th</sup> Session of the United Nation General Assembly. July 5...
  - a) Veteran's Day.
  - b) Thanksgiving Day.
  - c) World Environment Day.
  - d) President's Day.
- 5) Our country pays much attention ...
  - a) to the question of animal protection.
  - b) to the problem of flora and fauna saving.
  - c) to the questions of nature conservation.
  - d) to the problem of protection of our planet from pollution.
- 6) New laws and resolutions are adopted ...
  - a) every year.
  - b) every month.
  - c) every week.
  - d) every day.
- 7) Their aim is ...
  - a) to protect the atmosphere from pollution.
  - b) to control the use of pasture lands.
  - c) to increase consumption of the world's natural resources.
  - d) to save the birds.
- 8) We should pay much attention to the ...
  - a) problem of environmental pollution.
  - b) problem of country's defence.
  - c) question of rational use of the natural resources.
  - d) question of Earth protection.
- 9) Success in protecting nature is possible only if ...
  - a) all countries protect nature.
  - b) all plants and factories don't pollute the atmosphere.
  - c) all people take care of our planet.
  - d) all countries all over the world join their efforts.

**Task 3. Answer the questions.**

- 1) What are the most actual problems of the 20<sup>th</sup> century?
- 2) When is World Environment Day marked?
- 3) What is Article 67 of Ukrainian Constitution devoted to?
- 4) What is the aim of adopting new laws and resolutions?
- 5) What does the nature provide people with?
- 6) What's necessary for the successful nature protection? Add your ideas.

**III. Заключительный этап урока.**

1. Подведение итогов урока. Оценивание работы учащихся.

2. Домашнее задание:  
Write about protection of nature in Ukraine. Prepare for project work.

## **Урок №5 (подготовка к проекту)**

### **I. Introduction (введение)**

Учитель приветствует всех участников проекта, знакомит их с основными особенностями проектной деятельности, определяет тему проекта.

### **II. Objectives (основные задачи занятия)**

1. Сформулировать проблему исследования.
2. Определить направления поиска информации, выдвижение гипотез.
3. Организовать группы учащихся, определить роли каждого члена группы.

### **III. Procedures (описание действий)**

Учитель представляет ряд высказываний по данной тематике и предлагает учащимся поразмышлять над ними.

T: Look at the blackboard, read these sayings and say how do you understand them:

1. **Our planet is our home.**
2. **Nature never did betray the heart that loved her.** (*William Wordsworth*).
3. **Civilization is been poisoned by its own waste products.**(*William Ralphinge*)

Учащимся предлагается ряд наводящих вопросов.

Answer the following questions:

- What is environment in common usage?
- What sources of pollution do you know?
- What do you know about greenhouse effect?
- What do you know about E – numbers in our products?



Учитель указывает на высказывание Далай Ламы: “Our mother planet is showing the red warning light. “Be careful”, she is saying. To take care of the planet is to take care of own house”.

T: “What is this saying about? Is there any connection it and the expression given on the blackboard? Do you agree with it?”

Учащиеся дают свои варианты ответов.

T: “Our Planet is our Home. Should we care about our planet? Why? What can happen to our planet if we don’t think about our future?”

Учащиеся дают свои варианты ответа.

В ходе рассуждений учащиеся сами логически подходят к обозначению проблем и выдвижению гипотез для их успешного решения. Учитель при этом играет роль консультанта – координатора. Определяются направления поиска по работе с гипотезами:

- исследовать основные причины загрязнения воды, воздуха, почвы, исчезновение растений и животных;
- исследовать причинно-следственные связи нарушения экологического баланса в природе, роста заболеваемости и смертности людей.

#### **IV. Conclusion (заключение)**

Урок заканчивается выбором рабочих групп и распределением ролей в команде.

### **Урок №6 (основная работа по проекту)**

#### **I. Introduction (введение)**

Учитель приветствует всех участников, формирует цели урока.

