

**МІНІСТЕРСТВО ОСВІТИ І НАУКИ, МОЛОДІ ТА СПОРТУ УКРАЇНИ
ОДЕСЬКИЙ ДЕРЖАВНИЙ ЕКОЛОГІЧНИЙ УНІВЕРСИТЕТ**

**МЕТОДИЧНІ ВКАЗІВКИ
для СРС та навчальний матеріал
з англійської мови для студентів II курсу
денної форми навчання**

Спеціальність: «Екологія»

Одеса - 2017

Методичні вказівки для СРС та навчальний матеріал з англійської мови
для студентів II курсу денної форми навчання.
Спеціальність: «Екологія».

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ПЕРЕДМОВА

Методичні вказівки для СРС та навчальний матеріал з англійської мови призначені для студентів **II курсу** денної форми навчання зі спеціальності «**Екологія**».

Мета запропонованих методичних вказівок — розвинути навички читання, аналізу, перекладу текстів, а також їх переказу на матеріалі наукової літератури за фахом.

Методичні вказівки складаються з 6 уроків, де подано відповідний граматичний матеріал за програмою, а також тексти, що відібрані з оригінальної науково-популярної та наукової літератури.

Тексти А та В призначені для аудиторній роботі студентів: для читання, усного перекладу, аналізу елементів тексту, анотування та переказу; **тексти С** тематично пов'язані з текстами А та В, призначені для СРС та тематично-письмового перекладу з подальшою перевіркою на занятті, уточненням значень окремих лексичних одиниць та переказу.

Лексичні вправи призначені для вивчення та закріплення лексичного матеріалу кожного уроку та охоплюють лексику основних текстів. Вони можуть бути використані також для контролю (самоконтролю) засвоєння лексичного матеріалу уроку. Під час виконання лексичних вправ рекомендується не тільки підбирати українські або англійські еквіваленти наведених слів та словосполучень, але й знаходити у тексті або складати самостійні речення з зазначеними словами, звертаючи увагу на багатозначність слів.

Граматичні вправи спрямовані на аналіз найскладніших граматичних явищ англійської мови, розвиток навичок орієнтування у граматичній структурі англійського речення, що сприяє вірній інтерпретації текстів, усної мови та матеріалів наукової літератури.

Після вивчення даного курсу студенти повинні знати і вміти:

читати та перекладати науково-технічну англійську літературу за фахом для отримання необхідної інформації;

розуміти зміст прочитаного та лексико-граматичний матеріал, наданий у методичних вказівках;

розуміти і володіти відповідними граматичними конструкціями та матеріалом;

брати участь в усному спілкуванні англійською мовою в обсязі матеріалу, передбаченого програмою.

LESSON 1

Pre-text exercise.

1. Read and remember the following words and their meaning:

Word	Meaning
conservation effort <i>noun</i>	measures to protect and restore the natural world
ecosystem <i>noun</i>	the ongoing relationship between living things and their environment
endangered species <i>noun</i>	animals or plants that are likely to go extinct
environmentalist <i>noun</i>	a person who cares about the natural world and makes an effort to protect it or raise awareness for its needs
extinction <i>noun</i>	the loss of a species in this world
food chain <i>noun</i>	a group of organisms that feed off each other
global warming <i>noun</i>	the gradual increase in temperature on earth
habitat <i>noun</i>	the area where a species naturally lives, eats, and reproduces
recover <i>verb</i>	to help a certain species repopulate an area
reforestation <i>noun</i>	the planting and growth of new trees
risk <i>verb</i>	engage in a dangerous act
vulnerable <i>adjective</i>	likely to face injury or danger
wildlife <i>noun</i>	plants and animals living in a natural environment

Read and translate text A:

Text A

POLAR BEAR MAKES THE LIST

In spring 2008, the polar bear was placed on the endangered species list. According to the Endangered Species Act, an endangered species is an animal that is likely to face extinction in its natural habitat. Polar bears have been categorized as a "threatened" species. The ESA defines a threatened species as one that is likely to become "endangered" in the foreseeable future.

The polar bear is the first animal that has been classified as endangered due primarily to global warming. Global warming is caused by carbon dioxide and other greenhouse gases that become trapped in the atmosphere. Heating homes, driving cars, and burning garbage all require fossil fuels that lead to global warming.

The polar bear's habitat is more vulnerable to global warming than many other species. Polar bears live mainly on the sea ice in the Arctic. This is where they hunt for fish and build up fat reserves. When the ice melts many polar bears move to land and live off their stored fat. In the Arctic, global warming is causing the ice to melt slightly earlier and form slightly later. This results in a shorter feeding season for the polar bear. Some risk their lives to find ice. If they have to swim too far they will drown from exhaustion and hunger. The World Wildlife Fund estimates that 25% of the Arctic sea ice has disappeared in the past 30 years.

It is not only the polar bear that is at risk in the Arctic. Every species of plant, animal, and insect there is threatened by global warming. Nevertheless, environmentalist groups such as the World Wildlife Fund often study large carnivores in order to assess the health of an ecosystem. The Arctic food chain relies on the polar bear. In addition, donations are more commonly offered for the protection of large animals such as bears or elephants. People in general are less interested in conservation efforts that protect small wildlife, such as plants or insects. However, by using donor money to protect the habitat of the larger animals (ex. reforestation programs), entire ecosystems can be protected.

It is important that animals such as the polar bear make it onto the endangered species list. Once they are on the list there are laws that protect these animals from being hunted for food or sport. Agencies also receive money and tools to protect the habitat and recover the species. The goal of removing the animal from the list is often achievable. Since the Endangered Species Act was introduced in the US in 1973, many species have been taken off the list due to increased populations. In fact, it is rare for a species to go extinct after they make the list. Sadly many species do go extinct while waiting for consideration.

Exercise 1. Answer the following questions:

1. What major change has occurred in the polar bear's natural habitat?
2. What poses the greatest threat to polar bears today?
3. Explain what does the word 'reforestation' mean?
4. When was the Endangered Species Act introduced?
5. Why carbon dioxide and other greenhouse gases are harmful?
6. Why do you think it is so difficult to know how many bears live in the Arctic? What challenges would face a census team?
7. The Governor of Alaska is unhappy with the decision to place the polar bear on the endangered species list. What could this decision mean for development in Alaska?
8. Donations are more commonly offered for the protection of large animals, aren't they? Why?

9. How do you think the population of polar bears will change by the year 2050?
10. How has the amount of the Arctic sea ice changed in the recent years?

Exercise 2. Translate the following word combinations:

Endangered animals, global warming, entire ecosystems, to drown from exhaustion and hunger, to receive money and tools, The World Wildlife Fund, to melt slightly earlier, in its natural habitat, greenhouse gases, a shorter feeding season, plants or insects, trapped in the atmosphere, fossil fuels, environmentalist groups, food chain.

Exercise 3. True or False? Spot the errors:

1. Polar bears cannot to swim long distances without eating.
2. Can you understand what the environmentalist was saying about global warming?
3. A rare insect got on the endangered species list last year, and the conservationists could to recover it within six months.
4. We must to do our part to help preserve the Arctic habitat.
5. We must not forget about the other animals and plants in the Arctic food chain.

Exercise 4. Give English equivalents:

Середовище існування, бути в небезпеці, захист тварин, пов'язано в першу чергу з глобальним потеплінням, сезон годування, вимирати, великі тварини, для полювання, вимираючий вид, в передбаченому майбутньому, білий ведмідь, ризикувати життям.

Exercise 5. Pick out the synonyms from the words given below, remember them:

Worldwide, atmosphere, animal, to vanish, development, prevention, climate, insect, creature, fauna, growth, global, vulnerable, risk, unprotected, wildlife, hazard, to melt, protection, beetle.

Exercise 6. Discuss with your groupmates:

1. Why do you think the Canadian Arctic is called the Land of the Midnight Sun? What do you think it would be like to live there?
2. Scientists say there are twice as many polar bears living in the Arctic as there were in the 1960's. This is because polar bears used to be severely over hunted. Some politicians site this data as a reason for not placing polar bears on the endangered species list. How do you feel about their argument?

3. A rough estimate suggests that there are approximately 20,000 polar bears in the world. Why do you think it is so difficult to know how many bears live in the Arctic? What challenges would face a census team?

Text B. Pre-text exercise.

1. Read and remember the following words and their meaning:

Word	Meaning
bamboo <i>noun</i>	a type of woody plant that grows very quickly
biomass <i>noun</i>	organic material and waste that can be used for fuel
buzz words <i>noun</i>	words that are popular during a certain time period, especially in the media
carbon <i>noun</i>	material that is released into the atmosphere when fossil fuels are burned
carbon footprint <i>noun</i>	the measurement of damage a single person does to the environment (how much greenhouse gas each person produces in a lifetime)
car share program <i>noun</i>	allows a group of people in a community to take turns using the same car, instead of owning separate vehicles
durable <i>adj.</i>	strong, long-lasting
eco <i>prefix</i>	related to the environment/natural habitat
energy efficient <i>adj.</i>	uses less resources to produce energy
global warming <i>noun</i>	the gradual increase in temperature on earth
green initiative <i>noun</i>	an effort to protect the natural environment
in the works <i>noun</i>	being developed now
non-toxic <i>adj.</i>	not harmful for people or the environment

Word	Meaning
pesticides <i>noun</i>	chemicals that are sprayed on crops to prevent insects from destroying them
self-sufficient <i>adj.</i>	ability to function without outside help
unprecedented <i>noun</i>	never recorded before

Read, translate and retell text B:

Text B

DOCKSIDE GREEN

The green movement is catching on in many pockets of the world. This is especially true in the construction industry. Today's buzz words, which include global warming and zero emissions, are causing everyday people (not just celebrities) to look for ways to reduce their carbon footprint. Purchasing environmentally-friendly property is a good investment for those who are concerned about their own health and the well-being of the earth. Based on this trend, entire districts, known as eco-communities, are being designed with green initiatives in mind. Dockside Green in Victoria, British Columbia, Canada is one of these communities. Its goal is to become the world's first zero-emissions neighbourhood.

If everything goes according to plan, Dockside Green will be a self-sufficient community along the harbour front of British Columbia's capital city. The community will be home to 2500 people and will consist of residential, office, and retail space. The plans describe a variety of environmental features, some of which are unprecedented.

Builders of Dockside Green have the environment in mind with every choice they make. They ensure proper ventilation, and guarantee residents 100% fresh indoor air. Interior and exterior building materials, such as paints and wood, are natural and non-toxic. Eco-conscious builders use bamboo wherever possible because it is durable and does not require pesticides to grow.

Energy efficiency is one of the top priorities in eco-communities, such as Dockside Green. Not only do energy-efficient appliances and light fixtures reduce the environmental impact of heating and hot water, they also save residents and business owners money. Dockside Green claims that home owners will use 55% less energy than average residents in Canada. Though they are sharing space by investing in condo-style living, residents will have individual utility metres. Studies show that people use approximately 20% less energy

when they are billed for exactly what they use. In addition, water is treated at Dockside Green and reused on site for flushing toilets.

Planners of eco-communities such as Dockside Green must take the future into account. Dockside Green plans on reusing 90% of its construction waste. They also plan to continue using local suppliers for all of their transport and maintenance needs. This is a great way to reduce emissions. Dockside residents will be encouraged to make use of a mini transit system and buy into the community's car share program. Finally, plans are in the works for a high-tech heating system that will use renewable biomass instead of fossil fuels.

The first two stages of development at Dockside Green have already been completed, and many other plans are in the works. Other smaller eco-villages can be found around the world. These are also known as intentional communities. Most have a small population of 50-150 residents. Residents of these communities aim to reduce their carbon footprint and be models for sustainable living.

Exercise 1. Answer the following questions:

1. What is Dockside Green?
2. Why is bamboo an environmentally friendly choice for builders?
3. According to the article, what percentage of energy savings is there in condos with single unit utility meters?
4. What major issue does Dockside Green hope to address in the future?
5. According to the reading, what common goal do residents of eco-villages have?
6. Why purchasing environmentally-friendly property is a good investment for those who care about their health?
7. Would you want to live in an eco-community now or in the future? Why or why not?
8. What drawbacks do you think residents might find living at Dockside Green?
9. If there was a car share program in your community would you consider using it instead of owning a car? Why or why not?
10. How environmentally friendly is your current place of residence?

Exercise 2. Translate the following word combinations:

Transport and maintenance needs, environmental impact, green movement, to reduce emissions, major issue, communities aim to, fresh indoor air, natural and non-toxic, local suppliers, zero emissions, construction industry, heating and hot water, retail space, a self-sufficient community, environmentally-friendly property.

Exercise 3. Pick out the synonyms from the words given below, remember them:

Impact, to distribute, to promote, community, priority, influence, lively, warming, society, to reduce, autonomous, pollution, decrease, advantage, to share, emissions, to encourage, heating, fresh, self-sufficient.

Exercise 4. Pick out the antonyms from the words given below, remember them:

Advantage, harmful, great, manmade, dependent, incontinuous, to build, disadvantage, self-sufficient, tiny, to crush, common, non-toxic, eco, long-lasting, unprecedented.

Exercise 5. Pick out the necessary words and supply the following sentences:

1. There is a growing concern over the of species habitat and
2. The earth's resources are being at an alarming rate.
3. The greenhouse is an increase in the amount of carbon dioxide and other in the atmosphere which is believed to be the cause of a gradual of the surface of the Earth.
4. The energy generated by the is both very efficient and clean.
5. There have been many reports about which is destroying large areas of tropical rain forest .
6. The Japanese recycle more than half their waste paper.
7. We're not doing enough to protect the environment from

(pollution, deforestation, warming, windmill, recycle, gases, used up, biodiversity, warming, protection)

Exercise 6. Translate Text B in writing.

Exercise 7. Read and title the text:

A)

Since ancient times Nature has served Man, being the source of his life. For thousands of years people lived in harmony with environment and it seemed to them that natural riches were unlimited. But with the development of civilization man's interference in nature began to increase.

Large cities with thousands of smoky industrial enterprises appear all over the world today. The by-products of their activity pollute the air we breathe, the water we drink, the land we grow grain and vegetables on.

Every year world industry pollutes the atmosphere with about 1000 million tons of dust and other harmful substances. Many cities suffer from smog. Vast forests are cut and burn in fire. Their disappearance upsets the oxygen balance. As a result some rare species of animals, birds, fish and plants disappear forever, a number of rivers and lakes dry up. The pollution of air and

the world's ocean, destruction of the ozone layer is the result of man's careless interaction with nature, a sign of the ecological crises.

B)

Biological warfare is the use of any bacteria, virus or other disease-causing organism or toxin found in nature, as a weapon of war to incapacitate or kill an adversary.

The use of biological agents for military purposes is not new, but before the 20th century, biological warfare took two main forms. The first is deliberate poisoning of food and water with infectious material and the second is the use of microorganisms, toxins or animals, living or dead, in a weapon system.

Biological warfare has been practised repeatedly throughout human history. During the 6th Century B. C., the Assyrians poisoned enemy wells with a fungus that would make the enemy delusional. In 184 BC, Hannibal of Carthage had clay pots filled with poisonous snakes and instructed his soldiers to throw the pots onto the decks of enemy ships, etc.

C)

Billions of tons of coal and oil are consumed around the world every year. When these fuels are burnt, they produce smoke and other by-products, which is emitted into the atmosphere. Although wind and rain occasionally wash away the smoke, given off by power plants and automobiles, but it is not enough.. These chemical compounds undergo a series of chemical reactions in the presence of sunlight; as a result we have smog, mixture of fog and smoke. While such pollutants as particulates we can see, other harmful ones are not visible. Among the most dangerous to bur health are carbon monoxide, nitrogen oxides, sulfur dioxide and ozone or active oxygen.

Factories emit tons of harmful chemicals. These emissions have disastrous consequences for our planet. They are the main reason for the greenhouse effect and acid rains.

D)

Ozone occurs at all levels in the atmosphere, but most of it is found in the stratosphere, between about 15-50 kilometres above the Earth's surface, where it plays a very important role. Ozone absorbs harmful ultraviolet radiation which is produced by the Sun- Ultraviolet radiation can damage cells of living things — plants, animals and people. Whereas small doses result in nothing worse than sunburn, larger amounts may cause cataracts or skin cancer, and can affect the growth of plants.

The damage of ozone has been caused by complex chemical reactions involving chlorine and bromine. Large amounts of gas called CFCs were produced in twentieth century for use in everyday appliances like fridges, aerosol spray cans, and fire extinguishers. At ground level, these compounds are

chemically non-reactive. However they are carried on wind systems up into the high atmosphere, where the ozone layer is. CFCs can be broken up by the intense sunlight, but before their destruction CFCs gases become reactive and damage the ozone layer.

E)

Weather patterns have been changing recently due to the global warming-up process and its major reason — the greenhouse effect. The greenhouse effect is created by carbon dioxide emissions, released by industrial facilities and a constantly increasing number of cars. Thus it is of vital importance that the world should start cutting down the release of gases that contribute to the greenhouse effect. What is the reason for people getting so much worried about the state of environment? The answer to this question is fairly simple. The thing is the deterioration of the environment is telling heavily on people. They are paying for this with their health. And it is obvious what all people need is a healthy environment.

Grammar exercises

Exercise 1

a) **Infinitive may be followed by the following verbs. Read, translate and learn:**

Agree	appear	arrange	ask	begin
can't bear	can't stand	care	cease	choose
claim	continue	decide	demand	deserve
dread	expect	fall	forget	get (be allowed to)
happen	hate	hesitate	hope	intend
learn	like	love	manage	need
neglect	offer	plan	prefer	prepare
pretend	promise	propose	refuse	regret
remember	seem	start	swear	tend
threaten	try	vow	wait	want
wish	would like	yearn		

b) **Translate the following sentences. Pay attention to the use of the Infinitive:**

1. Sarah agreed to help me. 2. His health appeared to be better. 3. Peter arranged to stay with his uncle in Paris. 4. She asked to leave. 5. He began to talk. 6. He can't bear to be ignored. 7. David can't stand to work in an office. 8. He doesn't care to participate in the charity run. 9. The government ceased to provide free healthcare. 10. I chose to help. 11. She claimed to be a doctor. 12. She continued to talk. 13. We decided to go to Paris. 14. He demanded to speak

to the manager. 15. He deserves to go to jail. 16. I dread to think what might have happened. 17. They expect to arrive early. 18. He failed to get enough money to pay for the new project. 19. I forgot to lock the door when I left. 20. She happened to be in Latin America during the riots. 21. He hates to be proved wrong. 22. She hesitated to tell me the problem. 23. I hope to begin college this year. 24. We intend to visit you next spring. 25. I learned to speak Russian when I was a kid. 26. Chris likes to read. 27. We love to scuba dive. 28. He managed to open the door without the key. 29. I need to study. 30. She neglected to tell me the date of the meeting. 31. Donald offered to drive us to the supermarket. 32. We plan to go to America this summer. 33. He prefers to eat at Italian restaurants. 34. They prepared to take the test. 35. The child pretended to be a monster. 36. She promised to stop smoking. 37. Dad proposed to pay for the trip. 38. The guard refused to let them enter the building. 39. I regret to inform you that your application was rejected. 40. Did you remember to lock the door when you left? 41. Sarah seemed to be disappointed. 42. Marc started to talk really fast. 43. Anne swore to tell the truth. 44. Matt tends to be a little shy. 45. Alison threatened to leave forever. 46. Joanna tried to lift the table, but it was too heavy. 47. Teresa vowed to get revenge. 48. Sue waited to buy a movie ticket. 49. I want to study Spanish. 50. I wish to stay.

Exercise 2. Give the correct infinitive form of these verbs (do not use 'to'):

Example: working – work

- | | |
|--------------|--------------|
| 1. met – | 6. drives – |
| 2. waking – | 7. does – |
| 3. watches – | 8. sitting - |
| 4. waited – | 9. played – |
| 5. wrote - | 10. rains – |

Exercise 3. Choose the correct form (infinitive with or without to):

1. I can (speak / to speak) English. 2. We have (do / to do) our homework. 3. You must (to stay / stay) at home. 4. I will to (help / help) you. 5. He cannot (see to / see) us. 6. My little sister learns (to speak / speak). 7. They want (go / to go) to the cinema. 8. You should (ask / to ask) your parents. 9. I'd like (have / to have) a dog. 10. May we (come / to come) in? 11. I failed (to persuade / persuade) my boss to give me a rise. 12. I need (change / to change) tires on my car. 13. He hates (get up / to get up) early. 14. I hope (to have / have) better luck next time. 15. Would you prefer (have / to have) dinner now or later?

Exercise 4. Read the first sentence, and choose the most suitable verb to complete the second sentence:

1. "Ellie, would you like to come to my party?"
Ellie's friend *invited* / *instructed* / *obliged* her to go to the party.
2. "Mum, will you let me go to the party?"
Ellie *encouraged* / *begged* / *asked* her mum to let her go to the party.
3. "Please, please, please mum, PLEASE let me go to the party!"
She *forced* / *begged* / *persuaded* her mother to let her go to the party.
4. "Ellie, you are absolutely NOT allowed to go to the party."
Ellie's mum *forbade* / *forced* / *allowed* her to go to the party.
5. "Now go upstairs and do your homework."
Ellie's mum *advised* / *trained* / *ordered* her to go upstairs and do her homework.
6. "And don't forget to tidy your room"
Ellie's mum *reminded* / *begged* / *instructed* her to tidy her room.
7. "Don't forget to clean under the bed, or there will be trouble!"
Ellie's mum *advised* / *warned* / *encouraged* her not to forget to clean under the bed.

Exercise 5. Read the first sentence. Then rearrange the words and phrases to complete the second sentence:

For each sentence, there are 2 words that you **do not need to use!**

1. "Remember you have to pick your jacket up from the dry cleaner's."
... .. to the dry cleaner's.
to warned she me ordered reminded go
2. "It's really hot in here. Would you mind opening the window?"
... .. the window.
he asked begged her ordered open to
3. "Would you like to have dinner with us on Friday?"
He with them on Friday.
Invited persuaded commanded have them to inner
4. "We'd be delighted if you could all be with us at the ceremony"
They attend the ceremony.
warned their reminded to invited friends all
5. "Well, if I were you I'd start saving up for my holiday."
... .. saving up for my holiday.
started me advised advise start he to
6. "Don't drive too fast. The police are cracking down on speeding."
He too fast.
drove warn not to warned drive him
7. "He's just bought a car, so I can visit her any time"
Buying a car her any time.

reminded visited has enabled him visit to

8. "Come on, it's about time you looked for a new job, you know!"

Jack a new job.

look to me encourage encouraged look for

Exercise 6. Complete the sentences so that the meaning is similar to the first sentence.

Examples: I hope the bank will lend me a thousand pounds.

I want the bank to lend me a thousand pounds.

We were surprised that Manchester United lost the match.

We didn't expect Manchester United to lose the match.

1. We would be very happy if you came on holiday with us.

We would love _____

2. Kevin said that I could ride his horse.

Kevin allowed _____

3. I was surprised that the bill was so expensive.

I didn't expect _____

4. Don't let me forget to buy some more milk.

Remind _____

5. Jennifer hopes her boss will give her an award.

Jennifer wants _____

6. George said to me "Please don't worry".

George told _____

7. Dad said I must not go on my boyfriend's motorbike.

Dad forbid _____

8. Shirley gave him singing lessons.

Shirley taught _____

Exercise 7. Join the elements of a Subjective Infinitive construction. Use the proper form of a finite verb.

Example: He – to fall in love with her. (to be sure) He is sure to fall in love with her.

1. They – to enjoy the film much. (to appear) 2. Tom – to catch the train. (to happen) 3. Ann – to be married. (to prove) 4. She – to have lost her money. (to turn out) 5. Her classmates – to be having a test. (to seem) 6. Jill – to have been badly injured in a car accident. (to say) 7. The concert – to begin at 8. (to report) 8. Her husband – to get a pay increase next month. (to expect) 9. The man – to have told the police about the accident. (to believe) 10. We – to phone him at work. (to suppose) 11. Your sister – to have behaved foolishly. (to think)

12. His father – to be in hospital now. (to know) 13. She – to take sleeping tablets. (to allow) 14. I – to miss the lecture. (to let) 15. He – to leave his job. (to force) 16. My boss – to sign the contract. (to make) 17. He – to paint the door. (to see) 18. The boys – to swear. (to hear) 19. The two men – to have broken the window. (to discover) 20. His visa – to be no longer valid. (to find) 21. They – to find a job at the moment. (to be unlikely) 22. All my group mates – to pass the exams. (to be likely) 23. George – to recognize you. (to be sure) 24. The secretary – to type your letters on time. (to be certain).

Exercise 8. Use the appropriate form of the Infinitive as part of a compound verbal predicate.

Example: The boy is sure (to punish) for what he's done. The boy is sure to be punished for what he's done.

1. I happened (to pass) by your house when I heard the noise. 2. Where's Jim? He seems (to leave). 3. You look so flushed. You seem (to run) a high temperature. 4. It's so nice here. Everybody appears (to enjoy) the party. 5. The storm is reported (to cause) much damage and (to kill) many people. 6. The public was reported (to give) a warm reception to the pop group. 7. Our yachtsman Konyukhov is said (to visit) many countries on his way round the world. 8. He is also known (to conquer) Mount Everest, the highest in the world. 9. He is known (to set) some world records. 10. Look, it's raining again. It seems (to rain) for ages. 11. The weather isn't likely (to change) for the better today. 12. Why are you here? You seem (to forget) about your appointment with the dentist who is certain (to wait) for you now. 13. This was the moment that seemed (to mark) the start of the interview. 14. She seemed (to listen) carefully to what he said. 15. Such idle talk was little likely (to reach) the ears of Mr. Dombey.

Exercise 9. You are planning a trip to Paris or London. As you have only a few days off, you decide to fly there. What are you expected to do? Use suggested words and phrases and add something of your own.

Example: to choose a flight – First of all I'm expected to choose a most suitable flight.

to choose an airline; to get a visa; to look up the time-table; to make a reservation; to book the ticket beforehand; to pack the luggage; to take a taxi to go to the airport; to go through the customs; to submit the passport at the passport control; to check (by the security service); to go to the departure lounge and wait there till the flight is announced; to have a good book to read on the plane.

Exercise 10. Translate into Ukrainian using the correct form of the Infinitive:

1. Я радий, що розповів вам цю історію. 2. Я радий, що мені розповіли цю історію. 3. Я хочу познайомити вас з цієї артисткою. 4. Я хочу, щоб мене познайомили з цієї артисткою. 5. Я радий, що зустрів її на станції. 6. Я радий, що мене зустріли на станції. 7. Ми дуже щасливі, що запросили його на вечір. 8. Ми дуже щасливі, що нас запросили на вечір. 9. Він буде щасливий відвідати цю знамениту картинну галерею. 10. Він був щасливий, що відвідав цю знамениту картинну галерею. 11. Діти люблять, коли їм розповідають казки. 12. Я не припускав зупинитися на цій станції. 13. Я не очікував, що мене зупинять. 14. Я шкодую, що заподіяв вам стільки занепокоєння. 15. Він не виносить, коли йому брешуть. 16. Я згадав, що вже зустрічав це слово в якійсь книзі. 17. Мені дуже шкода, що я пропустив цю цікаву лекцію. 18. Вона щаслива, що чула концерт відомого італійського диригента. 19. Вона рада, що була присутня на лекції. 20. Він дуже задоволений, що закінчив свою книгу. 21. Наші спортсмени пишаються тим, що виграли кубок. 22. Я тільки хочу, щоб мені дозволили допомогти вам. 23. Я був вдячний, що мені дали кімнату з великим вікном. 24. Він був щасливий, що повернувся додому. 25. Він був щасливий, що знову вдома. 26. Я шкодую, що перервав Вас. 27. Я жалкую, що не застала вас вдома. 28. Джейн була щаслива, що їде від місіс Рід. 29. Рочестер був радий познайомитися з Джейн. 30. Рочестер був радий, що познайомився з Джейн.

Exercise 11. Translate the following sentences pay attention to the form of the Infinitive:

1. I am awfully glad **to have met** you. 2. I do not like **to be interrupted**.
3. Which is more pleasant : **to give** or **to be given** presents? 4. I hope **to see** you on Monday. 5. I am sorry **to have kept** you waiting. 6. I am happy **to have been living** in Kiev for 25 years. 7. She didn't want **to be found**. 8. He is sorry **to have said** it. 9. He seems **to be reading** now. 10. I want **to be sent** to England. 11. We were sorry **to have missed** the train. 12. I am sorry **not to have been informed** about it. 13. We are happy **to have helped** him. 14. I am happy **to have been examined** yesterday. 15. He asked me **to wait**. 16. She began **to talk**.

Test 1. Choose the correct variant:

1. My younger brother hates to read; he prefers _____ to.
a) to read b) to be reading c) to be read c) to have read

2. I was very upset and I didn't know whom _____ to for advice.
 a) to turn b) to be turning c) to have turned d) to have been turned
3. It was nice of you _____ me your Grammar book. Without it I would have been lost.
 a) to lend b) to be lending c) to have lent d) to be lent
4. He suddenly awoke from his trance; there was a decision _____ .
 a) to be made b) to make c) to have made d) to have been made
5. That woman is still sitting. She seems _____ over an hour.
 a) to wait b) to be waiting c) to have been waiting d) to have waited
6. There was nothing _____ , but to wait for the next train which was due at six.
 a) to do b) to be done c) to be doing d) to have been doing
7. I am glad _____ to stay with them in their country-house.
 a) to invite b) to be invited c) to have invited d) to have been invited
8. Can anybody _____ me how to use a computer?
 a) show b) be showing c) have shown d) be shown
9. It is not hard _____ decisions when you know what your values are.
 a) to be making b) to have made c) to make d) to be made
10. My friend Marion is coming from Chile. I am sorry not _____ about it earlier.
 a) to tell b) to be told c) to have been told d) to have told

Test 2. Choose the correct variant:

1. She could not but _____ to hear such a sad story.
 a) to weep b) weep c) weeping d) to weeping
2. We saw him _____ out of the gate.
 a) to go b) go c) to going d) went
3. It was _____ for him to finish the work in a day.
 a) false b) likely c) hard d) certain
4. She was unhappy because her father would not _____ her go to the party.
 a) let b) permit c) allow d) get
5. She does not know _____ to open it with.
 a) how b) what c) who d) whether
6. I hoped _____ you by phone, but I couldn't. Why didn't you pick up the receiver?
 a) to reach b) to have reached c) to be reaching d) to have been reaching

7. No words can describe the fascination of the place. It must _____ .
 a) see b) be seen c) have seen d) have been seen
8. It is not enough to have a good mind; the main thing is _____ it.
 a) to be using b) to use c) to have used d) to have been using
9. It would certainly be much better not _____ to him at all.
 a) to speak b) to be speaking c) to have spoken d) to have been speaking
10. The only way to get the best of an argument is _____ it.
 a) to be avoiding b) to have avoided c) to have been avoiding
 d) to avoid

Test 3. Choose the correct variant:

1. Too much drinking will lead him _____ himself.
 a) ruining b) to ruin c) to have ruined d) to be ruined
2. I wanted you to help me _____ my assignment after school.
 a) finish b) to be finished c) to be finishing d) finished
3. I am sorry _____ waiting out of the room for a long time.
 a) to have kept you b) having kept you c) keeping you d) have kept you
4. He was _____ to leave the room, when the phone rang.
 a) just b) soon c) about d) immediately
5. I will have _____ writing the report by next week.
 a) finished b) hoped c) expected d) promised
6. This apron has no pocket _____.
 a) to put things b) to be things put c) putting things in d) to put things in
7. His wealth enables him _____ to England.
 a) to have gone b) to be going c) to go d) went
8. She makes it a rule _____ early in the morning.
 a) get up b) to get up c) to be getting up d) got up
9. We have _____ him to be more careful in everything.
 a) suggested b) hoped c) proposed d) expected
10. _____ with, I have no time to have a date with you.
 a) to begin b) beginning c) begin d) to beginning

Test 4. Choose the correct variant:

1. She isn't rich enough _____ the piano, let alone buy it.
a) rent b) renting c) to rent d) to be rented
2. She has no alternative but _____ him.
a) to see b) seeing c) going to see d) see
3. It is sometimes difficult _____ you have just met.
a) to make pleasant conversation among people b) making pleasant conversation to people
c) making pleasant conversation to for people
d) to make pleasant conversation with people
4. The workers accepted the cut in salary without complaint because they were afraid _____ their jobs.
a) to lose b) to be lost c) to have lost d) lose
5. I would rather study than _____ to such a place.
a) to go b) go c) going d) have gone
6. On my way home I stopped _____ some bread at the bakery.
a) buying b) to buying c) to have bought d) to buy
7. The dog needs _____.
a) to train b) train c) to be trained d) to have trained
8. I never know _____ when I go on a trip.
a) what clothes should be take b) what clothes to take c) what clothes will I take
d) I take what clothes
9. When inflation is rampant, many families find it difficult _____ the life style to which they are accustomed.
a) to maintaining b) to maintain c) in maintaining d) maintain
10. Almost everyone fails _____ the driver's test on the 1st try.
a) passing b) to have passed c) to pass d) in passing

Test 5. Choose the correct variant:

1. _____ , my tennis went daily from bad to worse, and the worse it became, the more I loved it.
a) To honest be b) If I be honest c) To be quite honest d) Being honest
2. When a molar started to ache, I decided it was time _____ a dentist.
a) see b) to see c) to have seen d) seeing
3. He wasn't _____ six miles every day.
a) strong enough to walk b) enough strong for walking c) enough strong to walk
d) strong enough for walking
4. He asked me if John had the capability _____.
a) to do that b) to doing c) doing that d) do that

5. The tennis champion has been asked _____ an exhibition game at the tennis club next Sunday.
 a) play b) to play c) to be played d) to have played
6. Inland canals are used _____ farm and factory goods to nearby towns or seaports.
 a) shipping b) to shipping c) to ship d) in shipping
7. I am free _____ I did not quite know the sort of creature I had to deal with.
 a) to confess b) confessing c) confess d) in confessing
8. I muttered encouraging words to myself _____ up my courage.
 a) to keep b) being kept c) keeping d) to have kept
9. After studying hard to become an accountant, he discovered that it was not what he wanted _____.
 a) to do b) that c) doing d) to
10. Pragmatists were hardly the first men _____ beliefs control behavior.
 a) insist b) insisted c) who insists d) to insist

LESSON 2

Pre-text exercise.

1. Read and remember the following words and their meaning:

Word	Meaning
Soil erosion <i>noun</i>	absolute soil losses in terms of topsoil and nutrients
Land degradation <i>noun</i>	covers all negative changes in the capacity of the ecosystem to provide goods and services (including biological and water related goods and services)
Prevention <i>noun</i>	use of conservation measures that maintain natural resources and their environmental and productive
Mitigation <i>noun</i>	intervention intended to reduce ongoing degradation. This comes in at a stage when degradation has already begun

Word	Meaning
<i>Rehabilitation noun</i>	is required when the land is already degraded to such an extent that the original use is no longer possible
<i>Desertification noun</i>	another common term used for (a) land degradation in dryland areas

Read and translate Text A

Text A SOIL DEGRADATION

Soil degradation is defined as a change in the soil health status resulting in a diminished capacity of the ecosystem to provide goods and services for its beneficiaries. Degraded soils have a health status such, that they do not provide the normal goods and services of the particular soil in its ecosystem.

Soil degradation is a serious global environmental problem and may be exacerbated by climate change. It encompasses physical, chemical and biological deterioration. Examples of soil degradation include loss of organic matter, decline in soil fertility, decline in structural condition, erosion, adverse changes in salinity, acidity or alkalinity, and the effects of toxic chemicals, pollutants or excessive flooding.

Soils host the majority of the world's biodiversity and healthy soils are essential to securing food and fibre production and providing an adequate water supply over the long term. Ecosystem services provided by soils are integral to the carbon and water cycles and include cultural functions. There are strong links between climate change and soil condition. Increases in soil carbon can help to mitigate Australia's greenhouse gas emissions and enhance adaptation to climate change.

Soils are one of NSW's fundamental natural resources. Therefore, maintaining and improving the condition of the State's land and soil resources by avoiding soil degradation is crucial to our well-being. The NSW State Plan includes two State-wide targets for land and soil management. They are:

- improve soil condition
- increase the area of land managed within its capability.

Types of Soil Degradation:

Soil degradation can be classified into four main types of degradation: water erosion, wind erosion, chemical deterioration and physical deterioration.

Water Erosion

Water erosion means that soil particles are detached either by splash erosion (caused by raindrops), or by the effect of running water. Water erosion

is influenced by four factors: rainfall, soil type, slope gradient, and soil use/vegetation cover.

Rainfall: The impact of raindrops on the soil surface can break down soil aggregates and disperse the aggregate material over the surface. Lighter aggregate materials such as very fine sand, silt, clay and organic matter can be easily removed by the raindrop splash and runoff water. Greater raindrop energy or runoff amounts might be required to move the larger sand and gravel particles. Runoff can occur whenever there is excess water on a slope that cannot be absorbed into the soil or trapped on the surface. The amount of runoff can be increased if infiltration is reduced due to soil compaction, crusting or freezing.

Soil type: Soil erodibility is an estimate of the ability of soils to resist erosion, based on the physical characteristics of each soil type. In general, soils with faster infiltration rates, higher levels of organic matter and improved soil structure have a greater resistance to erosion. Sand, sandy loam and loam-textured soils tend to be less erodible than silt, very fine sand, and certain clay textured soils.

Slope gradient: Naturally, the steeper the slope of a field, the greater the amount of soil loss from erosion by water. Soil erosion by water also increases as the slope length increases due to the greater accumulation of runoff.

Soil use: Plant and residue cover protects the soil from raindrop impact and splash, tends to slow down the movement of surface runoff and allows excess surface water to infiltrate.

Wind Erosion

The rate and magnitude of soil erosion by wind is influenced by the following factors:

Erodibility of soil: Wind can suspend very fine particles and then transport it over great distances. Fine and medium size particles can be lifted and deposited, while coarse particles can be blown along the surface (commonly known as the saltation effect).

Soil surface roughness: Soil surfaces that are not rough or ridged offer little resistance to the wind. However, over time, ridges can be filled in and the roughness broken down by abrasion to produce a smoother surface susceptible to the wind.

Climate: The speed and duration of the wind has a direct connection to the extent of soil erosion. Soil moisture levels can be very low at the surface during periods of drought, thus releasing the particles for transport by wind.

Vegetative cover: The lack of permanent vegetation cover in certain locations has resulted in extensive erosion by wind. Loose, dry, bare soil is the most susceptible. The most effective vegetative cover for protection should include an adequate network of living windbreaks combined with good tillage, residue management, and crop selection.

Chemical Deterioration

Chemical deterioration as a type of soil degradation involves loss of nutrients or organic matter, salinisation, acidification, soil pollution, and fertility decline. The removal of nutrients reduces the capacity of soils to support plant growth and crop production and causes acidification. In arid and semi-arid areas problems can arise due to accumulation of salts, which impedes the entry of water in plant roots. Soil toxicity can be brought about in a number of ways. Typical examples are from municipal or industrial wastes, oil spills, the excessive use of fertiliser, herbicides and insecticides, or the release of radioactive materials and acidification by airborne pollutants.