#### **II. Objectives (основные задачи занятия)**

1. Организовать работу в малых группах по сбору информации, анализа и синтеза идей.
2. Обсудить методы проверки принятых гипотез в малых группах: интервью, опросы, наблюдения, эксперименты, изучение литературы.

3. определить формы и способы представления результатов проекта.

## **II.Procedures (описание действий)**

1) Активизация лексических единиц в устной речи учащихся, выполнение разноуровневых лексико-грамматических упражнений.

### **The Elementary Level**

#### **Task 1:**

*Match the words:*

- |               |                       |
|---------------|-----------------------|
| 1. pollutants | а. болезни            |
| 2. condition  | б. отходы             |
| 3. diseases   | в. свалка             |
| 4. dispose    | г. избавляться        |
| 5. dumps      | д. условие            |
| 6. wastes     | е. загрязняющий агент |

#### **Task 2:**

*Make word- combinations:*

- |           |            |
|-----------|------------|
| Air       | harmful    |
| Effect    | hazy       |
| Gases     | combustion |
| Processes | poisonous  |
| Systems   | natural    |
| Cycles    | sewerage   |

#### **Task 3:**

*Complete the gaps with words from the list:*

(Environmental, scatters, solid, average, liquid, particles, reduce, hazy, restrict)

- 1) Hundreds of millions of tiny .....of liquid of solid matter pour atmosphere each year.
- 2) Both gases and particulates cause in the ..... temperatures of an area.

- 3) Air pollution turns clear, odorless air into....., smelly air that harms health.
- 4) Air pollution is one of the most dangerous kinds of ..... pollution.
- 5) Particulates scatter the sun's rays and ..... the amount of sunlight that reaches the ground.

**Task 4:**

*Choose the correct answer:*

- 1) What damage is the most dangerous?
  - a) soil pollution;
  - b) air pollution;
  - c) water pollution.
- 2) What do people use to grow more and better crops?
  - a) new machines;
  - b) fertilizers;
  - c) weather forecast.

**The Intermediate Level**

**Task 1:**

*Guess the meaning of the following words and word-combinations:*

- |                |                        |
|----------------|------------------------|
| Furnaces -     | combustion processes – |
| Particulates - | sewerage systems –     |
| Littering -    | fertile soil –         |

**Task 2:**

*Join the words according to the problem:*

( Spring, collecting, pollution, competition, time- table, gymnastics, wastes, cloudless, classroom, photography, slippery, fan- club, harmful, soccer, damage, thunderstorm, knitting, atmosphere, harvest, coins, team, subject, sledging, school-leaver)

<b>Hobbies</b>	<b>Environment</b>	<b>Seasons</b>	<b>Sport</b>	<b>School Life</b>
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.....	.....	.....	.....	.....
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.....

**Task 3:**

*Tick true or false (T/ F):*

- 3) Both gases and particulates can cause change in the average temperatures of an area (T/ F)
- 4) Sewerage systems carry wastes from water into homes, offices and industries (T/ F)
- 5) The production of solid wastes is increasing rapidly (T/ F)
- 6) People use fertilizers and pesticides to grow more and better animals (T/ F)

**Task 4:**

*Complete the following sentences:*

- 1) Ecology is the study of the relationships among.....
- 2) One serious result of air pollution is...
- 3) When wastes are dumped into water, they contribute....
- 4) Industries dump huge amounts of wastes into...

**The advanced Level**

**Task 1:**

*Give English equivalents of the words:*

- 1) Загрязнение окружающей среды –
- 2) Вредить здоровью –
- 3) Вызывать загрязнение –
- 4) Процесс горения –
- 5) Влиять на климат –
- 6) Нарушать биологический баланс –

**Task 2:**

*Answer the questions:*

- 1) What is called ecology?
- 2) What are the kinds of ecological pollution?

3) What does air pollution cause?

**Task 3:**

*Put questions to the answers:*

- 6) Water polluting wastes include chemicals, wastes from industries, farms and sewerage systems.
- 7) Water polluting wastes include chemicals, wastes from animals and matters and hundreds of other substances.
- 8) Water polluting wastes are harmful to human health.