Physical Deterioration

Physical deterioration involves soil crusting, sealing and compaction and can be caused by several factors like compaction through heavy machines or animals. This problem occurs in all continents, under nearly all climates and soil physical conditions, but has increased with the use of heavy machinery. Soil crusting and compaction tend to increase runoff, decrease the infiltration of water into the soil, prevent or inhibit plant growth and leave the surface bare and subject to other forms of degradation. Severe crusting of the soil surface because of breakdown of soil aggregates can inhibit water entry into the soil and prevent seedling emergence.

Exercise 1. Answer the following questions:

1. What is soil degradation?
2. Why healthy soils are so important?
3. There are strong links between climate change and soil condition, aren't they? Why?
4. What kinds of soil degradation are?
5. What can water erosion be caused by?
6. What is the impact of raindrops on the soil surface?
7. How do you understand the term "the saltation effect"?
8. How can the wind cause the erosion?
9. What are the examples of chemical degradation?
10. What is physical deterioration? Why is it harmful for the soil?

Exercise 2. Translate the following word combinations:

Loss of nutrients, lack of permanent vegetation, soil surface roughness, the world's biodiversity and healthy soils, water cycle, within its capability, toxic chemicals, excessive flooding, inhibit plant growth, speed and duration, soil moisture levels, can be filled in, plant and residue cover, crop selection, greater raindrop energy, decline in soil fertility, to be detached by, to prevent seedling emergence, water in plant roots.

Exercise 3. Give English equivalents:

Зміни в ґрунті, втрата органічних речовин, затоплення, кругообіг води, підтримка, поліпшення умов ґрунту, загальнодержавна мета, важка техніка, проникнення води, забруднення повітря, поверхні ґрунту, сильний вітер, прямий зв'язок, сповільнити, пригнічувати ріст, управління відходами.

Exercise 4. Pick out the synonyms from the words given below, remember them:

Nutrient, distance, capability, energy, to avoid, to pour, biogenic, to increase, plants, to unite, force, contamination, link, opportunity, synthetic, boost, to prevent, vegetation, to combine, to fill, chemical, to extend, length, connection, pollution, improve.

Exercise 5. Complete the following sentences:

1. Examples of soil degradation include.....
2. The amount of runoff can be increased if.....
3. Soils are one of NSW's fundamental.....
4. Soil degradation can be classified into four main types.....
5. The speed and duration of the wind has a direct connection to.....
6. Plant and residue cover protects the soil from.....
7. Severe crusting of the soil surface because of breakdown of soil aggregates can.....
8. Runoff can occur whenever there is excess water on....
9. Soils host the majority of the world's biodiversity and....
10. The removal of nutrients reduces the capacity of soils to support plant growth and....

Read and translate Text B.

Text B

10 WAYS TO CONSERVE SOIL

1. Forest Protection

The natural forest cover in many areas has been decreased due to commercial activity. One of the purposes this cover provided was the protection of the soil. Businesses involved in building can conserve by ensuring these areas are protected.

2. Buffer Strips

Soil erosion is a large problem that is being battled around the country. This is particularly an issue where there are natural bodies of water. Buffer

strips come in handy for conservation efforts. They provide protection where stream banks exist. They can be created with grass, trees and shrubs.

3. Fewer Concrete Surfaces

Soil requires an adequate amount of water in order to function properly. Lots of concrete surfaces, especially in residential areas make it difficult for water to get to the soil. Using paving stones for patios and gardens work to protect the soil. They are also a tool to prevent soil erosion in specific areas.

4. Plant Windbreak Areas

Windbreaks are composed of shrubs, plants and trees. They work in combination and serve a conservation purpose. These will work together to slow the force of wind over ground areas. This is a method that can also work to prevent erosion of the soil.

5. Terrace Planting

This type of planting is done by maximizing the topography of the land. It benefits from the way the rain water flows naturally. This is a way to protect the soil from erosion. It is also a proven method to encourage growth from moist soil areas.

6. Plant Trees

Simply planting trees is a good conservation method. As the tree grows, its roots become even more secure in the soil. This soil is protected in numerous ways because of the trees existence. Erosion is prevented from this planting process.

7. Crop Rotation

The way you plant your crops can have an impact on the soil. Crop rotation is a process that works to conserve soil. It is accomplished by planting and growing a series of different crops in the same soil. This process prevents overgrowth of pathogens and a lack of fertility in the soil, overall.

8. Water the Soil

This is a simple process that provides a lot of benefits to the soil. Watering your soil along with plants and vegetables is important. This helps to not only nourish the soil but to protect it. Moist soil is not in danger of erosion due to wind activity.

9. Add Earthworms

There are a variety of things that live in the soil around us. You can add earthworms to your soil to ensure its health. This is a conservation method that encourages the decomposition of organic material. This is what earthworms do on a regular basis. They increase the soil's ability to absorb nutrients.

10. Afforestation

Planting trees is a method of conserving the soil. Protecting the areas under trees, also called afforestation, is another method. This means planting foliage in forest undergrowth areas. This works to encourage healthy soil and water absorption.

Exercise 1. Translate Text B in writing.

Read, translate and retell Text C.

Text C

CHERNOZEM

Chernozem - translated as "black soil, dirt or earth") is a black-coloured soil containing a high percentage of humus (7% to 15%), and high percentages of phosphoric acids, phosphorus and ammonia. Chernozem is very fertile and produces a high agricultural yield.

The chernozems of central Ukraine, among the most fertile soils in the world, occupy about two-thirds of the country's area. These soils may be divided into three broad groups: in the north a belt of the so-called deep chernozems, about 5 feet (1.5 metres) thick and rich in humus; south and east of the former, a zone of prairie, or ordinary, chernozems, which are equally rich in humus but only about 3 feet (1 metre) thick; and the southernmost belt, which is even thinner and has still less humus. Interspersed in various uplands and along the northern and western perimeters of the deep chernozems are mixtures of gray forest soils and podzolized black-earth soils, which together occupy much of Ukraine's remaining area. All these soils are very fertile when sufficient water is available. However, their intensive cultivation, especially on steep slopes, has led to widespread soil erosion and gulying.

The smallest proportion of the soil cover consists of the chestnut soils of the southern and eastern regions. They become increasingly salinized to the south as they approach the Black Sea.

There are two "chernozem belts" in the world: the Eurasian steppe which extends from eastern Croatia (Slavonia), along the Danube (northern Serbia, northern Bulgaria (Danubian Plain), southern Romania (Wallachian Plain) and Moldova) to northeast Ukraine across the Black Earth Region and southern Russia into Siberia, and the other from the Canadian Prairies in Manitoba through the Great Plains of the United States as far south as Kansas. Similar soil types occur in Texas and Hungary. Chernozem layer thickness may vary widely, from several inches up to 60 inches (1.5 metres) in Ukraine.

The terrain can also be found in small quantities elsewhere (for example, on 1% of Poland). It also exists in Northeast China, near Harbin. The only true chernozem in Australia is located around Nimmitabel producing some of the richest soils in the nation.

Exercise 1. Answer the following questions:

1. What is chernozem?
2. What does chernozem consist of?

3. Chernozem is called – “black soil”, isn’t it? Why?
4. Where can you find chernozem in Ukraine?
5. Where can you find chernozem outside Ukraine?
6. How many "chernozem belts" are in the world?

Exercise 2. Pick out the synonyms from the words given below, remember them:

to exist, wood, highland, sufficient, growing, district, combination, different, agriculture, to create, soil, to be, ground, forest, enough, mixture, to produce, cultivation, region, farming, various, upland.

Exercise 3. Read and title the text:

Soil is the name for the top layer of earth. Typically, soil is softer than the rocky layers beneath it. It is also usually of a black or brown hue. It is made up of smaller particles, which clump together when wet. Soil is nutritious and rich in minerals – and as such plants need it to survive. Soil is a valuable resource of India. Much of the Indian agriculture depends upon the extent and qualities of soil. Weathering prepares loose materials on the surface of the Earth and mixed with decayed organic matters it forms soil. India is a large country and witnesses diverse range of climatic and other natural conditions. The nature of soil in a place is largely influenced by such factors as climate, natural vegetation and rocks. The various types of soil found in India includes Alluvial soil, Laterite soil, Red soil, Black soil, Desert soil, and Mountain soil. They are each discussed below.

Grammar exercises

Exercise 1

a) Gerund may be followed by the following verbs. Read, translate and learn:

Advise	allow	anticipate	appreciate	avoid
Begin	can't bear	can't help	can't see	can't stand
Cease	complete	consider	continue	defend
Delay	deny	despise	discuss	dislike
Don't mind	dread	encourage	enjoy	finish
Forget	hate	imagine	involve	keep
Like	love	mention	mind	miss
Need	neglect	permit	postpone	practice
Prefer	propose	quit	recall	recollect
Recommend	regret	remember	report	require
Resent	resist	start	stop	suggest
Tolerate	try	understand	urge	

b) Translate the following sentences. Pay attention to the use of the Gerunds:

1. Doctors generally advised doing exercise. 2. The European Union doesn't allow smoking in bars. 3. I anticipated getting stuck in traffic. 4. I appreciated Danny helping me. 5. He avoided talking to her. 6. I began learning Spanish. 7. He can't bear being late. 8. He can't help drinking so much. 9. I can't see us living in London. 10. He can't stand her smoking in the street. 11. The government ceased providing free healthcare. 12. He completed renovating the house. 13. She considered moving to Amsterdam. 14. He continued talking. 15. The lawyer defended her making such statements. 16. He delayed replying to the letter. 17. He denied committing the crime. 18. She despises waking up early. 19. We discussed working at the company. 20. She dislikes being ignored. 21. I don't mind helping you. 22. She dreads meeting her in-laws. 23. He encourages eating healthy foods. 24. We enjoy swimming. 25. He finished doing his homework. 26. I forgot giving you my book. 27. I hate doing the ironing. 28. He imagines working there one day. 29. The job involves travelling to Japan once a month. 30. She kept interrupting me. 31. She likes listening to music. 32. I love reading. 33. He mentioned going to the theatre tonight. 34. Do you mind waiting here for a few minutes. 35. She misses living near the shops. 36. The aquarium needs cleaning. 37. Sometimes she neglects doing her homework. 38. Most hotels do not permit smoking in restaurants. 39. He postponed returning to Paris. 40. She practiced singing the song. 41. He prefers sitting at the back of the movie theatre. 42. I proposed having lunch at the beach. 43. She quit worrying about the problem. 44. Tom recalled using his credit card at the store. 45. She recollected living in Spain. 46. Tony recommended taking the train. 47. She regretted saying that. 48. I remember telling her the address yesterday. 49. He reported her using office property for her personal use. 50. The certificate requires completing two courses. 51. Peter resented Danny's being there. 52. He resisted asking for help. 53. He risked being caught. 54. He started studying harder. 55. She stopped working at 5 o'clock. 56. They suggested staying at the hotel. 57. I tolerated them being at the party. 58. Sam tried opening the lock with a paperclip. 59. I understand his quitting. 60. They urge recycling bottles and paper.

Exercise 2. Complete the sentences with the gerund form of the verbs in brackets:

1. She is good at (dance) . 2. He is crazy about (sing) . 3. I don't like (play) cards. 4. They are afraid of (swim) in the sea. 5. You should give up (smoke) . 6. Sam dreams of (be) a popstar. 7. He is interested in (make) friends. 8. My uncle is afraid of (go) by plane. 9. We insist on (cook) the dinner ourselves. he likes (paint) 10. I can't bear (listen) to loud music. 11. He enjoys (play) tennis. 12. Leila dreams of (set) up her own business. 13. He is interested in (emigrate) to Canada. 14. Are you good at (dance)? 15. She is crazy about

(read) romantic poems. 16. I can't help (laugh) when I watch Mr Bean. 17. I can't imagine (be) anywhere else but here .

Exercise 3. Put the verb in brackets into either the gerund (-ing) or the infinitive (with 'to'):

1. I don't fancy (go) out tonight. 2. She avoided (tell) him about her plans. 3. I would like (come) to the party with you. 4. He enjoys (have) a bath in the evening. 5. She kept (talk) during the film. 6. I am learning (speak) English. 7. Do you mind (give) me a hand? 8. She helped me (carry) my suitcases. 9. I've finished (cook) - come and eat!. 10. He decided (study) biology. 11. I dislike (wait). 12. He asked (come) with us. 13. I promise (help) you tomorrow. 14. We discussed (go) to the cinema, but in the end we stayed at home. 15. She agreed (bring) the pudding to the dinner. 16. I don't recommend (take) the bus - it takes forever!. 17. We hope (visit) Amsterdam next month. 18. She suggested (go) to the museum. 19. They plan (start) college in the autumn. 20. I don't want (leave) yet.

Exercise 4. Read for Errors. Find mistakes in the text and correct them:

Teaching a new puppy to walk on a leash takes a little bit of practice. The puppy will be playful but not very focused.

Find the right harness is very important. For a puppy, you will want one that attaches to the dog's chest not the dog's neck. Pull the puppy will cause the body of the dog to move forward. If the dog resists or pulls against you, don't force it.

Put a treat in front of the dog is another way to get the dog to walk ahead. Let the dog smell the treat in your hand.

Then, walk forward. The dog's nose will follow. Don't let the dog have the treat right away. Let the dog take a few steps before rewarding the dog.

Use a tasty treat to encourage a specific behavior is very effective. With a little bit of practice, a lot of patience, and love, your puppy will become your walking companion.

Exercise 5. Choose the correct form of the verb in brackets:

1. Eliza recommended (eating / to eat) in a Dim Sum restaurant while we're in Hong Kong.

2. I demand (talking / to talk) to the manager of the hotel immediately.

3. My grandmother recalled (to see / seeing) a plane for the very first time when she was six.

4. She claims (being / to be) related to George Washington, but I don't believe her.

5. This broken bicycle needs (to fix / fixing) before someone can ride it.

6. I can't understand (driving / to drive) such a big car when gas prices are so high, not to mention what it does to the environment.

7. She refused (to speak / speaking) to me after our fight.

8. The wilderness adventure course lasts ten days and involves (to hike / hiking) more than fifty miles through rugged mountainous terrain.

9. Don't hesitate (asking / to ask) for help if you don't understand the directions.

10. She managed (communicating / to communicate) with them, even though she didn't speak their language.

Exercise 6. Put the verb in brackets into the gerund or the infinitive:

1. It appears (be) raining. 2. We intend (go) to the countryside this weekend. 3. I pretended (be) sick so I didn't have to go to work. 4. Can you imagine (live) without TV? 5. They tolerate (smoke) but they prefer people not to. 6. I anticipate (arrive) on Tuesday. 7. A wedding involves (negotiate) with everyone in the family. 8. He denies (steal) the money. 9. He claims (be) a millionaire but I don't believe him. 10. I expect (be) there about seven. 11. Julia reported (see) the boys to the police. 12. It tends (rain) a lot in Scotland. 13. Do you recall (meet) her at the party last week? 14. She mentioned (go) to the cinema, but I don't know what she decided to do in the end. 15. The teenager refused (go) on holiday with his parents. 16. I understand (be) late once or twice, but every day is too much! 17. I would prefer you (come) early if you can. 18. That criminal deserves (get) a long sentence. 19. She completed (paint) her flat. 20. We arranged (meet) at four but at four thirty she still hadn't arrived.

Exercise 7. Translate the sentences using the gerund:

1. Ми проти того, щоб відправляти його на конференцію.
2. Ви повинні уникати змін в умовах поставки.
3. Вибачте, що турбую вас.
4. Я пропоную обговорення умов платежу.
5. Перед тим, як підписати контракт, ми повинні вивчити всі його умови.
6. Йому не подобається гаяти час.
7. Вони припинили продавати товар у кредит.
8. Ми відчуваємо великі труднощі з фрахтуванням судна.
9. Ми зацікавлені у проведенні випробувань.
10. Вибачте, що я поставив це запитання.

Exercise 8. Fill in the gerund with the correct preposition:

1. She is looking forward his aunt in Chicago. (visit)
2. My wife is keen pop songs. (sing)
3. His mother was excited to Africa. (go)
4. The secretary carried the letter. (type)
5. The construction workers worried their jobs. (lose)
6. They tried to cope in bad weather. (work)
7. The pupil is known problems. (cause)
8. My wife apologized late. (be)
9. The teacher always keeps his timetable. (complain)
10. I insisted the dog for a walk myself. (take)
11. The teenager is addicted TV. (watch)
12. The actor is famous crazy once in a while. (be)
13. The money will be devoted the environment. (protect)
14. The au-pair succeeds the children busy for some time. (keep)
15. He blamed me the CD player. (damage)
16. George Clooney is proud in humanitarian projects. (take part)
17. I'm tired the same things over and over again. (repeat)
18. She said she was sorry the vase. (break)
19. She is scared alone at night. (be)
20. I'm very excited tomorrow's game. (attend)
21. Jamie is sick hamburgers all the time. (eat)
22. She ran away behind her. (look)
23. The hikers are worried enough water. (not have)
24. We are accustomed our own bath. (have)
25. He has a habit in the morning. (smoke)
26. The main disadvantage is that planes are often delayed. (fly)
27. Her reputation difficult games is well-known. (win)
28. My sister has got a talent languages. (learn)
29. He took credit the goal. (score)
30. She has a lot of experience with mentally ill patients. (deal)

Test 1. Choose the correct variant:

1. I would like you and some of my other friends for dinner some time.
a) invite b) inviting c) to invite
2. Let's get together tonight. I want to talk about a new business.
a) opening b) open c) to open

3. Don't switch off the light. The child is afraid in the dark.
a) of sleeping b) to sleep c) sleep
4. George has a Newfoundland dog, Strickland by name, and he is responsible it twice a day.
a) for walking b) walk c) to walk
5. As an English proverb says "It's no use over spilt milk."
a) cry b) to cry c) crying
6. His son's car crashed into a wall. The terrible tragedy prevented him doing what was right or reasonable.
a) of b) from c) in
7. Where do you and your friends plan for the next summer vacations?
a) go b) going c) to go
8. Helen seemed genuinely pleased seeing me.
a) with b) at c) on
9. My big grey cat Fluffy is good mice.
a) to catch b) at catching c) catch
10. I don't like these shorts; they are too tight.
a) to wear b) wearing c) wear

Test 2. Choose the correct variant:

1. I prefer jeans in winter and light shorts in summer.
a) wearing b) to wear c) wear
2. Sheila is very upset. She isn't used being treated like that.
a) on b) to c) in
3. Don't be afraid into the swimming pool; it's quite deep.
a) of diving b) to dive c) dive
4. Lorna intended to help him lending him some money.
a) on b) while c) through
5. I enjoy making practical jokes about people, but I hate fun of.
a) being made b) to make c) making
6. At the beach I noticed a lot of people the same sandals as mine.
a) to wear b) wearing c) wear
7. A: I can't remember if I've taken my tablets today.
B: I saw you two after breakfast.
a) took b) take c) to take
8. I'm sorry annoyed with you last night. I was tired.
a) for getting b) I get c) to get
9. I'm sorry your friend, Caroline. I shouldn't have said what I said.
a) for criticizing b) to criticize c) I criticize

10. Hannah and I had some good times _____ a house.
a) sharing b) we shared c) having shared

Test 3. Choose the correct variant:

1. Nina can't walk, but that doesn't stop her abroad.
a) travel b) to travel c) traveling
2. Do you think Philip would be interested volleyball on Saturday?
I'm trying to organise a game.
a) to play b) of playing c) in playing
3. I'm sorry _____ you this again, but what's your address?
a) for asking b) to ask c) I ask
4. Why did you decide _____ for the job at the bakery?
a) against applying b) not applying c) to applying
5. I don't think I'll have the energy tomorrow after work.
a) for to go out b) to go out c) to going out
6. When I go camping, it takes me a night or two to get used in a tent.
a) to sleep b) sleeping c) to sleeping
7. Hundreds of people have helped us money for the children's hospital.
a) to raise b) to raising c) raising
8. If someone's angry with me, I like _____ the reason.
a) to know b) knowing c) to have known
9. a big lunch, I wasn't hungry until late in the evening.
a) eating b) having eaten c) for eating
10. I regret that I will be unable to attend the conference in July. I hope it is a success.
a) to say b) say c) saying

Test 4. Choose the correct variant:

1. Mary: I'm very sorry.
Jame: You don't need You haven't done anything wrong.
a) to apologise b) apologise c) apologizing
2. This cupboard is full of very old clothes. Most of them need away.
a) to throw b) throw c) throwing

3. I'm really fed up with David me all the time. He says some horrible things to me.

- a) to criticizing b) criticizing c) to criticize

4. Greg won the competition despite only 16.

- a) to be b) to being c) being

5. If someone's angry with me, I like the reason.

- a) to know b) knowing c) to have known

6. I'm sorry. I didn't understand what you said. Would you mind it again to me?

- a) to explain b) explaining c) explain

7. George: Would you like to be a film star?

Finn: I'd rather a pop star.