**Task 4:**

*Put the sentences in correct order:*

- 1) When wastes are damped in water, they contribute to various forms of water pollution.
- 2) In the meantime the production of solid wastes is increasing rapidly.
- 3) Sometimes people burn them and burning produces smoke that causes air pollution.
- 4) Natural processes took thousands of years to form the soil.
- 5) But through poor treatment people can destroy soil in a few years.
- 6) They are the most visible form of pollution.
- 7) Fertile soil is essential for growing food.
- 8) They ruin the attractiveness of the surrounding areas.
- 9) People throw away billions of tons of solid wastes each year.
- 10) Solid wastes present a serious problem too.
- 11) Dumps provide homes for disease carrying animals such as cockroaches and rats.
- 12) Pesticides which farmers use to increase the amount of crops harm bacteria and other helpful organisms in the soil.

**The higher Level**

**Task 1:**

*Say why:*

- a) *most air pollution results from combustion processes?*
- b) *in crowded cities air pollution is very high?*
- c) *air pollution has harmful effect on human health?*
- d) *air pollution harms plants?*
- e) *air pollution can affect climate?*

**Task 2:**

*Get ready for the interview with the plant manager about the effect which the work of their plant produces on the environment.*

**Task 3:**

*Write an article for the newspaper about the problems of environmental protection in your district.*

Выполнение данных упражнений, способствует активизации учащихся в малых группах, подводит к сбору необходимой информации.

IV. Conclusion (заключение)

В конце занятия учащиеся определяют форму и способ представления результатов проекта (ролевая игра в виде заседания экспертных комиссий по изучению экологических проблем).

Учащимся предлагается самостоятельно отыскать материал по данной проблеме. В процессе проектирования учителем постоянно осуществляется отслеживание деятельности каждого ученика на всех этапах работы над проектом.

**Урок №7 (заключительный)**

I. Introduction (введение)

Учитель приветствует всех участников, формирует цели урока.

II. Objectives (основные задачи занятия)

1. Завершить отбор информации и ее обсуждение в группах, составить сценарий защиты проекта.

2. Оформить проектную работу.
3. Защитить проект, проанализировать результаты проектной деятельности.

### III. Procedures (описание действий)

1. Подготовка. Учитель предоставляет учащимся время (20 мин.) для завершения проекта, его оформления и подготовки к его презентации.

Учитель наблюдает, координирует деятельность учащихся:

а) группа №1 представляет свой постер по проблеме, анализирует основные причины загрязнения водоемов, воздуха, результаты воздействия отравляющих веществ на окружающую среду. Эксперты этой группы делают свои предложения по решению проблем загрязнения.

б) группа №2 презентует свои наработки по проблеме исчезновения лесов, животных, птиц, вредного влияния загрязнения на здоровье человека.

### IV. Conclusion (заключение)

Оценка результатов. Проводится оценивание результатов проектирования, как самими учащимися, так и учителем.

## *Glossary:*

- Environment — окружающая среда;
- Destruction — разрушение, уничтожение;
- Pollution — загрязнение
- Littering — засорение
- Overcrowding — перенаселение
- To exhaust — истощать
- Rapid growing — быстрый рост
- Awful harm — ужасный вред
- Accident — катастрофа, авария
- Toxic wastes — токсические отходы
- Chemicals — химические вещества
- Nuclear tests — ядерные испытания
- Emission — выбросы
- Acid rain — кислотный дождь
- To contaminate — загрязнять
- Ozone hole — озоновая дыра
- Drought — засуха
- Drastic changes — резкие изменения
- To release — сбрасывать
- To monitor — контролировать
- To prevent — защищать
- Greenhouse effect — парниковый эффект
- Emergency environmental assistance — срочная экологическая помощь
- Environmental protection — охрана окружающей среды
- Industrial facilities — промышленные предприятия
- Dangerous disease — опасная болезнь
- Flood — наводнение
- Earthquake — землетрясение



To conserve — сохранять Poisoning — отравление

Chemical fertilizers — химические удобрения

To upset the oxygen balance — нарушать кислородный баланс

To die out for ever — вымирать

To be on the brink of extinction — быть грани вымирания

To create a system of ecological security — создать систему экологической безопасности

To set up environmental protection agencies — учредить органы по защите окружающей среды

### **Kinds of pollution**

There are several kinds of environmental pollution. They include air pollution, water pollution, soil pollution, and pollution caused by solid wastes, noise, and radiation. All parts of the environment are closely related to one another. The study of the relationships among living things, and between living things and other parts of the environment, is called *ecology*.

*Air pollution* turns clear, odorless air into hazy, smelly air that harms health, kills plants, and damages property. People cause air pollution both outdoors and indoors. Outdoor air pollution results from pouring hundreds of millions of tons of gases and particulates (tiny particles of liquid or solid matter) into the atmosphere each year.

Most air pollution results from *combustion* (burning) *processes*. The burning of gasoline to power motor vehicles and the burning of coal to heat buildings. The pollutants range from small amounts of colorless poison gas to clouds of thick black smoke. But in many arrears, pollutants are put into the air faster than weather conditions can dispose of them. In crowded cities, for example, thousands of automobiles, factories, and furnaces may add tons of pollutants to a small area of the atmosphere each day.

One serious result of air pollution is its harmful effect on human health. Both gases and particulates burn people's eyes and irritate their lungs. Particulates can settle in

the lungs and worsen such respiratory diseases as asthma, bronchitis, and pneumonia. Studies have shown that particulates help cause such diseases as cancer and emphysema. In cities throughout the world, long periods of heavy air pollution have caused illness and death rates to increase dramatically.

Air pollution also harms plants. Poisonous gases in the air can restrict the growth of, and eventually kill, nearly all kinds of plants. Forests in Tennessee, citrus groves near Los Angeles, and vegetable in New Jersey have all been seriously damaged by air pollution.

Air pollution may also affect climate. Both gases and particulates can cause change in the average temperatures of an area. Particulates can cause changes in the average temperatures of an area. Particulates scatter the sun's rays and reduce the amount of sunlight that reaches the ground. Such interference with sunlight may cause average temperatures in an area to drop. Some gases, including carbon dioxide, allow sunlight to reach the ground, but prevent the sunlight's heat from rising out of the atmosphere and flowing back into space. The warming of the earth's surface that results is called the *greenhouse effect*. The burning of fuel and other polluting activities are increasing the amount of heat-trapping gases in the atmosphere. This development may intensify the greenhouse effect, causing average temperatures to rise.

In addition, air pollutants may damage the layer of ozone (a form of oxygen) in the earth's upper atmosphere. The ozone layer protects animals and plants from much of the sun's harmful ultraviolet light.

### **Air pollution and acid rains**

Every year world industry pollutes the atmosphere with about 1000 million tons of dust and other harmful substances. Cities suffer from smog. Over the past few years we have been constantly speaking about ozone holes, high level of radiation, which are caused by nuclear tests, atom bombs and accidents at the atomic power stations. Scientists in many countries are very much concerned about drastic

changes of climate. Weather has been changing due to the warming process and its major reason — the greenhouse effect. The greenhouse effect is created by emissions, released by industrial facilities and constantly increasing number of cars. Because of pollution, there are more gases in the Earth atmosphere, so our planet becomes hotter.

Acid rains is the result of mixing gases, chemicals and water in the atmosphere. It is caused by factories that burn coal or oil, or gas. These factories send smoke high into the air. The wind often carries the smoke far from the factories. Some of the harmful substances in smoke may come down with the rain hundreds of miles away, killing plants and breaking the biological balance. The way people live has changed the climate of our planet. Nowadays the temperature is rising. In the north of Europe the climate has become milder and warmer too. If the temperature grows by 3 — 4 degrees it will be impossible to live on the planet.