- a) to be b) be c) being

8. Jack: Shall we keep these magazines?

Helen: I'd prefer them away. They're very old.

- a) to throw b) throw c) throwing

9. I regret that I will be unable to attend the conference in July. I hope it is a success.

- a) to say b) say c) saying

10. Owen has offered me his computer for a few weeks.

- a) to lend b) lend c) lending

Test 5. Choose the correct variant:

1. In last week's match, I felt someone suddenly me in the face, but I don't remember anything after that.

- a) hit b) to hit c) hitting

2. Selena: When did Michelle leave?

Smith: I don't know. I didn't see her

- a) go b) going c) to go

3. John carried on even though no one was listening.

- a) to talk b) talking c) having talked

4. Nina can't walk, but that doesn't stop her abroad.

- a) travel b) to travel c) traveling

5. Could you give me the list of people coming to the conference all their names?

- a) to have b) for to have c) so that I have

6. We couldn't find anywhere in the town centre.

- a) to stay b) for staying c) to staying

7. Please remind me Sam about this place. He would love it here.

- a) tell b) to tell c) telling

8. Do you want you from the station this evening?

- a) that we collect b) we to collect c) us to collect

9. I'm going to London tomorrow, but I haven't decided yet or go by train.

a) whether I drive b) whether to drive c) whether drive

10. I was interested that the principal of my college is going to retire next year.

a) to read b) in reading c) for reading

LESSON 3

Pre-text exercise.

1. Read and remember the following words and their meaning:

Word	Meaning
Harmful	causing or capable of causing harm; injurious
Pollution noun	the action of polluting especially by environmental contamination with man-made waste; also : the condition of being polluted
<i>To survive verb</i>	to remain or continue in existence or use
Circumstance noun	a condition, detail, part, or attribute, with respect to time, place, manner, agent, etc., that accompanies, determines, or modifies a fact or event; a modifying or influencing factor
<i>Chemical noun</i>	a substance produced by or used in a chemical process
<i>Damage noun</i>	loss or harm resulting from injury to person, property, or reputation

Read translate and retell Text A

Text A

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 are 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 on 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.

Exercise 1. Answer the following questions:

1. When does water pollution occur?
2. Why do plants and animals require pure water?
3. What are the major water pollutants?
4. How can pollutants be separated?
5. How do petroleum products affect the animals?
6. Why can pesticides and herbicides be dangerous if they penetrate into streams, rivers and lakes?
7. What do heavy metals result in?
8. How do fertilizers penetrate to water?
9. What damage can thermal pollution cause?

Exercise 2. Translate the following words and word combinations:

pollution, to occur, mostly, environment stream, underground water, bay, harmful, living beings, to contain, to require, moderately, to survive, quantity, shellfish, to harvest, to ingest, to lessen, —petroleum products, fuel, lubrication, accidental, to spill, tanker truck, leak, underground storage tank, poisonous, to penetrate, to remain, to absorb, tissue, contaminated, to suffer, lethal form, exhausts, to cause damage, liver, kidney, nutrient, sewage, storm drains, circumstance.

Exercise 3. Translate the following word combinations:

Помірно, паливо, пошкодження нирок, отрута, розлита нафта, щоб перегрузити, чиста вода, струми та озера, відпочивати, кілька різних класів, дуже небезпечно, протягом тривалого часу, природній ґрунт, страждати, тканини, залишатися, в основному, кількість, затока.

Exercise 4. Pick out the synonyms from the words given below, remember them:

to happen, variety, to influence, wastewater, hazardous, organic, gulf, harm, origin, to occur, condition, harvest, natural, food-chain, to draw,

circumstance, runoff, gasoline, crop, sewage, to cause damage, species, to attract, food pyramid, dangerous, bay, fuel, to affect, source, drain.

Exercise 5. Retell Text A.

Read and translate Text B

Text B

MARINE POLLUTION

The oceans are so vast and deep that until fairly recently, it was widely assumed that no matter how much trash and chemicals humans dumped into them, the effects would be negligible. Proponents of dumping in the oceans even had a catchphrase: "The solution to pollution is dilution."

There is evidence that the oceans have suffered at the hands of mankind for millennia, as far back as Roman times. But recent studies show that degradation, particularly of shoreline areas, has accelerated dramatically in the past three centuries as industrial discharge and runoff from farms and coastal cities has increased.

Pollution is the introduction of harmful contaminants that are outside the norm for a given ecosystem. Common man-made pollutants that reach the ocean include pesticides, herbicides, chemical fertilizers, detergents, oil, sewage, plastics, and other solids. Many of these pollutants collect at the ocean's depths, where they are consumed by small marine organisms and introduced into the global food chain. Scientists are even discovering that pharmaceuticals ingested by humans but not fully processed by our bodies are eventually ending up in the fish we eat.

Many ocean pollutants are released into the environment far upstream from coastlines. Nitrogen-rich fertilizers applied by farmers inland, for example, end up in local streams, rivers, and groundwater and are eventually deposited in estuaries, bays, and deltas. These excess nutrients can spawn massive blooms of algae that rob the water of oxygen, leaving areas where little or no marine life can exist. Scientists have counted some 400 such dead zones around the world.

Solid waste like bags, foam, and other items dumped into the oceans from land or by ships at sea are frequently consumed, with often fatal effects, by marine mammals, fish, and birds that mistake it for food. Discarded fishing nets drift for years, ensnaring fish and mammals. In certain regions, ocean currents corral trillions of decomposing plastic items and other trash into gigantic, swirling garbage patches. One in the North Pacific, known as the Pacific Trash Vortex, is estimated to be the size of Texas. A new, massive patch was discovered in the Atlantic Ocean in early 2010.

Pollution is not always physical. In large bodies of water, sound waves can carry undiminished for miles. The increased presence of loud or persistent sounds from ships, sonar devices, oil rigs, and even from natural sources like

earthquakes can disrupt the migration, communication, hunting, and reproduction patterns of many marine animals, particularly aquatic mammals like whales and dolphins.

Humans are beginning to see the shortsightedness of the "dilution" philosophy. Many national laws as well as international protocols now forbid dumping of harmful materials into the ocean, although enforcement can often be spotty. Marine sanctuaries are being created to maintain pristine ocean ecosystems. And isolated efforts to restore estuaries and bays have met with some success.

Exercise 1. Answer the following questions:

1. What are the main sources of ocean pollution?
2. Do animals suffer from water pollution?
3. How do you understand the term "shoreline area"?
4. What are marine sanctuaries being created for?
5. Are there any laws prohibiting the release of toxic materials into the ocean?
6. What are there damaging effects of sound waves?

Exercise 2. Translate Text B in writing.

Exercise 3

a) Read the dialogue and translate it:

Anna: Hello James! How are you?

James: I am fine. What about you?

Anna: I am fine too. But I am somewhat worried about water pollution.

James: Yes, it is very alarming that the water of canals, rivers, and tanks is getting polluted day by day.

Anna: Exactly! This polluted water causes much harm to us.

James: But man is mainly responsible for water pollution. They pollute water by throwing waste into it.

Anna: Yes, farmers also use chemical fertilizers and insecticides in their fields. Rain and floods wash away some of the chemicals.

James: Right you are. And these chemical fertilizers and insecticides get mixed with the water of canals, ponds, and rivers, and thus pollute water.

Anna: Mills and factories also pollute water by the waste materials.

James: Exactly! Leaking of oil from water vehicles, dead bodies, and rotten debris of animals and plants also contribute much to water pollution.

Anna: Besides, germs of diseases and insanitary latrines are other factors that pollute water.

James: So, it is high time to stop water pollution. But how can we prevent water from being polluted?

Anna: Water pollution can be prevented in many ways. But the main way is to make people aware of the importance of pure water.

James: I agree with you. There is no alternative to make people aware of the bad effects of water pollution.

Anna: Thank you very much for discussing such an important issue.

James: You are most welcome. See you again.

b) Now think about this problem and express your ideas about *how can we prevent water from being polluted?* Discuss it in your group.

Read and translate Text C

Text C CONTAMINATION OF THE BLACK SEA

Pollution, loss of biodiversity and coastal degradation have been identified as the major issues affecting the environmental state of the Black Sea. Scientists have identified several serious problems for the Black Sea associated with various types of pollution. The eutrophication phenomenon or the over-fertilization of the sea by compounds of nitrogen and phosphorus (also called nutrients), largely as a result of pollution from agricultural, domestic and industrial sources is a major transboundary pollution issue. This is a process degrading the Black Sea. Eutrophication has changed the structure of the Black Sea ecosystem. It has been estimated that the six coastal countries contribute about 70% of the total amount of nutrients flowing to the Black Sea as waste from human activities. Some of this amount and nearly all of the remaining 30% (from the countries with no direct access to the sea) enter the Black Sea through the Danube River.

In recent years chemical pollution has been identified as the most serious transboundary problem. Oil pollution threatens the Black Sea coastal ecosystems and the levels of pollution are unacceptable in many coastal areas and river mouths. Oil enters the marine environment as a result of operational or accidental discharges from vessels, as well as through insufficiently treated wastewaters from land based sources. Other toxic substances such as pesticides and heavy metals appear mostly as 'hot spots' near well identified sources. Heavy metals such as cadmium, copper, chromium and lead are usually associated with waste from the heavy industry and ash remaining from burning coal for generating electricity. Pesticides enter the sea mostly through rivers and streams due to agriculture.

Another major problem is the discharge of insufficiently treated sewage waters, which results in microbiological contamination and poses a threat to

public health. Radioactive substances have been introduced to the Black Sea in small quantities from nuclear power plants and in more significant amounts after the nuclear power plant disaster in Chernobyl in 1986.

An unusual form of pollution from ships is the introduction of exotic species, mostly through exchange of ballast waters or other wastewaters. Introduced by accident into the Black Sea they proliferate in the new environment for lack of natural predators that can limit their numbers. The final major type of problematic pollutants is solid waste, dumped into the sea from ships and some coastal towns. Any floating or semi-submerged waste inevitably ends on the seashore. Therefore the Black Sea beaches tend to accumulate a lot of garbage, which is unsightly and presents a risk to the health of humans and marine species.

Exercise 1. Translate the following word combinations:

Major problem, health of humans, human activities, coastal towns, to accumulate, microbiological contamination, pesticides and heavy metals, over-fertilization of the sea, various types of pollution, nitrogen and phosphorus, through rivers and streams, nuclear power plant, waste from the heavy industry, environmental state of the Black Sea, marine species, well identified sources, are unacceptable, in recent years.

Exercise 2. Write a summary of the Text C.

Note that:

- **A summary begins with an introductory sentence** that states the article's title.
- **A summary must contain the main thesis or standpoint of the text**, restated in your own words.
- **A summary is written in your own words.**
- **A summary is always shorter than the original text**, often about 1/3 as long as the original.

Grammar exercises

Exercise 1. Fill in the present participle:

1. an (interest)..... book
2. a (sleep)..... child
3. two (play)..... dogs
4. the (win)..... Number

5. several (travel)..... bags
6. the (move)..... power
7. a (touch)..... Moment
8. an (excite)..... Film
9. a (work)..... man
10. (run)..... water

Exercise 2. Rewrite the sentences replacing the underlined part with a present participle:

Example: .She was talking to her friend and forgot everything around her.

Talking to her friend she forgot everything around her.

1. *Since we watch the news every day we know what's going on in the world.*
2. *They are vegetarians and don't eat meat.*
3. *The dog wagged its tail and bit the postman.*
4. *While she was tidying up her room she found some old photos.*
5. *He was a good boy and helped his mother in the kitchen.*
6. *As they didn't have enough money they spent their holidays at home last year.*
7. *The man was sitting in the cafe. He was reading a paper.*
8. *Since I didn't feel well I didn't go to the cinema.*
9. *She walked home and met an old friend.*

Exercise 3. Fill in the Past Participle:

1. the (lose)..... son
2. an (interest)..... Audience
3. a (break)..... Leg
4. an (empty)..... Bottle
5. a (close)..... door
6. a (decorate)..... Room
7. two (pack)..... bags
8. the (write)..... letters
9. the (sell)..... Car
10. the (buy)..... apples

Exercise 4. Complete the sentences and make clear that the people don't / didn't do it themselves:

Example:

Yesterday, (I / cut / my hair).

Yesterday, I had my hair cut.

1. Every Friday, (Joe / wash / his car).
2. Tomorrow, (she / repair / her shower).
3. Each Saturday, (we / deliver / a pizza) to our home.
4. Last year, (Bob / clean / his house) by a charwoman.
5. As Phil had a broken arm, (he / type / his texts) by his secretary.
6. (I / pick up / the goods) tomorrow in the afternoon.
7. (we / redecorate / our walls) last summer.
8. Whenever Clara is staying at this hotel, (she / carry / her bags) into her room.
9. (we / organise / our last party) by professionals.

Exercise 5. Rewrite the sentences replacing the underlined part with a past participle:

Example: I have a cat that is called Tari.

I have a cat called Tari.

1. The dinner was more expensive than they had expected.
2. He was accused of murder and arrested.
3. She was shocked by the bad news and burst into tears.
4. The event is organised by our team and will surely be a great success.
5. The film is based on real events and tells the story of a reporter.
6. She was born in Hollywood and knows all the famous movie stars.
7. The car was taken to the garage. It was repaired within an hour.
8. She was admired by everyone and began to grow arrogant.
9. He was dumped by his girlfriend and felt really lousy.

Exercise 6. Rewrite the sentences replacing the underlined part with a perfect participle:

Example: We switched off the lights before we went to bed.

Having switched off the lights we went to bed.

1. The boy asked his mother's permission and then went out to play.....the boy went out to play.
2. As he had drunk too much, he didn't drive home himself.
..... he didn't drive home himself.
3. We have written two tests today, so we are very exhausted.
..... we are very exhausted.

4. She filled the washing machine and switched it on.
.....she switched it on.
5. She had been to the disco the night before and overslept in the morning she overslept in the morning.
6. We had worked in the garden all day and were sunburned in the evening. we were sunburned in the evening.
7. She had not slept for two days and therefore wasn't able to concentrate..... she wasn't able to concentrate.
8. Since I had not seen him for ages, I didn't recognize him..... I didn't recognize him.
9. I had not ridden a horse for a long time and found it very difficult to keep in the saddle.I found it very difficult to keep in the saddle.

Exercise 7. Fill in the Perfect Participle. Decide whether to use active or passive voice:

1. (stop) the car, the police officer wanted to see the documents.
2. (write) the test, we felt relieved.
3. (work) all day, we were quite exhausted in the evening.
4. (send) to counter 24, I had to return to counter 3.
5. (confess), he was accused of even more criminal offences.
6. (arrive) at the station, we called a taxi.
7. (type) by the secretary, the letter was signed by the boss.
8. (interrupt) several times, he was rather annoyed.
9. (live) in Oxford for two years, she spoke English like a native speaker.
10. (rescue), the injured man was taken to hospital.

Exercise 8. Rewrite the sentences without using the participle constructions:

1. We were sitting around the fire singing songs.
2. Did you see the boy jumping up and down?
3. When going to London, they always did a sightseeing tour.
4. While being on the boat, Bob got seasick.
5. Being an exemplary pupil, he always does his homework.
6. Having told me the news, he went away.
7. The boy excited about the presents sat on the couch.
8. Sleeping in the garden, I didn't hear the telephone.
9. The children were sitting at the beach building a sandcastle.
10. Last month I read a book written by a Scottish author.

Exercise 9. Translate the following sentences. Pay attention to use of Present Participle (Participle I) :

1. People living one hundred years ago knew nothing of radio. 2. Students making such mistakes must work hard at their English. 3. The engineer testing the device is a good specialist. 4. The man standing at the window lectures physics. 5. Take the book from the table standing in the corner of the room. 6. You can find those data in the table hanging on the wall. 7. It is impossible to use the device making such mistakes. 8. The device functioned all the time using the energy of the sun. 9. Testing this device the engineer used some new methods. 10. Studying at school he was interested in physics very much. 11. While studying at the institute he became interested in electricity. 12. While orbiting the Earth the first experimental space station was functioning perfectly well. 13. Working with electricity everyone must be very attentive. 14. He is a thinking student. 15. Translating this text I didn't use the English-Russian dictionary.

Exercise 10. Translate the following sentences. Pay attention to use of Past Participle (Participle II):

1. We stopped before a shut door. 2. They saw overturned tables and chairs and pieces of broken glass all over the room. 3. This is a church built many years ago. 4. The books written by Dickens give us a realistic picture of the 19th century of England. 5. A broken cup lay on the table. 6. The coat bought last year is too small for me now. 7. Nobody saw the things kept in that box. 8. This firm is interested in the purchase of automobiles produced by our plants.