### **Animals in danger**

People have lived on our planet for many years. People depend on their planet, on the sun, on animals and plants around them. Many animals and birds on the Earth are disappearing nowadays. Indian tigers and African elephants are among them. Tigers and elephants are often dangerous animals. Tigers can kill cows, sheep, and other domestic animals. Some people are afraid of them and kill them to save their domestic animals and their lives. But some people have often hunted tigers for their beautiful skin. They can easily sell the skin and get a lot of money as the prices are very high. There are few Indian tigers on the Earth now. In Africa, where an estimated 75,000 still survive, 10,000 a year are shot by poachers for their tusks. The trade of has a street value of 1\$ billion. Herds return to the best places to crops and gardens and are killed by the farmers.

Wild black rhinos have become the ultimate symbol of threatened African wildlife. 30 years ago there were more than 100,000 of them. Today they have dwindled to fewer than 4,000. In Kenya, Zambia and Zimbabwe, poaching rhino horn is still the way to a fortune. About 150 species have vanished in the past three

centuries. The list ranges from the aurochs(1627) and the dodo in the 17-th century, to the Indian pink- headed in 1944. The reasons why animals vanish from the Earth are various: the Tahitian parakeet went because its habit was altered drainage. The New Zealand quail succumbed to diseases introduced by the settlers. The Tasmanian wolf was hunted because it was ignorantly believed to be a predator-actually it is not a carnivore, but a marsupial like the kangaroo.

Modern life is bad for them. The air is not fresh, the water is not clean. They don't often have good things to eat and space to live. It is too late to do anything about 150 vanished species, but we could do something about the 240 further species currently threatened with extinction. These include the Bactrian camel (400 left), the oryx (200), the Sumatra rhinoceros (170), the Cape zebra (75), the whooping crane (50), the Japanese crested ibis (12), the Everglades kite (15), the Bali tiger (3 or 4) and others for which numbers are not known.

### **Water pollution**

Water pollution occurs mostly, when people overload the water environment such as streams, lakes, underground water, bays or seas with wastes or substances harmful to living beings.

Water is necessary for life. All organisms contain it, some drink it and some live in it. Plants and animals require water that is moderately pure, and they cannot survive, if water contains toxic chemicals or harmful microorganisms. Water pollution kills large quantity of fish, birds, and other animals, in some cases killing everything in an affected area.

Pollution makes streams, lakes, and coastal waters unpleasant to swim in or to have a rest. Fish and shellfish harvested from polluted waters may be unsafe to eat. People who polluted water can become ill, if they drink polluted water for a long time, it may develop cancer or hurt their future children.

The major water pollutants are chemical, biological, and physical materials that lessen the water quality. Pollutants can be separated into several different classes:

The first class is petroleum products: oil, fuel, lubrication, plastics. The Petroleum products get into water by accidental spills from ships, tanker trucks and when there are leaks from underground storage tanks. Many petroleum products are poisonous for animals. Spilled oil damages the feathers of birds and the fur of animals, often it causes death.

The second class is pesticides and herbicides. There are chemicals used to kill harmful animals and plants. If they penetrate into streams, rivers, lakes, these chemicals can be very dangerous. The chemicals can remain dangerous for a long time. When an animal eats a plant that's been treated with it, the poisons are absorbed into the tissues and organs of the animals. When other animals feed on a contaminated animal, the chemicals are passed up to them. As it goes up through the food chain, the chemical becomes more harmful, so animals at the top of the food chains may suffer cancers, reproductive problems, and death. Nitrates can cause a lethal form of anemia in infants.

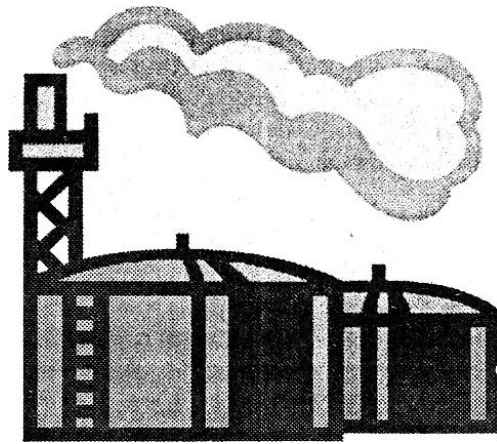
The third class is heavy metals, such as, mercury, selenium, uranium, radium, cesium, etc. They get into the water from industries, automobile exhausts, mines, and natural soil. Heavy metals also become more harmful as they follow the food chain. They accumulate in living being's cells and when they reach high levels of concentration in the organism, they can be extremely poisonous, or can result in long-term health problems. They can sometimes cause liver and kidney damage.