Test 1:

1. The language in Canada is English.
a) to speak b) speaking c) spoken d) speaks
2. The police caught him a car.
a) to steal b) stealing c) stolen d) to be stolen
3. A noise that disturbs someone is a noise.
a) disturb b) disturbance c) disturbed d) disturbing
4. These are the facts by the committee.
a) to gather b) gathering c) gathered d) being gathered
5. That is Mary over there.
a) sitting b) to sit c) to be sat d) being sat

6. I had my suit yesterday.
 a) to press b) pressing c) press d) pressed
7. I am sorry to have kept you so long.
 a) to wait b) waiting c) be waiting d) be waited
8. She kept her eyes all the time.
 a) to close b) closing c) close d) closed
9. They got their car at the garage.
 a) to wash b) washing c) being washed d) washed
10. Can Mary make herself in English?
 a) understood b) understand c) to understand
 d) understanding

Test 2:

1. A worker on an exhausting job is an worker.
 a) exhaust b) exhausting c) to exhaust d) exhausted
2. The President was sitting on the chair by his supporters.
 a) surrounding b) to surround c) surrounded d) surround
3. A beggar was dragging his weary feet with many kids behind.
 a) following b) to follow c) followed d) being followed
4. Before to the college, he had to go through an examination.
 a) admitting b) to admit c) being admitted d) having been admitted
5. I started the clock
 a) to go b) going c) gone d) to be gone
6. The room is crowded, but there are
 a) a few seats to leave b) few seats left c) a few seats left
 d) few seats to leave
7. The dog,, will make a good watch dog.
 a) to train properly b) training properly c) properly to train
 d) trained properly
8. with mine, your audio components are rather expensive.
 a) comparing b) to compare c) to be compared d) compared
9. How was the concert last night? " It was "
 a) disappointing b) disappointed
 c) disappoint d) disappointment
10. All the students felt listening to his lecture.
 a) bored b) boring c) to bore d) bore

Test 3:

1. A man will catch at a straw.
a) drowned b) to drown c) drowning d) being drowning
2. The gentleman sitting with his arms was my boss.
a) folding b) to fold c) folded d) being folded
3. his answer, she sent the second letter.
a) Receiving not b) Not to receive c) Not being received
d) Not having received
4. I saw Professor Lee in the library last night.
a) works b) to work c) working d) worked
5. The concert conducted by Karajan proved very
a) exciting b) excited c) to excite d) being excited
6. Our school, on a hill, commands a fine view.
a) located b) locating c) having located d) to locate
7. A man was killed. " Where is the body of the man ?"
a) murder b) murdered c) murdering d)having murdered
8. all things into consideration, his life is a happy one.
a) Taking b) Having taken c) Take d) To take
9. Beethoven wasted too much time his symphony No. 9.
a) composed b) being composed c) compose d)
composing
10. The name Nebraska comes from the Oto Indian word "nebrathka,"
..... flat water.
a) to mean b) meaning c) it means d) by meaning

Test 4:

1. When I returned home, I found the window open and something.....
a) to steal b) stealing c) stolen d) stole
2.that the train is gone, it is useless to wait.
a) Seen b) Seeing c) Having seen d) To see
3. Standing, on a hill, his villa commands a fine view.
a) as it is b) as it was c) as he does d) as it does
4. Walking along the riverside path,
a) I met several groups of hikers b) the river met several groups of
hikers c) it was several groups of hikers
d) we met by several groups of hikers
5. Hidden by a big tree , his house was not to be seen.
a) as it was b) as it is c) as it did d) as he did

6. Standing, on a hill, his villa commands a fine view.
 a) as it is b) as it was c) as he does d) as it does
7. We will go for a walk in the Grand Park tomorrow, weather
 a) permitting b) to permit c) permitted d) having permitted
8. My father encouraged me in my painting, but never lived to see any of my works in public.
 a) exhibiting b) exhibited c) having exhibited d) exhibit
9. Asked if he could come to the party that night,
 a) nobody said anything. b) they did not get an answer from him.
 c) nothing was said by him. d) Tom nodded his head and left the room.
10. that the train is gone, it is useless to wait.
 a) Seen b) Seeing c) Having seen d) To see

Test 5:

1. She turned to me for help, how to deal with the problem.
 a) not being known b) not knowing c) not having known d) not known
2. A kindness deserves no thanks.
 a) forcing b) forced c) having forced d) to force
3. I want my phone number because people often get the wrong number.
 a) changed b) having changed c) being changed
 d) be changed
4. The captain watched the sailors the steamer.
 a) unloading b) having unloaded c) unload d) unloaded
5. Mrs. Green doesn't explain things well. Her explanations are.....
 a) confused b) confusing c) being confused d) cofuses
6. to see as much as possible of the town, we hired a car.
 a) Having wished b) Wishing c) Wished d) Has wished
7. The girl was sitting with her back to the window, her head half
 a) being turned b) having been turned c) turned d) to turn
8. Lester Fisher was standing at his office window to the street below.
 a) looking down b) look down c) having looked down
 d) looked down
9. Going back to his office, Fisher had a feeling of strong anger and mild grief.
 a) mixing b) mixed c) being mixed d) be mixed

10. Alice didn't like her Biology classes; she thought they were.....
 a) bored b) being boring c) boring d) being bored

LESSON 4

Pre-text exercise.

1. Read and remember the following words and their meaning:

Word	Meaning
Resource noun	a source of supply, support, or aid, especially one that can be readily drawn upon when needed.
Pollution noun	the action of polluting especially by environmental contamination with man-made waste
<i>Smog noun</i>	a fog made heavier and darker by smoke and chemical fumes; also : a photochemical haze caused by the action of solar ultraviolet radiation on atmosphere polluted with hydrocarbons and oxides of nitrogen especially from automobile exhaust
Nuclear waste <i>noun</i>	the radioactive by-products from the operation of a nuclear reactor or from the reprocessing of depleted nuclear fuel.
<i>Ozone noun</i>	an atmospheric layer at heights of about 20 to 30 miles (32 to 48 kilometers) that is normally characterized by high ozone content which blocks most solar ultraviolet radiation from entry into the lower atmosphere
<i>Acidity noun</i>	the quality, state, or degree of being acid

Read and translate Text A

Text A

AIR POLLUTION

Air, is the most essential element for all living organisms and yet, most humans play a big role on polluting this essential resource. Air pollution may not be as dangerous in its direct outcome as nuclear or water pollution can be, but in the long term it will have an tremendous effect on the environment and health of its organisms living in. Asthma, cancer, acid rain, and the disability to photosynthesize are only a few causes of air pollution. The atmospheric pollutants with the greatest effect onto the environment are the carbon monoxide, carbon dioxide, hydrocarbons, sulfur dioxide, nitrogen oxides, dust particles, radioactive isotopes, and chlorofluorocarbons. The major sources that enable carbon monoxide to enter the atmosphere are the exhausts of cars, the burning of fossil fuels, and the oxidation of natural methane. Carbon dioxide is caused by the consumption of fossil fuels only and it causes the possible greenhouse effect which has global warming as an outcome. Hydrocarbons are caused by the combustion of oil and petrol and it effects the environment with carcinogen. Carcinogen is a chemical agent that causes cancer. Sulphur dioxide is certainly one of the major atmospheric pollutants considered that it causes stinging eyes, lung damage, asthma, and acid rain. It is the result of coal-fired power stations. Nitrogen oxides that is produced by the exhaust of cars, causes pneumonia and asphyxia. The outcome of the well known dust particles is often underestimated. It is caused by industrial chimneys, car exhaust, and volcanic eruptions and it effects the environment by toxic effects and damage of the lungs. Radioactive isotopes which are caused by small quantities from nuclear waste and nuclear accidents have an carcinogenic effect on the environment as well. The outcome of chlorofluorocarbons, which had been first discovered in the 80s is that it destroys the ozone layer. Many of those major atmospheric pollutants combined produce the dangerous and well known smoke and gas emission called smog.

Smog or dust dome is most often formed when a layer of cool air is trapped beneath a layer of still warmer air. The mixture of benzopyrene (a cancer causing substance that is produced by the evaporation of petrol), the waste of hydrocarbons, combined with nitrogen dioxide, oxygen, and sunlight produce the photochemical smog which can be recognized as the yellow cloud over every big city in the world. Besides that optical effect it causes an increase of ozone in the lower atmosphere and the health conditions of the particular organism living in such an area. For example, it is estimated that “Washington DC receives 10% less sunlight than at the beginning of the century due to the shielding of atmospheric pollution.” The ozone enters the leaves of plants turning them brown and makes it difficult for plant to photosynthesize. In

addition to that, it causes skin cancer on humans. Most seriously though, it increases the acidity of the rain which is mainly caused by the rise of sulphur dioxide and nitrogen oxides that get caught up by clouds. All ready unpolluted rain is slightly acid due to dissolved carbon dioxide, but polluted rain may be very acidic. The effect of acid rain on terrestrial and aquatic ecosystems can be very different. "In Scandinavia, which receives a high proportion of its air pollution from Britain, once productive lakes are now completely devoid of fish." In addition to its direct effect on water, acid rain allows metal ions such as aluminum, which is highly toxic to fish, to be leached from the soil. Acid rain reduces the growth of trees and disables plants to photosynthesize which destroys them in the long term. It also reduces the activity of nitrogen-fixing bacteria. In the event of a nuclear accident or war, the main risks do lay only partly in the pollution of air and air as a carrier of the polluted particles. The main risks arise from inhalation of contaminant particles, fallout of radioactive isotopes on soil with subsequent incorporation into food, and contamination of water supplies. The outcome of all those pollutant factors are enormous. The smoke from car engines which contains lead, that causes brain damage in children, stinging eyes, damage of the lung, the death rate of 40.000 asthma patients every year, and the destruction of whole forests includes only a few examples of the effects of air pollution. There are many ways to control and reduce air pollution and it is not the lack of technology but the unwillingness of the humans to change their attitudes and life styles.

It exists a wide range of technology for effective air pollution. Emissions of dust can and should be controlled by filters which remove solid particles before gases are discharged. Low sulphure fuels could be used in order to reduce the sulphure emission from coal-fired power stations. For all other forms of waste that get released during production into the air, technology provides a wide range of filters which are able to remove 80-95% of sulphur dioxide gas. The control of emission from the most common pollutant, the car, improvements can be made. The use of lead free patrol and catalytic converters would reduce toxic emissions to a fraction of their present level and prevent damage to the environment. Of course are the big companies the one which produce most waste and cause most pollution, but in order to change and reduce the air pollution, everyone, even the smallest household, needs to change its attitudes and be more responsible with the limited sources the nature is providing. If humans would be less greedy for money and willing to ensure a safe and clean environment for the children of tomorrow, vast improvements could be made that would be beneficial for the whole world.

Exercise 1. Answer the following questions:

1. Why is the air so important?

2. What other kinds of environmental pollution do you know?
3. What diseases can be caused by polluted air?
4. What are the most dangerous pollutants?
5. Do you know the main sources that enable carbon monoxide to enter the atmosphere? What are they?
6. What is a carcinogen? Why is it harmful?
7. What are the toxic elements in the air which affect the lungs?
8. What is smog? How does it form?
9. Smog or dust dome is most often formed over big cities, isn't it? Why?
10. Are there many ways to control and reduce air pollution?
11. What can be used to control emissions of dust in the air?
12. What can people do to achieve vast improvements?

Exercise 2. Translate the following words and word combinations:

To be less greedy, unpolluted rain, with the limited sources, coal-fired power stations, a wide range of technology, car engines, outcome of something, to photosynthesize, dangerous and well known, attitudes and life styles, in the lower atmosphere, to be enormous, dust dome, a wide range of filters, vast improvements, damage of the lungs, to be combined with something, brain damage.

Exercise 3. Translate the following sentences:

1. Без їжі людина може обходитися п'ять тижнів, без води - п'ять днів, а без повітря - найбільше п'ять хвилин.
2. Прийняті закони за якими керівники підприємств відповідають за очищення і знешкодження газів до їх викиду в атмосферу.
3. Вміст водяної пари в повітрі постійно змінюється (від 0,2 до 3%) залежно від її агрегатного стану.
4. Промисловий пил утворюється в результаті механічної обробки різних матеріалів.
5. Один з основних видів забруднення атмосфери – автомобільний транспорт.
6. Вихлопні гази дають одну третю вуглекислого газу, що викидається в повітря, сприяють утворенню парникового ефекту, який викликає глобальне потепління.
7. Фотохімічний смог формується в результаті дії сонячного ультрафіолетового випромінювання на вуглеводороди та окиси азоту.
8. Спалювання вугілля на теплових електростанціях супроводжується викидами диму, який містить двоокис сірки та окис азоту.

9. Одним з методів зниження темпів забруднення атмосфери – це очистка палива, а зокрема бензину від шкідливих домішок.

10. Необхідність залучати у виробництво більш ефективних і екологічно безпечних технологій визнають зараз у всьому світі.

Exercise 3

a) Read the dialogue and translate it:

Liza: Hello Zarif! How are you?

Mike: I am fine. What about you?

Liza: I am fine too. But I am little worried about air pollution.

Mike: Oh, I see. Nowadays it has become a great problem which is creating a constant threat to our life

Liza: Exactly! Air is being polluted in many ways though it is called life-giving force.

Mike: Absolutely! The most common agent that pollutes air is smoke.

Liza: Yes, smoke pollutes air. Moreover, railway engines, bus, trucks, also use petrol and diesel oil. All these things create smoke and cause air pollution.

Mike: You are right. Smoke of all kinds produces carbon monoxide and carbondioxide and thus pollute air.

Liza: You might have noticed that the most serious air pollution occurs in big industrial areas where there are many big mills and factories.

Mike: Yes. Besides, it occurs in big cities where many buses, trucks and cars move on the roads every day.

Liza: Deforestation also plays an important role in air pollution by increasing CO₂ in the atmosphere.

Mike: You are right. And due to air pollution, our environment is getting warm and losing its balance.

Liza: Exactly! Besides, polluted air is causing different incurable diseases to human beings.

Mike: But we must take steps to reduce air pollution. To ensure a healthier and happier life, there is no alternative to keep air free from pollution.

Liza: Of course. We all should be aware and protect our air from further pollution. Thank you.

Mike: You are most welcome. Bye and see you again.

b) Write your own dialogue between two friends on air pollution.

Exercise 4. Describe the air pollution problem and its sources in your hometown. Do this exercise in writing according to the plan:

- What type of pollution it is/ are there?

- Cause and effect of pollution.
- Why it had happen.

Read, translate and retell Text B

Text B HISTORY OF AIR POLLUTION

Air pollution, particularly in cities, is certainly not a new problem. Back in the Middle Ages the use of coal in cities such as London was beginning to escalate. The problems of poor urban air quality even as early as the end of the 16th century are well documented.

In the UK the Industrial Revolution during the 18th and 19th centuries was based on the use of coal. Industries were often located in towns and cities, and together with the burning of coal in homes for domestic heat, urban air pollution levels often reached very high levels. During foggy conditions, pollution levels escalated and urban smogs (smoke and fog) were formed. These often brought cities to a halt, disrupting traffic but more dangerously causing death rates to dramatically rise. The effects of this pollution on buildings and vegetation also became obvious. The 1875 Public Health Act contained a smoke abatement section to try and reduce smoke pollution in urban areas.

During the first part of the 20th century, tighter industrial controls lead to a reduction in smog pollution in urban areas. The 1926 Smoke Abatement Act was aimed at reducing smoke emissions from industrial sources, but despite the declining importance of coal as a domestic fuel, pollution from domestic sources remained significant.

The Great London Smog of 1952, which resulted in around 4,000 extra deaths in the city, led to the introduction of the Clean Air Acts of 1956 and 1968. These introduced smokeless zones in urban areas, with a tall chimney policy to help disperse industrial air pollutants away from built up areas into the atmosphere.

Following the Clean Air Acts, air quality improvements continued throughout the 1970s. Further regulations were introduced through the 1974 Control of Air Pollution Act. This included regulations for the composition of motor fuel and limits for the sulphur content of industrial fuel oil.

However, during the 1980s the number of motor vehicles in urban areas steadily increased and air quality problems associated with motor vehicles became more prevalent. In the early 1980s, the main interest was the effects of lead pollution on human health, but by the late 1980s and early 1990s, the effects of other motor vehicle pollutants became a major concern. The 1990s have seen the occurrence of wintertime and summertime smogs. These are not caused by smoke and sulphur dioxide pollution but by chemical reactions

occurring between motor vehicle pollutants and sunlight. These are known as photochemical smogs.

In 1995, the Government passed its Environment Act, requiring the publication of a National Air Quality Strategy to set standards for the regulation of the most common air pollutants. Published in 1997, the National Air Quality Strategy has set commitments for local authorities to achieve new air quality objectives throughout the UK by 2005. It is reviewed periodically.

Exercise 1. Translate Text B in writing.

Read and translate Text C

Text C

GREAT LONDON SMOG

During the 19th century, the increase in industrialisation in the major cities of Britain gave rise to a dramatic increase in air pollution. Throughout the autumn months, during periods of calm, smoke particles from industrial plumes would mix with fog giving it a yellow-black colour. Such smogs, as they became known, often settled over cities for many days. Wind speeds would be low at these times causing the smog to stagnate, with pollution levels increasing near ground level. London became quite famous for its smogs, and many visitors came to see the capital in the fog.

During the first part of the 20th century, tighter industrial controls and the declining importance of coal as a domestic fuel led to a reduction in smog pollution in urban areas. However, on December 4th 1952, an anticyclone settled over London. The wind dropped and the air grew damp; a thick fog began to form. The Great London Smog lasted for five days and led to around four thousand more deaths than usual. The deaths were attributed to the dramatic increase in air pollution during the period, with levels of sulphur dioxide increasing 7-fold, and levels of smoke increasing 3-fold. The peak in the number of deaths coincided with the peak in both smoke and sulphur dioxide pollution levels.

In response to the Great London Smog, the Government passed its first Clean Air Act in 1956, which aimed to control domestic sources of smoke pollution by introducing smokeless zones. In addition, the introduction of cleaner coals led to a reduction in sulphur dioxide pollution.

Exercise 1. Answer the following questions:

a) Text A:

1. Is air pollution a new problem for big cities?

2. What was the base of the Industrial Revolution in the 18th century?
3. When was the Public Health Act passed?
4. Why was there a reduction in smog pollution during the first part of the 20th century?
5. What were the main impacts of the introduction of the Clean Air Acts?
6. During the 1980s the air quality got worse, didn't it? Why?
7. What do you know about the National Air Quality Strategy published in 1997?

b) Text B:

1. How did increased industrialization effect air in Britain during the 19th century?
2. Was there an increase of smog pollution in the first part of the 20th century?
3. How many days did The Great London Smog last for?
4. What was the result of it?
5. Has the government reacted to The Great London Smog?
6. When was the first Clean Air Act published?
7. How has the level of the sulphur dioxide in the air changed with the introduction of cleaner coals?

Exercise 2. Translate the following word combinations:

smokeless zones, burning of coal, industrial air pollutants, reducing smoke emissions, air quality improvements, limits for the sulphur content, from domestic sources, a smoke abatement section, the increase in industrialization, to be famous for, increasing near ground level, were attributed to, a dramatic increase in, the major problem, aimed to control domestic sources of, the capital in the fog, led to a reduction in.

Exercise 3. True or False? Spot the errors:

1. Control of Air Pollution Act was published in 1780.
2. The Great London Smog resulted in around 4,000 deaths in the city.
3. There were no air pollution problems in London in the 16th century.
4. There was a reduction in smog pollution in urban areas during the first part of the 20th century.
5. The Great London Smog lasted for eight days.
6. Sulphur dioxide is not harmful for the environment.
7. Smokeless zones in urban areas were introduced after The Great London Smog.

Exercise 4. Supply the missing prepositions:

Is similar....., interact....., expose....., concentrate....., deal....., terms....., accumulate.... dangerous levels, release....., disperse....., have adverse effect....., large contributors....., acceptable levels, be dispersed.... winds.

Exercise 5. Translate the following sentences:

1. Millions of people all over the world live in areas in which the air is not safe to breathe.

2. Waste, created by people may occur in the form of gases or particles of solid and liquid matter which appear as a result of burning fossil fuels.

3. Acid rain happens when sulphur and nitrogen compounds mix with moisture of the air and fall to Earth in rain or snow.

4. Air is an integral part of the ecosystem which is absolutely essential for all the living beings to be alive, so it's really important to make it clean and to take care of it.

5. Giant volcanic eruptions can spew so much dust into the atmosphere that they block out significant amounts of sunlight and cause the entire planet to cool down for a year or more.

6. Renewable energy sources such as solar panels and wind turbines are helping us generate a bigger proportion of our power every year, but the overwhelming majority of electricity is still produced by burning fossil fuels such as coal, gas, and oil, mostly in conventional power plants.

7. Air pollution can harm the health of people and animals, damage crops or stop them growing properly, and make our world unpleasant and unattractive in a variety of other ways.

8. According to the World Health Organization (WHO), air pollution is one of the world's biggest killers: it causes around three million people to die prematurely each year.

9. The Earth's ozone layer protects life from the Sun's harmful ultraviolet rays, but in the 1970s, scientists found out that some chemicals let out into the atmosphere makes the ozone turn into oxygen.

10. Indoor air pollution involves exposures to particulates, carbon oxides, and other pollutants carried by indoor air or dust.