The fourth class is fertilizers and other nutrients used to promote plant growth of farms and in gardens. The fifth class is infectious organisms and pathogens. They enter water through sewage, storm drains, runoff from farms, etc.

The last one is thermal pollution. Water is often taken from rivers, lakes or seas to be used in factories and power plants. The water is usually returned to the source warmer than when it was taken. Even a small temperature change in a body of water can drive away the fish and other species that were originally there, and attract other species in place of them. It breaks a balance and can cause serious circumstances in future.

## Environment problems in Ukraine

Many years ago man lived in harmony with nature. Today the situation in Ukraine is quite different. The intensive development of industry results in air pollution, land pollution, water pollution. This process goes through people's careless activities.



Many parts of our country are overcrowded, people of many cities suffer from smog because much of waste, especially waste from factories, electric power stations. The chemical industry and heavy industry are very dangerous. Much of dangerous waste goes into the air and is carried by winds for great distances. We pollute air with smoke and gases, water-with industrial waste, soil-with chemicals. Now we don't know the virgin nature . A lot of people suffer from many dangerous diseases.

Fish dies in the lakes, rivers and seas. The example is the Azov Sea in the South of Ukraine. Forests are disappearing and this upsets the oxygen balance. The pollution of air, rivers, seas and lakes and the destruction of the ozone layers could lead our planet to a global catastrophe. The accident at the Chernobyl nuclear power station in April 1986 influenced greatly on the environment in Ukraine and other countries. Soil, water and plants were polluted with radionuclides. The explosion on the nuclear power station was a real tragedy for the Ukrainian nation.

Environmental protection is a great concern of the Ukrainian Government. The Ministry of Environment Protection was founded in Ukraine. There was also set up a Special Supreme Committee. Its task is to control the state of environment and

sources of pollution. to protect the water resources of the Black Sea, the Sea of Azov, rivers and lakes; to extend the network of nature reserves and to maintain cooperation with international ecology organizations.

Public organizations and individuals support campaigning for environmental protection. The Ukrainian Green Party is very active today. "Zeleny Svit" is the Ukrainian ecological newspaper. It calls on protection of the natural wealth and on improving technological processes, the quality of raw materials and fuel.

Serious measures to protect our home should be undertaken. Industry should be transferred to low and non-waste technologies. There should be the system for cleaning and trapping harmful substances. We must find the ways to refine garbage and industrial waste into useful things. Truthful information about the real situation in the area should be published in press. The decisions and laws on the protection of environment should be adopted.

We must protect animals and plants. Scientists should develop new projects to correct the situation. Earth is our home. We must care of it, for ourselves and for the next generations. To solve the problems mankind needs, a new awareness and mentality that will bring about new attitude to the environment and to each other.

### **Water pollution**

Water pollution reduces the amount of pure, fresh water that is available or such necessities as drinking and cleaning, and for such activities as swimming and fishing. The pollutants that affect water come mainly from industries, farms, and sewerage systems.

Industries dump huge amounts of wastes into bodies of water each year. These wastes include chemicals, wastes from animal and matter, and hundreds of other substances. Some of the wastes may be harmful to human health.

Wastes from farms include animal wastes, fertilizers, and pesticides.

Most of these materials drain off farm fields and into nearby bodies of water.

Sewerage systems carry wastes from homes, offices, and industries into water.

Nearly all cities have waste treatment plants that remove some of the most

harmful wastes from sewage. But even most of the treated sewage contains material that harms water.

Natural cycles work to absorb small amounts of wastes in bodies of water. During a cycle, wastes are turned into useful, or at least harmless, substances. Bacteria called aerobic bacteria use oxygen to decay natural wastes such as dead fish and break them down into chemicals.

The same natural cycles work on wastes poured into water by people. Bacteria break down chemicals and other wastes and turn them into nutrients, or else into substances that will not harm fish or sea plants. However, if too much waste matter is poured into the water, the whole cycle will begin to break down, and the water becomes dirtier and dirtier. The bacteria that work to decay the wastes use up too much oxygen during the decaying process. As a result, less oxygen is available for the animals and plants that live in water. Animals and plants then die, adding even more wastes to the water. Finally, the water's entire oxygen supply is used up.

### **Soil pollution**

Soil pollution damages the thin of fertile soil that covers much of the earth's land and is essential for growing food. Natural processes took thousands of years to form the soil that supports crops. But, through poor treatment, people can destroy soil in a few years. People use fertilizers and pesticides to grow more and better crops. Fertilizers add extra nutrients to the soil and increase the amount of a crop that can be grown on an area of land. Pesticides destroy weeds and insects that harm crops. But pesticides may also harm bacteria and other helpful organisms in the soil. Solid wastes present a serious problem because most of the methods used to dispose of them result in some type of damage to the environment. When the wastes are put into open dumps, they ruin the attractiveness of the surrounding areas. Dumps also provide homes for disease carrying animals, such as cockroaches and rats.



Some solid wastes can be destroyed by burning them. But burning produces smoke that causes air pollution. When wastes are dumped in water, they contribute to various forms of water pollution. Solid wastes include mining, industrial, and agricultural wastes, in addition to household wastes.

Most solid are buried in large, open areas called landfills. But in many places, especially near large cities, the land available for dumping is running out. In the meantime, the production of solid wastes is increasing rapidly. In addition, more wastes that are difficult to dispose of are being produced. Solid wastes are probably the most visible forms of pollution. People throw away billions of tons of solid material each year. Much of this waste ends up littering roadsides, floating in lakes and streams, and collecting in ugly dumps.

Examples of solid wastes include junked automobiles, tires, refrigerators, and stoves; cans and other packaging materials; and scraps of metal, paper, and plastic. Such solid pollutants are most common in the heavily populated areas in and near cities. Slag and other wastes from mining processes pollute much away from cities.

### **Trees in danger**

Millions of years before animals lived on land; there were trees on the Earth. But today trees are in serious danger.

In the 1970es, many of the elm trees in Europe were killed by Dutch elm disease. Now an even greater danger is threatening the forests and woods of Europe from northern Sweden to southern Italy.

This new danger attacks all trees like oak, beech and birch as well as coniferous trees like fir tree and pine. First the branches turn yellow and brown. Then the trees' needles or leaves fall. The roots and the trunk shrink. Finally the trees die. In the Black Forest in southern Germany 75% of the trees have been damaged or killed. But what is killing the trees? Nobody knows exactly, but it is probably air

pollution or acid rain. Factories, power stations and cars emit tons of smoke into the air. This smoke contains sulphur dioxide and nitrogen oxide. These substances mix with water vapour in the atmosphere and form sulphuric acid and nitric acid. Sunlight turns these acids into poisonous oxidants which fall in rain or snow into the trees.

What can be done about acid rain? Why don't governments do anything to save the trees? Unfortunately, acid rain doesn't always fall on the countries which produce the pollution. The wind carries the poisonous substances from one country, to another. Why should the people of the country pay to save another country's trees?

In other parts of the world trees are threatened by people, not by pollution. The great rain forests of Asia and South America are being destroyed for firewood and building material. Something must be done. Trees are important because they provide a home for many other plants and animals too. They protect the flowers which grow on the forest floor.

They provide food for insects, reptiles, birds and mammals. They protect the soil from the wind and the rain. Most important of all, the forests are the lungs of the planet. Trees produce the oxygen which we breathe. If the trees die, we will, too.