Grammar exercises

Exercise 1. Read, translate and learn:

Finite verbs

Present Simple:	I type	I speak
Present Continuous:	I am typing	I am speaking
Past Simple:	I typed	I spoke
Present Perfect:	I have typed	I have spoken

Non-finite verbs

Present Participle:	Typing speed	Speaking engagement
Perfect Participle:	Having typed	Having spoken
Past Participle:	Typed letters	Spoken commentary
Gerund:	Typing can be difficult.	Do you find speaking stressful?
Infinitive:	To type is a real skill.	They want you to speak.

Exercise 2. Translate the following sentences and identifying nonfinite verbs in each sentence:

1. Are you reading? 2. I struggle to live. 3. He can't go with her. 4. He has gone out of station. 5. Going faster is dangerous for kids. 6. I do not go to school. 7. All the teachers have gone away to the university. 8. I am going in the studio tonight. 9. Reading is good for mind. 10. I don't have time to talk. 11. I am coming from the market. 12. I have to go, its urgent. 13. I want to go market. 14. Cooking is my favorite hobby. 15. We were dropped off at the camp. 16. The freshly cooked cookies are tasty. 17. I am going with her. 18. I like going to the swimming. 19. Doctor suggested me going for a walk daily. 20. I saw her going up the stairs. 21. The sleeping watchman is very careless. 22. I saw a snake going across the river.

Exercise 3. Identify the finite and non-finite verbs in the following sentences:

1. My little brother wants to be an actor.
2. She worked hard to pass the test.

3. I couldn't solve the problem.
4. To err is human.
5. Your duty is to cross the river without getting noticed.
6. The doctor is attending to the injured people.
7. She opened the door.
8. The students were asked to submit their assignments by Friday.
9. The teacher encouraged the students to work hard.
10. The dog wagged its tail to show its happiness.

Exercise 4. Choose the correct sentence:

1. a) I likes solving problems.
b) They like solving problems.
c) He like solving problems.
d) They likes solving problems.
2. a) The car crash into the bus driving down the hill.
b) The car crashed into the bus driving down the hill.
c) The car has crashes into the bus driving down the hill.
d) The car have crashed into the bus driving down the hill.
3. a) He was faking his illness.
b) He were faking his illness.
c) They is faking his illness.
d) They was faking his illness.
4. a) They traces the lost dog.
b) He trace the lost dog.
c) I traces the lost dog.
d) I traced the lost dog.
5. a) He offer to pay for the damage.
b) I offers to pay for the damage.
c) They offers to pay for the damage.
d) They offered to pay for the damage.
6. a) I hopes to expand the market.
b) They hopes to expand the market.
c) I hope to expand the market.
d) He hope to expand the market.
7. a) I heard my mother talking on the phone.
b) I hears my mother talking on the phone.
c) I has heard my mother talking on the phone.
d) I hearing my mother talking on the phone.
8. a) Please remind me to get the book from the library.
b) Please reminds me to get the book from the library.
c) Please reminded me to get the book from the library.
d) Please reminding me to get the book from the library.

9. a) Would they minds opening the window?
b) Would you minded opening the window?
c) Would you mind opening the window?
d) Would you minds opening the window?
- 10 a) I plan to study till midnight.
b) I plans to study till midnight.
c) He plan to study till midnight.
d) They plans to study till midnight.

Exercise 5. Read and translate the text. Underline the non-finite verbs:

I am having a great time here at camp. Today, we went fishing, and I managed to set a new camp record by catching the biggest trout. We all laughed when Tommy reeled in his fishing line only to pull up an old tackle box covered in slime. We were surprised to find a bottle inside. Inside the bottle was a message. When we read it, we realized it was a time capsule. We decided to make our own message in a bottle. We put ours in the box and threw it back in the lake.

Exercise 6. Translate the following sentences. Pay attention to the finite and non-finite verbs:

1. She was waiting in the room before he came in.
2. Does your brother know my brother?
3. The night before he had to leave, they sat on the small sofa in the living-room and looked at old family photos.
4. She tiptoed round the house so as not to wake anyone.
5. You need to paint the whole cupboard, starting from the bottom.
6. The firetruck, blaring its siren, sped down the road.
7. The freshly picked tomatoes look delicious.
8. To read is good for the mind.
9. We found him smoking behind the shed.
10. Tim gave Paul a menacing look.

LESSON 5

Pre-text exercise.

1. Read and remember the following words and their meaning:

Word	Meaning
Stratospheric ozone <i>noun</i>	A region of the atmosphere lying mostly in the stratosphere, between about 15 and 30 kilometers (10 and 20 miles) in altitude, containing a relatively high concentration of ozone that absorbs solar ultraviolet radiation in a wavelength range not screened by other atmospheric components.
atmosphere <i>noun</i>	the gaseous envelope surrounding the earth; the air.
wavelength <i>noun</i>	the distance, measured in the direction of propagation of a wave, between two successive points in the wave that are characterized by the same phase of oscillation.
nanometers <i>noun</i>	a unit of spatial measurement that is 10 ⁻⁹ meter, or one billionth of a meter.
ray <i>noun</i>	a narrow beam of light.
malfunctioning	failure to function properly.
to destroy	to ruin the structure, organic existence, or condition
sunspot activity	any of the dark cool patches, with a diameter of up to several thousand kilometres, that appear on the surface of the sun and last about a week. They occur in approximately 11-year cycles and possess a strong magnetic field.
stratosphere	the region of the upper atmosphere extending upward from the tropopause to about 30 miles (50 km) above the earth, characterized by little vertical change in temperature.
global scale	in relation to the entire world; worldwide

Read and translate Text A

Text A

STRATOSPHERIC OZONE

The debate over the existence of an ozone problem breeds media coverage. However, the real story is not whether stratospheric ozone levels are decreasing, but what those decreases may mean for life on earth. As the percentage of ozone in the atmosphere decreases, the amount of UV-B radiation reaching the surface increases. It's the UV-B radiation, not the ozone itself that

concerns scientists, because the invisible wavelengths are linked to skin cancers and other biological damage.

Measuring UV-B is tricky. Levels are affected by time of day, day of the year, latitude, weather conditions, and the amount of ozone aloft. UV is the part of the electromagnetic spectrum made up of wavelengths between 280 and 400 nanometers (billionths of a meter). Most of this is UV-A light, only mildly associated with sunburn and DNA damage and relatively benign to most plant life. But the ill effects increase more than a thousandfold in the shorter wavelengths referred to as UV-B. Below 300 nanometers, the rays are sparse but very damaging; near 315 nanometers they're more numerous but much less destructive. Close to 310 nanometers lies the middle ground, where the number and impact of rays combine to cause the greatest harm to humans and plants. Engineers face enormous challenges when designing instruments that can measure individual wavelengths, yet such precision is necessary to determine the amount of dangerous light entering the atmosphere.

Although often referred to as the ozone 'hole', it is really not a hole but rather a thinning of the ozone layer in the stratosphere. We will use the term 'hole' in reference to the seasonal thinning of the ozone layer.

The appearance of a hole in the earth's ozone layer over Antarctica, first detected in 1976, was so unexpected that scientists didn't pay attention to what their instruments were telling them; they thought their instruments were malfunctioning. When that explanation proved to be erroneous, they decided they were simply recording natural variations in the amount of ozone. It wasn't until 1985 that scientists were certain they were seeing a major problem.

Why did it take scientists so long to solve this mystery? To begin with, observations that challenge preconceived ideas don't always get taken seriously, even in science. Two decades ago scientists did not suspect the importance of the chemical processes that rapidly destroy ozone in the Antarctic stratosphere. When they saw dramatic fluctuations in ozone levels, they assumed their instruments were in error, or that whatever was happening was due to natural processes like sunspot activity or volcanic eruptions.

They didn't realize that chlorine was the main culprit and that most of the chlorine in the stratosphere comes from human activity. The largest source is a class of chemical compounds known as chlorofluorocarbons (CFCs).

Since 1974 scientists have known that chlorine can destroy ozone, but no one thought the destruction would be very rapid. Events over the Antarctic region proved them wrong. The ozone hole story began at Halley Bay in Antarctica, where British scientists had been measuring ozone in the atmosphere since 1957. In 1976 they detected a 10% drop in ozone levels during September, October, and November—the Antarctic spring. Since ozone concentrations over this region often vary from season to season, the researchers weren't concerned, even as the springtime declines occurred repeatedly. It wasn't until their instruments registered record low levels of ozone in 1983 that they realized

something important was happening. By then, record springtime ozone declines had occurred during seven of the previous eight years.

While the stratospheric ozone issue is a serious one, in many ways it can be thought of as an environmental success story. Scientists detected the developing problem, and collected the evidence that convinced governments around the world to take regulatory action. Although the global elimination of ozone-depleting chemicals from the atmosphere will take decades yet, we have made a strong and positive beginning. For the first time in our species' history, we have tackled a global environmental issue on a global scale.

Exercise 1. Answer the following questions:

1. How are UV-B levels measured?
2. What does UV consist of?
3. What is an ozone hole?
4. When was a hole in the earth's ozone layer over Antarctica found?
5. The stratospheric ozone issue is a global environmental problem, isn't it? Why?
6. What did scientists discovered in 1976?
7. How do you understand the term "ozone levels"?
8. Do you know any ways to solve the ozone problem?
9. Does ozone have influence on human's health?
10. Two decades ago scientists did not suspect the importance of the chemical processes that rapidly destroy ozone in the Antarctic stratosphere, did they?

Exercise 2. Translate the following word-combinations:

strong and positive beginning, low levels of ozone, human activity, two decades ago, thinning of the ozone layer, UV-B radiation, due to natural processes, compounds known as chlorofluorocarbons, sunspot activity, volcanic eruptions, to vary from season to season, Antarctic spring, the appearance of a hole, instruments were in error, much less destructive, shorter wavelengths.

Exercise 3. Pick out the synonyms from the words given below, remember them:

Eruption, synthetic, problem, center, light, enigma, evidence, researcher, global, rapid, volume, hole, destruction, atmosphere, outbreak, sky, complication, damage, middle, mystery, international, investigator, amount, chemical, ray, speedy, crater, documentation.

Exercise 4. Translate the following sentences:

1. Найбільша концентрація озону в стратосфері між висотами 10 і 40 км.
2. Озон, як у промисловості, так і в лабораторії, виробляють з кисню за допомогою електричного розряду, в спеціальних приладах.
3. Під впливом озону гинуть не лише бактерії, а й грибки та віруси.
4. Хімічні властивості озону визначаються його великою здатністю до окислення.
5. Саме озон є причиною блакитного кольору неба.
6. Уперше думка про небезпеку руйнування озонового шару була висловлена ще наприкінці 1960-х років.
7. В Україні спостереження за станом озонового шару проводяться на п'яти озонетричних станціях (у Києві, Борисполі, Одесі, Львові й на Карадагу в Криму).
8. Озон вбирає в себе сонячні ультрафіолетові промені.
9. Науковий департамент атмосфери й океанів факультету природничих наук Університету м. Буенос-Айреса оприлюднив дослідження про поведінку озонової дірки в 2000 році.
10. Антарктида не є єдиним місцем на планеті, де з озоновим шаром негаразд.

Read, translate and retell Text B

Text B ULTRAVIOLET RADIATION AND LIGHTING

Sunlight is so-called electro-magnetic radiation energy of many different wavelengths emitted by the sun; it travels through space at the enormous speed of 186,000 miles per second. Such energy provides us with the heat and light we need to live, as well as delivering damaging ultraviolet (UV) rays. The way in which this radiation affects us depends on its wave-length, which determines how it is absorbed by molecules in different tissues. These tissues include those in the eye that are responsible for vision and those in the skin, which are both susceptible to UV injury. In addition, there are a host of other solar rays, such as cosmic rays, gamma rays, X-rays and radio-frequency radiation, but these are present in too small quantities at the surface of the Earth or of too low an energy to affect the health of our skin.

The solar radiation is an integral corpuscular flow (consisting of protons, alfa-elements, electrons, neutrons, neutrinos) and electromagnetic (photon) radiation. The solar ultraviolet radiation wave length less than 290 nm is completely absorbed by oxygen and ozone of the upper atmosphere.

Atmospheric pollution by factory waste helps the ozone layer destruction resulting in appearance of “ozone holes”. The shortest and the most harmful UV waves reach the earth surface through these “ozone holes”.

The energy from sunlight has been essential for the evolution of life on Earth. It has provided visible light for photosynthesis, the process by which plants use such energy to grow and eventually provide food for other creatures via the food chain. In addition, its infrared rays have given us the warmth we need to live, while visible light is the part of the spectrum that our eyes need to see, and the part that drives our biological, so-called circadian, rhythms. Our mood and sense of well-being may also be affected by visible light; deprivation of bright light can cause a type of winter depression known as seasonal affective disorder (SAD).

Very small amounts of UV radiation also promote the synthesis of vitamin D in the skin, which strengthens bones and thereby prevents rickets. However, vitamin D also comes in our diet - for example, from fish oils, some meats, eggs and dairy products which usually provide all we need. Overall, it therefore seems that the UV radiation part of the spectrum may not be of any value to us at all, but instead is just responsible for most of the harmful effects associated with sun exposure, such as skin sunburn, photoageing and cancer. However, UV radiation is also sometimes used by doctors to treat skin conditions if nothing else is effective, although some damage to the normal skin still occurs during that therapy.

By far the most important source of UV radiation on Earth is the sun, although the radiation is also emitted artificially by many fluorescent and other lamps, and also by arc welding equipment, and may be an important source of exposure for people who work with them. Special UV radiation lamps are also designed for careful use under medical supervision in skin conditions such as psoriasis and eczema. Many people are further exposed in their workplace or at home to very-low-intensity UV radiation from fluorescent lights. As a result of the minimal UV output involved, however, these are not generally believed to cause measurable skin damage. However, tungsten halogen spot lamps are potentially dangerous if used continually, as they can cause sunburn after minutes to an hour or so of exposure and probably have the potential also to cause skin photoageing and perhaps cancer after many years of constant use.

Exercise 1. Answer the following questions:

1. What is sunlight?
2. Does this energy effects humans? How?
3. What kinds of the solar rays do you know?
4. What doest the solar radiation consist of?
5. What contributes to the formation of ozone holes?

6. Synthesis of vitamin D in the skin is very important for our health, isn't it? Why?
7. What are the sources of UV radiation?
8. What were special UV radiation lamps designed for?
9. How can we protect our skin from UV radiation?
10. Can tungsten halogen spot lamps be harmful?

Exercise 2. Translate Text B in writing.

Exercise 3. Translate the following word-combinations:

solar rays, harmful effects associated with, dairy products, photoageing and cancer, tungsten halogen spot lamps, part of the spectrum, seasonal affective disorder, an integral corpuscular flow, alfa-elements and electrons, to be essential for, molecules in different tissues, may not be of any value, different wavelengths, heat and light, to cause measurable skin damage, welding equipment, many years of constant use, minimal UV output.

Exercise 4. Pick out the synonyms from the words given below, remember them:

Important, particle, susceptible, sheet, remedy, regular, stream, radiation, to avoid, periodic, significant, sun, relevant, warmth, redness, size, molecule, measurable, to prevent, heat, flow, constant, impressionable, emission, daylight, layer, sunburn, therapy, quantity, seasonal.

Exercise 5. Translate the following sentences:

- a) 1. Suntan, freckling and sunburn are familiar effects of over-exposure, along with higher risk of skin cancer.
2. Ultraviolet rays are invisible to most humans: the lens in a human eye ordinarily filters out UVB frequencies or higher, and humans lack color receptor adaptations for ultraviolet rays.
3. A variety of solid-state and vacuum devices have been explored for use in different parts of the UV spectrum.
4. Ultraviolet absorbers are molecules used in organic materials to absorb UV radiation to reduce the UV degradation of a material.
5. Suspended nanoparticles in stained glass prevent UV rays from causing chemical reactions that change image colors.
6. The nitrogen gas laser uses electronic excitation of nitrogen molecules to emit a beam that is mostly UV.
7. The human body needs some UV radiation in order for one to maintain adequate vitamin D levels.
8. People with higher levels of vitamin D tend to have lower rates of diabetes, heart disease, and stroke and tend to have lower blood pressure.

9. The amount of the brown pigment melanin in the skin increases after exposure to UV radiation at moderate levels depending on skin type.

10. Medical organizations recommend that patients protect themselves from UV radiation by using sunscreen.

b) 1. Генерація ультрафіолетового випромінювання починається при температурі тіла понад 1200 °С, а його інтенсивність зростає з підвищенням температури.

2. Інтенсивність випромінювання та його електричний спектральний склад залежить від температури поверхні, що є джерелом УФВ, наявності пилу та загазованості повітря.

3. Тривала дія значних доз УФВ може призвести до ураження очей та шкіри.

4. Природне короткохвильове ультрафіолетове випромінювання (виходить від сонця) не потрапляє на Землю, а поглинається озоновим шаром.

5. До заходів захисту від УФВ належать конструкторські та технологічні рішення, які або усувають генерацію УФВ, або знижують його рівень.

6. Більш широкого застосування в промисловості, науці і медицині знаходять оптичні квантові генератори (ОКГ) - лазери.

7. Лазери використовують при дефектоскопії матеріалів, в радіоелектронній промисловості, в будівництві, при обробці твердих і надтвердих матеріалів.

8. Головною особливістю лазерного випромінювання є його чітка спрямованість.

9. За характером генерації електромагнітних хвиль лазери поділяються на імпульсні і лазери безперервної дії.

10. Термічна дія випромінювання лазерів безперервної дії має багато спільного із звичайним нагріванням.

Grammar exercises

Exercise 1. Choose correct variant in brackets:

1. I'm sure he is here - I can see his car in front of the building. He (must / may) be here. I can see his car in front of the building.

2. They're coming this week but I don't know which day. They (may / have to) be coming tomorrow.

3. I'm not sure I'm going to pass the exam. I don't feel very confident. I (might not / could not) pass the exam. I don't feel very confident.

4. I've bought a lottery ticket. There's a chance I'll become a millionaire!

I (may / have to) become a millionaire!

5. I'm sure she doesn't speak French very well - she's only lived in Paris for a few weeks.

She (can't / might not) speak French very well. She's only lived in Paris for a few weeks.

6. My key's not in my pocket or on my desk so I'm sure it's in the drawer.

My key's not in my pocket or on my desk so it (might / must) be in the drawer.

7. Someone told me that Mark was in Mexico but I saw him yesterday so I'm sure he's not abroad. Mark (can't / couldn't) be abroad.

8. You got the job? That's great. I'm sure you're delighted. You got the job? That's great. You (may / must) be delighted.

9. They told me to prepare the project by tomorrow but it's almost impossible to have it done so fast. I (could / must) finish it by tomorrow if I stay at work all night, but I'm not sure.

10. I asked them to send the goods as soon as possible; we (must / might) receive them by the end of the week if the post is fast.

Exercise 2. Complete the sentences using the words: can, could, have to, must, might, should. Translate the sentences:

1. Ted's flight from Amsterdam took more than 11 hours. He be exhausted after such a long flight. He prefer to stay in tonight and get some rest.

2. If you want to get a better feeling for how the city is laid out, you walk downtown and explore the waterfront.

3. Hiking the trail to the peak be dangerous if you are not well prepared for dramatic weather changes. You research the route a little more before you attempt the ascent.

4. When you have a small child in the house, you leave small objects lying around. Such objects be swallowed, causing serious injury or even death.

5. Dave: you hold your breath for more than a minute?

Nathan: No, I can't.

6. Jenny's engagement ring is enormous! It have cost a fortune.

7. Please make sure to water my plants while I am gone. If they don't get enough water, they die.

8. I speak Arabic fluently when I was a child and we lived in Egypt. But after we moved back to Canada, I had very little exposure to the language and forgot almost everything I knew as a child. Now, I just say a few things in the language.

9. The book is optional. My professor said we read it if we needed extra credit. But we read it if we don't want to.

10. Leo: Where is the spatula? It be in this drawer but it's not here.

Nancy: I just did a load of dishes last night and they're still in the dish washer. It be in there. That's the only other place it be.

11. You take your umbrella along with you today. The weatherman on the news said there's a storm north of here and it rain later on this afternoon.

12. we pull over at the next rest stop? I really use the bathroom and I don't know if I hold it until we get to Chicago.

13. Oh no! Frank's wallet is lying on the coffee table. He have left it here last night.

14. Ned: I borrow your lighter for a minute?

Stephen: Sure, no problem. Actually, you keep it if you want to. I've given up smoking.

15. I believe she said that to Megan! She insult her cooking in front of everyone at the party last night. She have just said she was full or had some salad if she didn't like the meal.

16. Do you chew with your mouth open like that? It's making me sick watching you eat that piece of pizza.

17. Mrs. Scarlett's body was found in the lounge just moments ago, and it's still warm! Nobody has left the mansion this evening, so the killer be someone in this room. It be any one of us!

18. Ted: I don't know why Denise starting crying when I mentioned the wedding.

Pamela: It have been what you said about her brother. Or, perhaps she is just nervous. After all, the big day is tomorrow.

19. you always say the first thing that pops into your head? you think once in awhile before you speak?

20. I was reading the book last night before I went to bed. I never took it out of this room. It be lying around here somewhere. Where it be?

Exercise 3. Put the correct form of either "can" or "be able to" for each sentence:

1. I haven't concentrate recently at work. I don't know what it is.

2. My brother cook very well. He is a chef in a French restaurant.

3. When he was only 2, my friend Lee speak quite well.

4. I have to go to a business dinner tomorrow night so I (not) come to the party. I'm very sorry.

5. Kevin lived in Italy for six years, so he must speak Italian quite well. He will help you with your homework.

6. This telephone is terrible. I (not) hear you at all.

7. When the car drove into the lake, one of the passengers (not) open the door and had to be rescued.

8. Despite the arrival of the storm, they finish the football match.
9. When I was very young, I used to touch my toes, but I can't now!!
10. The house was totally empty all day yesterday and I finish that book I was reading.
11. My mother tells me that her grandfather was one of the best musicians of his time in the city and play the piano like a professional.
12. I hope to speak English very well after this course finishes.

Exercise 4. Complete the sentences with affirmative or negative forms of must, have to or has to:

1. It's raining outside. Tim take his umbrella.
2. I can give you my car, so you buy a new one.
3. They be in a hurry, because they have got more than enough time.
4. You stop at the red light.
5. Tomorrow is Sunday. You get up very early.
6. Mrs. Parks can't see very well. She wear glasses.
7. You return them. They are too small for you.
8. I am broke, I borrow some money to buy a car.
9. You stop smoking. It is very harmful.
10. Mr. Dickson is travelling abroad this summer, so he get his passport soon.
11. All the students obey the school rules.
12. It's freezing outside, so we take a cab and not walk.
13. Students look at their notes during the test.
14. I have a terrible headache, so I leave early.
15. Snow has blocked the roads. We stay here until it's cleared.

Exercise 5. Translate the following sentences:

1. Я обов'язково повинен відправити листа одразу ж.
2. Автобуси такі дорогі зараз, ми могли б з таким же успіхом поїхати на таксі.
3. Можливо, що у п'ятницю не буде зборів, тому що директор захворів.
4. Чи можу я скористатись вашим телефоном?
5. Ти бачиш мене?
6. Не може бути, щоб він це сказав.
7. Я мушу / повинна одягати окуляри для читання.
8. Вона дуже наполегливо готувалась до екзамену, отже, вона мала б його скласти (вона певне, його складе).
9. Я зробив таке, що мені не слід було робити.

10. Ти повинен тримати це у таємниці.

Exercise 6. Think of some things that you can and can't do in the following places. Write down the sentences:

*Example: a church - You aren't allowed to ride a bike in a church.
You can light a candle and say a prayer.*

1. a hospital
2. a museum
3. a swimming pool
4. a park
5. a theatre

Exercise 7. Use should to give an advice or to give an opinion:

Example: You look tired. You should go to bed.

1. There are a lot of homeless people. The government should.....
2. The problem is very serious. It should.....
3. If you are interested in politics you should.....
4. The sea is rough and it might be dangerous. They shouldn't.....
5. If you want to take photos while going around the museum, you should....
6. If people don't have time to care for pets properly they shouldn't.....
7. Before you leave home you should...
8. He looks ill. He should....
9. If you are going to travel abroad you should....
10. It is raining. They shouldn't.....

Exercise 8. Read, translate and learn the following dialogues. Note the use of modal verbs:

1. A: What do you think I ought to see in London first?

B: Well, historical places, I think. You should go to Westminster Abbey, and if you can, go to the Houses of Parliament and the National Gallery.

A: And what about the British Museum? I was told one ought to see it.

B: I suppose you must go there. There you can find masterpieces of the world's best artists.

A: How can I get to the centre?

B: I think you can go by steamer down the Thames from Westminster to Tower Bridge. That's a very pleasant way to travel, and you can see London bridges and quite a number of buildings on the way.

2. A: Excuse me, please. Could you tell me how to get to the town centre?

B: First right, second left. You can't miss it.

A: Thank you.

B: That's OK.

3. A: Is this the right bus for the Town Hall?

B: No, you should have caught a 12. Get off at the bridge and get one there.

A: Could you tell me when we get there?

B: It's the next stop but one.

4. A: Where are you going?

B: I must do some shopping.

A: What will you buy?

B: I must buy some food. We've got nothing for dinner.

5. A: Another piece of cherry pie?

B: No, thanks. I'm on a diet.

A: Please, do. You've hardly eaten anything.

B: It's delicious, but I don't think I ought to.

6. A: You look tired. What's the matter?

B: It's been a very hard week.

A: You should have a good rest during the weekend.

7. A: Can you skate?

B: Yes, I can, a little. Can you?

A: No, I'm afraid, I can't, but I can ski rather well.

Test 1. Choose the correct variant:

1. I didn't feel very well yesterday. I eat anything.

a) cannot b) couldn't c) mustn't

2. You look at me when I am talking to you.

a) could b) should c) would

3. I was using my pencil a minute ago. It be here somewhere!

a) can b) could c) must d) would

4. You really be late again.

a) must not b) don't have to be

5. If you don't start working harder, you repeat the course next year.

a) have to b) must c) will have to

6. His parents spoil him. He's always to do whatever he wants.
 a) been able b) been allowed
7. Phone her now. She home by now.
 a) has to be b) must be c) would be
8. You forget your sun cream. It's going to be very hot!
 a) don't have to b) mustn't c) needn't
9. I be able to help you, but I'm not sure yet.
 a) might b) would c) can
10. Entrance to the museum was free. We pay to get in.
 a) needn't b) didn't need to

Test 2. Choose the correct variant:

1. Already as a child Mozart play the piano beautifully.
 a) could b) should c) would
2. Which sign are you more likely to see at an airport: Bags not be left unattended.
 a) can b) must c) may
3. I really try to get fit.
 a) may b) must c) would
4. take a photograph of you?
 a) Am I allowed to b) May I c) Should I
5. Students borrow up to 6 books at any time.
 a) are allowed to b) could
6. Whose is this bag? - I don't know, but it belong to Alex.
 a) could b) may c) should d) would
7. I go to the bathroom, please?
 a) May b) Must c) Would
8. His excuse be true, but I don't believe.
 a) can b) may c) might
9. It's very important to speak more than one language.
 a) can b) be able to c) could
10. I don't like get up early on a Sunday.
 a) being able to b) being allowed to c) having to

Test 3. Choose the correct variant:

1. you speak French? - Only a few words, but my Russian is pretty good.
a) Can b) Could c) Might
2. you help me move this table? (Both answers are possible. Choose the more polite request.)
a) Can b) Could
3. I talk already before I was two years old.
a) could b) should c) would
4. I help you, but I don't want to.
a) can b) could c) would
5. you open the window, please.
a) Can b) May c) Might d) Could
6. I move the table. It was too heavy.
a) couldn't b) mustn't c) shouldn't d) wouldn't
7. You not put your feet on the cafeteria tables.
a) must not b) do not have to
8. If you continue to practise so hard, you beat me before too long!
a) can b) could c) will be able to
9. you swim? (Both are possible. Which is better?)
a) Are you able to b) Can
10. You eat so much chocolate. It's not good for you.
a) don't have to b) mustn't c) shouldn't

Test 4. Choose the correct variant:

1. I'm afraid I play tennis tomorrow. I've got a dentist appointment.
a) can't b) couldn't c) would not be able to
2. You can come to the meeting if you want but you
3. What do you want to do? - Well, we have a picnic, but it looks like rain.
a) can b) could c) should d) would
4. I'm so hungry I eat a horse!
a) can b) could c) must d) should
5. The test starts at 10.30. You be late.
a) don't have to b) mustn't
6. Why didn't you tell me? I you!
a) could help b) could have helped c) was able to help d) would help

7. How did you do in the test? - Ok. It worse!
 a) could be b) could have been c) might be d) would have been
8. He broken the classroom window. He wasn't even in school today.
 a) couldn't have b) mustn't c) shouldn't have
9. You tired. You've only just got out of bed!
 a) don't have to be b) can't be c) mustn't be
10. She be very pleased with herself. She got the best grades.
 a) has to b) must c) cannot

Test 5. Choose the correct variant:

1. you hear the fireworks from your house last night?
 a) Can't b) Could c) Can
2. Do you think you write that report by Tuesday? I know you're very busy.
 a) have been able to b) couldn't c) will be able to
3. I touch my toes. See!
 a) can b) will be able to c) could
4. I spend another moment in that restaurant. It was too noisy.
 a) couldn't b) can't c) have not been able to
5. I never seem to get the temperature right.
 a) can b) can't c) to be able to
6. play professional tennis, you must be extremely fit.
 a) Will you be able to b) To be able to c) Couldn't
7. you play an instrument?
 a) Couldn't b) Can c) Able to
8. I'm afraid I attend the meeting, I'm on business in Japan.
 a) won't be able to b) can c) will be able to
9. you have brought it to me at work?
 a) Couldn't b) Will be able to c) Cannot
10. They save the men from the sinking ship.
 a) could to b) was able to c) were able to

LESSON 6

Pre-text exercise.

1. Read and remember the following words and their meaning:

Word	Meaning
Sun	the star that is the central body of the solar system, around which the planets revolve and from which they receive light and heat.
global warming	an increase in the earth's average atmospheric temperature that causes corresponding changes in climate and that may result from the greenhouse effect.
Earth	the planet third in order from the sun, having an equatorial diameter of 7926 miles (12,755 km) and a polar diameter of 7900 miles (12,714 km), a mean distance from the sun of 92.9 million miles (149.6 million km)
space	the region beyond the earth's atmosphere or beyond the solar system.
Venus	the planet second in order from the sun, having an equatorial diameter of 7521 miles (12,104 km), a mean distance from the sun of 67.2 million miles (108.2 million km)
Moon	the earth's natural satellite, orbiting the earth at a mean distance of 238,857 miles (384,393 km) and having a diameter of 2160 miles (3476 km).
Solar system	the sun together with all the planets and other bodies that revolve around it.

Read and translate Text A

Text A

WHAT IS THE GREENHOUSE EFFECT?

While other planets in Earth's solar system are either scorching hot or bitterly cold, Earth's surface has relatively mild, stable temperatures. Earth enjoys these temperatures because of its atmosphere, which is the thin layer of gases that cloak and protect the planet. However, 97 percent of climate scientists agree that humans have changed Earth's atmosphere in dramatic ways over the past two centuries, resulting in global warming. To understand global warming, it's first necessary to become familiar with the greenhouse effect, though.

There's a delicate balancing act occurring every day all across the Earth, involving the radiation the planet receives from space and the radiation that's

reflected back out to space. Earth is constantly bombarded with enormous amounts of radiation, primarily from the sun. This solar radiation strikes the Earth's atmosphere in the form of visible light, plus ultraviolet (UV), infrared (IR) and other types of radiation that are invisible to the human eye.

UV radiation has a shorter wavelength and a higher energy level than visible light, while IR radiation has a longer wavelength and a weaker energy level. About 30 percent of the radiation striking Earth's atmosphere is immediately reflected back out to space by clouds, ice, snow, sand and other reflective surfaces, according to NASA. The remaining 70 percent of incoming solar radiation is absorbed by the oceans, the land and the atmosphere. As they heat up, the oceans, land and atmosphere release heat in the form of IR thermal radiation, which passes out of the atmosphere and into space.

It's this equilibrium of incoming and outgoing radiation that makes the Earth habitable, with an average temperature of about 59 degrees Fahrenheit (15 degrees Celsius), according to NASA. Without this atmospheric equilibrium, Earth would be as cold and lifeless as its moon, or as blazing hot as Venus. The moon, which has almost no atmosphere, is about minus 243 F (minus 153 C) on its dark side. Venus, on the other hand, has a very dense atmosphere that traps solar radiation; the average temperature on Venus is about 864 F (462 C).

The greenhouse effect

The exchange of incoming and outgoing radiation that warms the Earth is often referred to as the greenhouse effect because a greenhouse works in much the same way.

Incoming UV radiation easily passes through the glass walls of a greenhouse and is absorbed by the plants and hard surfaces inside. Weaker IR radiation, however, has difficulty passing through the glass walls and is trapped inside, thus warming the greenhouse. This effect lets tropical plants thrive inside a greenhouse, even during a cold winter.

A similar phenomenon takes place in a car parked outside on a cold, sunny day. Incoming solar radiation warms the car's interior, but outgoing thermal radiation is trapped inside the car's closed windows.

The greenhouse effect, combined with increasing levels of greenhouse gases and the resulting global warming, is expected to have profound implications, according to the near-universal consensus of scientists.

If global warming continues unchecked, it will cause significant climate change, a rise in sea levels, increasing ocean acidification, extreme weather events and other severe natural and societal impacts, according to NASA, the EPA and other scientific and governmental bodies.

Exercise 1. Answer the following questions:

1. Where does radiation form?

2. What is the average temperature on Earth?
3. Why cannot people live on the moon?
4. What is the greenhouse effect?
5. Does all types of radiation pass through the glass walls?
6. Will the global warming have scale consequences according to scientists?
7. What will happen If global warming continues?

Exercise 2. Translate the following word-combinations:

significant climate change, the greenhouse effect, incoming UV radiation, higher energy level, visible light, cold and lifeless, into space, the average temperature, oceans and land, on Venus, invisible to the human eye, reflected back out to, enormous amounts of, thin layer of gases, to protect the planet, according to scientists and governmental bodies.

Exercise 3. Pick out the synonyms from the words given below, remember them:

Space, to care for, political, cause, solar, unsteady, thoughtful, territory, cosmic, uninhabited, weak, to protect, difficulty, complication, profound, lifeless, governmental, purpose.

Exercise 4. Pick out the antonyms from the words given below, remember them:

Easy, universal, inside, seen, cool, thin, complicated, drop, extraordinary, unimportant, limited, outside, invisible, familiar, warm, significant, dense, increase.

Exercise 5. Translate the following sentences:

1. На сьогодні переважна більшість вчених вважає, що причиною глобального потепління є діяльність людини.

2. За останню сотню років середня температура повітря над суходолом зросла, як стверджується, більш, ніж на півградуси.

3. Крім підвищення рівня Світового океану підвищення глобальної температури також призведе до змін в кількості і розподілі атмосферних опадів.

4. Потепління, що зафіксоване за допомогою інструментальних температурних вимірювань, має стійку тенденцію, що підтверджується численними спостереженнями задокументованими багатьма незалежними групами вчених.

5. Парниковий ефект — процес, при якому поглинання і випромінювання інфрачервоних променів газами викликає нагрівання нижніх шарів атмосфери та поверхні планети.

6. Без атмосфери Землі температура майже по всій поверхні планети була б нижче точки замерзання.

7. З часів Промислової революції внаслідок діяльності людини в атмосфері збільшилась кількість парникових газів, що призвело до посилення радіаційного впливу.

8. Починаючи з 1978 року за допомогою супутників можна було точно вимірювати викиди сонячної радіації.

9. Кліматична модель являє собою комп'ютерну реконструкцію п'яти складових кліматичної системи: атмосфери, гідросфери, кріосфери, суші та біосфери.

10. Зміна клімату у майбутньому, як очікується, зокрема вплине на певні екосистеми, такі як: тундра, мангрові зарості і коралові рифи.

Exercise 6

a) Read the dialogue and translate it:

Mike: Hello Anna! How are you?

Anna: I am fine. What about you?

Mike: I am fine too. What are you doing?

Anna: I am reading an article on greenhouse effect.

Mike: Do you know that the world's temperature is undergoing a significant change?

Anna: Yes, I have come to learn it from the discussion of a TV channel.

Mike: Oh! It is alarming that the world's temperature is increasing day by day.

Anna: You are right. This increase of temperature is called global warming.

Mike: But still now I do not know the cause of global warming. Do you know the cause of it?

Anna: Yes, global warming is caused by the increased amounts of carbon dioxide around the earth. And the greenhouse effect is the most likely cause of global warming.

Mike: What may be the effect of global warming?

Anna: It may reduce mankind's ability to grow food, damage or destroy wildlife, raise sea levels, and thereby flood coastal areas.

Mike: I see it has many negative effects on mankind and animals.

Anna: Exactly! So, all of us including the government should come forward to take immediate measures to get rid of these disasters.

Mike: You are right. We must save the world to save ourselves. Thank you.

Anna: You are most welcome.

b) Write your own dialogue between two friends on greenhouse effect or global warming.

Read, translate and retell Text B

Text B

GLOBAL WARMING

Global warming is sometimes referred to as the greenhouse effect. The greenhouse effect is the absorption of energy radiated from the Earth's surface by carbon dioxide and other gases in the atmosphere, causing the atmosphere to become warmer.

Each time we burn gasoline, oil, coal, or even natural gas, more carbon dioxide is added to the atmosphere. The greenhouse effect is what is causing the temperature on the Earth to rise, and creating many problems that will begin to take place in the coming decades.

Today, however, major changes are taking place. People are conducting an unplanned global experiment by changing the face of the entire planet. We are destroying the ozone layer, which allows life to exist on the Earth's surface.

All of these activities are unfavourably changing the composition of the biosphere and the Earth's heat balance. If we do not slow down our use of fossil fuels and stop destroying the forests, the world could become hotter than it has been in the past million years.

Average global temperatures have risen 1 degree over the last century. If carbon dioxide and other greenhouse gases continue to spill into the atmosphere, global temperatures could rise five to 10 degrees by the middle of the next century. Some areas, particularly in the Northern Hemisphere, will dry out and a greater occurrence of forest fires will take place.

At the present rate of destruction, most of the rain forests will be gone by the middle of the century. This will allow man-made deserts to invade on once lush areas. Evaporation rates will also increase and water circulation patterns will change.

Decreased rainfall in some areas will result in increased rainfall in others. In some regions, river flow will be reduced or stopped all together completely. Other areas will experience sudden downpours that create massive floods.

If the present arctic ice melting continues, the sea could rise as much as 2 meters by the middle of the next century. Large areas of coastal land would disappear.

Plants and other wildlife habitats might not have enough time to adjust to the rapidly changing climate. The warming will rearrange entire biological communities and cause many species to become died out.

The greenhouse effect and global warming both correspond with each other. The green house effect is recalled as incoming solar radiation that passes through the Earth's atmosphere but prevents much of the outgoing infrared radiation from escaping into outer space. It causes the overheat of the air and as a result, we have the global warming effect. As you see, greenhouse effect and

global warming correspond with each other, because without one, the other doesn't exist.

Exercise 1. Answer the following questions:

1. What is global warming?
2. What is greenhouse effect?
3. What activities are unfavorable and change the composition of the biosphere and the Earth's heat balance?
4. What can prevent the developing of greenhouse effect?
5. Why are water circulation patterns changing?
6. What might cause disappearing of large areas of coastal land?
7. Does the warming affect biological communities?
8. Is there a correspondence between greenhouse effect and global warming?

Exercise 2. Translate Text B in writing.

Exercise 3. Translate the following words and word-combinations:

global warming, to refer, greenhouse effect, absorption, surface, carbon dioxide, to burn, gasoline, oil, coal, ozone layer, to slow down, fossil fuel, average, to spill into, the Northern Hemisphere, destruction, evaporation rate, to increase, water circulation pattern, rainfall, river flow, downpour, massive flood, to melt coastal land, to adjust, entire, biological communities, to die out, outer space, overheat, to correspond

Exercise 4. Global warming may have a number of effects. Read the effects and grade them as: Exceptionally serious, serious, or unimportant:

More active weather systems. More energy in the atmosphere will lead to more active weather systems, with more frequent and more violent storms. More severe weather events such as storms, floods, heatwaves and hurricanes will be the result.

Disturbed rainfall patterns. Rainfall patterns will be significantly disrupted with floods in some places and droughts in others.

Acidification of the oceans. The ocean has a limited capacity to dissolve carbon dioxide before it ceases to absorb any more thus leading to further warming. This would also cause great damage to fish stocks.

Tipping points/feedback loops. There are many possible tipping points and feedback loops. For instance, if global warming causes the northern permafrost to melt, this will release vast amounts of methane which will make the problem much worse.

A rise in sea level. The most modest prediction of sea level rise presently predicted is 9-88 cm (3.5–34.6 inches). This small rise would cause significant disruption to coastal communities. There is a possibility, however, that the whole Greenland ice sheet would melt leading to a global rise of 7 m [23 ft]. There is even a possibility that the West Antarctic ice sheet could melt, raising sea levels by a further six metres (20 feet). Although the rest of the Antarctic ice sheet is considered to be stable, if the entire Antarctic were to melt, this would raise sea levels by 62 metres (203 feet).

Spread of tropical diseases. As northern latitudes become warmer, previously rare tropical diseases will gain a foothold in more northern latitudes.

Disruption of ocean currents. The disruption of ocean currents could shut down the Gulf Stream with unpredictable consequences.

Habitat loss or change faster than animals can adapt. Temperature zones will move north and south too quickly for animals to follow or adapt to new habitats. The most extreme case is that of Arctic habitats which will leave animals such as polar bears with no place to go.

Loss of mountain glaciers exacerbating summer droughts. Mountain glaciers act as natural reservoirs, releasing winter snow as meltwater during the summer. Global warming will disrupt this system in two ways: (1) More rain will fall instead of snow which will prevent the reformation of the glaciers. (2) The result of this will be more floods when it rains and droughts when it does not.

Exercise 5. These are some things we could do as individuals to help reduce global warming. Order them from most to least important:

- Recycle everything you can.
- Use less heating and air conditioning
- Use energy efficient light bulbs.
- Drive less and use more public transport.
- Plant a tree.
- Use less hot water.
- Switch off lights/appliances when they are not in use.

Grammar exercises

Exercise 1. Complete the Conditional Sentences (Type I) by putting the verbs into the correct form:

1. If you (send) this letter now, she (receive) it tomorrow.
2. If I (do) this test, I (improve) my English.
3. If I (find) your ring, I (give) it back to you.
4. Peggy (go) shopping if she (have) time in the afternoon.

5. Simon (go) to London next week if he (get) a cheap flight.
6. If her boyfriend (phone / not) today, she (leave) him.
7. If they (study / not) harder, they (pass / not) the exam.
8. If it (rain) tomorrow, I (have to / not) water the plants.
9. You (be able/ not) to sleep if you (watch) this scary film.
10. Susan (can / move / not) into the new house if it (be / not) ready on time.
11. If you (eat) an ice-cream, I (have) a hot chocolate.
12. If she (need) a computer, her brother (give) her his computer.
13. If we (have / not) time this afternoon, we (meet) tomorrow.
14. He (talk) to her if you (want / not) to do it.
15. You (win / not) the game if you (know / not) the rules.

Exercise 2. Translate the following sentences:

1. If it snows, I will not go out.
2. If I find her address, I will send her an invitation.
3. If I don't see him this afternoon, I will phone him in the evening.
4. If John has the money, he will buy a new house.
5. If it rains, you will get wet.
6. You will get wet if it rains.
7. If Sally is late again I will be mad.
8. I will be mad if Sally is late again.
9. If you don't hurry, you will miss the bus.
10. You will miss the bus if you don't hurry.
11. If I have time, I'll finish that letter.
12. What will you do if you miss the plane?
13. Nobody will notice if you make a mistake.
14. If you drop that glass, it will break.
14. If you don't drop the gun, I'll shoot!
15. If you don't leave, I'll call the police.
16. If you drop that glass, it might break.
17. I may finish that letter if I have time.
18. If he calls you, you should go.
19. If I do my homework, I will be able to go to the park.
20. You will feel sick if you drink too much coffee.

Exercise 3. Complete the Conditional Sentences (Type I) by putting the verbs into the correct form:

1. If I (go) out tonight, I (go) to the cinema.
2. If you (get) back late, I (be) angry.
3. If we (not/see) each other tomorrow, we (see) each other next week.
4. If he (come), I (be) surprised.
5. If we (wait) here, we (be) late.
6. If we (go) on holiday this summer, we (go) to Spain.
7. If the weather (not/improve), we (not/have) a picnic.
8. They (go) to the party if they (be) invited.
9. If I (not/go) to bed early, I (be) tired tomorrow.
10. If we (eat) all this cake, we (feel) sick .
11. She (stay) in London if she (get) a job.

12. If you (not/want) to go out, I (cook) dinner at home.
13. I (come) early, if you (want).
14. He (not/get) a better job if he (not/pass) that exam.
15. I (buy) a new dress if I (have) enough money.
16. She (cook) dinner if you (go) to the supermarket.
17. They (go) on holiday if they (have) time.
- 18) We (be) late if we (not/hurry)
19. She (take) a taxi if it (rain).....
20. I (not/go) if you (not/come) with me.

Exercise 4. Translate the following sentences:

1. Якщо піде дощ, я залишуся у будинку мого друга.
2. Якщо я побачу Тома, я запитав в нього про Джона.
3. Якщо ти поцілуєш мене, я буду щасливим.
4. Якщо почую якісь новини про неї, подзвоню тобі.
5. Якщо ти загубиш гроші, я тобі допоможу.
6. Якщо погода гарна, я піду в парк.
7. Якщо перестане йти дощ, ми підемо прогулятися.
8. Якщо завтра буде дощ. ми не підемо в ліс.
9. Вона запізниться на автобус, якщо не вийде зараз.
10. Якщо я її зустріну, то розповім їй правду.

Exercise 5. Suppose you are going on holiday to a foreign country. Make sentences according to the example:

*Example: What will you do if you get food poisoning?
I'll take medicine.*

1. lose your passport; go to embassy.
2. get sunburns; use a body lotion.
3. run out of money; go to the bank.
4. are homesick; phone my parents.
5. are mugged; go to the police station.
6. don't like the food; go for a meal to some different restaurant.
7. don't understand a language; use a dictionary.
8. don't get on with your friends; spend time by myself.
9. get lost; buy a map of the city.
10. miss the train; buy a ticket for the next one.

LESSON 7

Pre-text exercise.

1. Read and remember the following words and their meaning:

Word	Meaning
nuclear	Of, relating to, producing, or using energy that is created when the nuclei of atoms are split apart or joined together.
weapon	any instrument or device for use in attack or defense in combat, fighting, or war, as a sword, rifle, or cannon.
explosion	An act or instance of exploding; a violent expansion or bursting with noise, as of gunpowder or a boiler.
to devastate	To bring to ruin or desolation by violent action.
destruction	the state or fact of being destroyed.
thermal radiation	electromagnetic radiation emitted by all matter above a temperature of absolute zero because of the thermal motion of atomic particles.
residue	something that remains after a part is removed, disposed of, or used; remainder; rest; remnant.
to emit	Produce and discharge (something, especially gas or radiation).
rapidly	occurring within a short time; happening speedily; moving or acting with great speed.
x-ray	a type of radiation that can go through many solid substances, allowing hidden objects such as bones and organs in the body to be photographed.
significant	having an important effect or influence, especially on what will happen in the future

Read and translate Text A

Text A

NUCLEAR BOMB EXPLOSION

At present nuclear detonations are the most devastating of the weapons of mass destruction. Depending upon the environment in which the nuclear device is detonated, blast effects are manifested as ground shock, water shock, cratering, and large amounts of dust and radioactive fallout.

The energy of a nuclear explosion is transferred to the surrounding medium in three distinct forms: blast; thermal radiation; and nuclear radiation.

Because of the tremendous amounts of energy liberated per unit mass in a nuclear detonation, temperatures of several tens of million degrees centigrade

develop in the immediate area of the detonation. This is in marked contrast to the few thousand degrees of a conventional explosion. At these very high temperatures the non-fissioned parts of the nuclear weapon are vaporized. The atoms do-not release the energy as kinetic energy but release it in the form of large amounts of electromagnetic radiation.

In an atmospheric detonation, this electromagnetic radiation, consisting chiefly of soft x-ray, is absorbed within a few meters of the point of detonation by the surrounding atmosphere, heating it to extremely high temperatures and forming a brilliantly hot sphere of air and gaseous weapon residues, the so-called fireball. Immediately upon formation, the fireball begins to grow rapidly and rise like a hot air balloon.

Within a millisecond after detonation, the diameter of the fireball from one megaton (Mt) air burst is 150m. This increases to a maximum of 2200 m within 10 seconds, at which time the fireball is also rising at the rate of 100 m/sec. The initial rapid expansion of the fireball severely compresses the surrounding atmosphere, producing a powerful blast wave.

As it expands toward its maximum diameter, the fireball cools, and after about a minute its temperature has decreased to such an extent that it no longer emits significant amounts of thermal radiation. The combination of the upward movement and the cooling of the fireball gives rise to the formation of the characteristic mushroom-shaped cloud. As the fireball cools, the vaporized materials in it condense to form a cloud of solid particles. Following an air burst, condensed droplets of water give it a typical white cloudlike appearance.

In the case of a surface burst, this cloud will also contain large quantities of dirt and other debris which are vaporized when the fireball touches the earth's surface or are sucked up by the strong updrafts afterwards, giving the cloud a dirty brown appearance. The dirt and debris become contaminated with the radioisotopes generated by the explosion or activated by neutron radiation and fall to earth as fallout.

The relative effects of blast, heat, and nuclear radiation will largely be determined by the altitude at which the weapon is detonated. Nuclear explosions are generally classified as air bursts, surface bursts, subsurface bursts, underwater bursts and high altitude bursts. The most dangerous are underwater and high altitude bursts, although other bursts are pretty dangerous too.

Exercise 1. Answer the following questions:

1. What kind of weapons is the most devastating nowadays?
2. What kind of nuclear blasts do you know?
3. What is the most dangerous kind of nuclear blast?
4. Why do temperatures of several tens of million degrees centigrade develop in the immediate area of the detonation?

5. What determines the relative effects of nuclear blast?
6. What gives the nuclear explosion cloud a white appearance?
7. What gives the nuclear explosion cloud a dirty brown appearance?

Exercise 2. Translate the following words and word-combinations:

Nuclear detonation, to devastate, destruction, to depend, environment, nuclear device, blast effects, cratering, dust, fallout, to transfer, surrounding medium, distinct, blast, tremendous, to liberate, conventional, explosion, non-fissioned, to vaporize, to release, kinetic energy, soft x-ray, to absorb, gaseous, residue, fireball, immediately, to rise, megaton, burst, increase, initial, rapid, expansion, blast wave, to expand, to decrease, extent, to emit, significant, upward, movement, droplet, to contain, updraft, afterwards, radioisotope, neutron radiation, fallout, altitude.

Exercise 3. Give English equivalents:

Ядерні вибухи, досить небезпечні, навколишня атмосфера, потужний вибух, нейтронне випромінювання, вибухова хвиля, основна зброя, значні суми, швидке зростання, площа детонації.

Exercise 4. Fill in the blanks and translate:

1. The nuclear explosion occurred on July 16, 1945 at 5:50 am on the Trinity Test Site near Alamogordo, New Mexico in the United States.
2. The event involved the full-scale testing of an implosion-type fission atomic
3. Following this test, a uranium-gun type nuclear bomb on the Japanese city of Hiroshima on August 6, 1945, with a blast yield of 15 kilotons; and a plutonium implosion-type bomb on Nagasaki on August 9, 1945, with a blast yield of 21 kilotons.
4. In the years following World War II, eight have conducted nuclear tests with 2475 devices fired in 2120 tests.
5. In 1963, the United States, Soviet Union, and United Kingdom signed the Limited Test Ban Treaty, pledging to refrain from testing nuclear weapons in the, underwater, or in outer space.
6. Nuclear tests are experiments carried out to determine the effectiveness, yield and explosive capability of nuclear.....
7. Nuclear weapons are quite different from conventional weapons because of the of explosive energy they can put out and the different kinds of effects they make, like high temperatures and nuclear radiation.
8. The devastating impact of the explosion does not after the initial blast, as with conventional explosives.

9. A cloud of travels from the epicenter of the explosion, causing an impact to life forms even after the heat waves have ceased.

10. Any nuclear explosion (or nuclear war) would have wide-ranging, long-term, catastrophic, that could threaten the survival of humankind.

(effects, huge amount, atmosphere, countries, nuclear radiation, stop, weapons, first, bomb, was dropped).

Read, translate and retell Text B

Text B THE HISTORY OF NUCLEAR BOMB CREATION

The first nuclear weapons were created by the United States, with assistance from the United Kingdom and Canada, during World War II as part of the top-secret Manhattan Project. While the first nuclear weapons were developed primarily out of fear that Nazi Germany would first develop them, they eventually used against the Japanese cities of Hiroshima and Nagasaki in August 1945.

The Soviet Union developed and tested their first nuclear weapon in 1949, based partially on information obtained from Soviet espionage in the United States. Both the USA and USSR would go on to develop weapons powered by nuclear fusion (hydrogen bombs) by the mid-1950s.

With the invention of reliable rocketry during the 1960s, it became possible for nuclear weapons to be delivered anywhere in the world on a very short notice, and the two Cold War superpowers adopted a strategy of deterrence to maintain a shaky peace.

Nuclear weapons were symbols of military and national power, and nuclear testing was often used both to test new designs as well as to send political messages. Other nations also developed nuclear weapons during this time, including the United Kingdom, France, and China. These five members of the «nuclear club» agreed to attempt to limit the spread of nuclear proliferation to other nations, though at least four other countries (India, South Africa, Pakistan, and most likely Israel) developed nuclear arms during this time.

At the end of the Cold War in the early 1990s, the Russian Federation inherited the weapons of the former USSR, and along with the USA pledged to reduce their stockpile for increased international safety. Nuclear proliferation has continued, though, with Pakistan testing their first weapons in 1998, and the state of North Korea claiming to have developed nuclear weapons in 2004. Nuclear weapons have been at the heart of many national and international political disputes, and have usually symbolized the ultimate ability of mankind to utilize the strength of nature for destruction.

There have been at least four major false alarms, the most recent in 1995, that almost resulted in the US or Russia launching its weapons in retaliation for

a supposed attack. Additionally, during the Cold War the US and the the USSR came close to nuclear warfare a number of times, most notably during the Cuban Missile Crisis in 1962.

As of 2005, there are estimated to be about 30,000 nuclear weapons held by eight countries, though 96% of these are in the possession of just two — the United States and the Russian Federation.

Exercise 1. Answer the following questions:

1. What country was the first to create nuclear weapons?
2. What countries helped the USA to create nuclear weapons?
3. When did nuclear proliferation start?
4. What countries agreed to conduct nuclear proliferation?
5. What do nuclear weapons symbolize?
6. When did the two Cold War superpowers adopt a strategy of deterrence to maintain a shaky peace?
7. What were the technological achievements that permitted for nuclear weapons to be delivered anywhere in the world on a . very short notice?
8. How many warheads are there in the world at the moment?
9. What is the Cuban Missile Crisis? When did it happen?
10. When did the Soviet Union develop and test their first nuclear weapon?

Exercise 2. Translate the following words and word-combinations:

nuclear weapons, to create, assistance, the United Kingdom, top-secret, Manhattan Project, to develop, fear, Nazi Germany, eventually, partially, to obtain, espionage, invention, reliable rocketry, superpower, to adopt, deterrence, shaky, designs, to agree, to attempt, to limit, spread, proliferation, to pledge, to reduce, stockpile, to increase, dispute, to symbolize, ultimate, ability.

Exercise 3. Give English equivalents:

Здатність, володіння, поширення зброї, намагатися зробити, запускати супутник, зв'язувати обіцянкою, одна з найбільш потужних великих держав, людство, передбачувана атака, шпигунство, сприяння.

Exercise 4. Translate the following words and make your own sentence with each of them:

Notably	To attempt
Strength	To limit
Possession	To symbolize

Exercise 5. Translate Text B in writing.

Read, translate and retell Text C

Text C

NUCLEAR WAR AND ITS OUTCOMES

Nuclear war, or atomic war, is war in which nuclear weapons are used in a wide attack aimed at an entire country, both military and civilian targets. The United States is the only nation to have actually used nuclear weapons in war, having in 1945 dropped two of them on cities in Japan — one on Hiroshima and another on Nagasaki.

That time the possibility of an actual nuclear attack on the US was considered somewhat remote because no other nation had nuclear weapons. But on August 29, 1949 the USSR tested its first bomb at Semipalatinsk in Kazakhstan. Britain tested its first atomic bomb in 1952, and France in 1960. Notably the Western European arsenals have always been nearly insignificant compared to those of the superpowers — Russia and the United States.

So, in the end of the Second World War the nuclear weapons race between two superpowers started. The nuclear war between these two superpowers was more likely till the end of the 20th century when the Soviet Union collapsed. With the end of the Cold War and the collapse of the Soviet Union nuclear conflict between the United States and Russia appears much less likely. Stockpiles of nuclear warheads are being reduced on both sides and tensions between the two countries have greatly reduced.

Today current fears of nuclear war are mainly centred around India, first nuclear bomb test and Pakistan, first nuclear bomb test May 1998, because of their territorial dispute in Kashmir and mutual possession of substantial, though probably numbered in dozens rather than thousands. Therefore their nuclear arsenals make many extremely nervous. Moreover both have waged several wars over the conflict in Kashmir.

Nuclear terrorism by non-state organisations could well be more likely, as states possessing nuclear weapons are susceptible to retaliation in kind. Geographically-dispersed and mobile terrorist organizations are not so easy to discourage by the threat of retaliation. Furthermore, while the collapse of the Soviet Union ended the Cold War, it greatly increased the risk that former Soviet nuclear weapons might become available on the black market. Using such a weapon as a foundation, a terrorist might even create a salted bomb capable of dispersing radioactive contamination over a large area, killing a greater number of people than the explosion itself.

According to the recent scientific estimates any large-scale military conflict with the use of nuclear weapons can result in nuclear winter or summer and global climate change killing the majority of living beings.

Nuclear winter is a hypothetical global climate condition that was predicted to be a possible outcome of a large-scale nuclear war. It is thought that severely cold weather would be caused by detonating large numbers of nuclear weapons, especially over flammable targets such as cities, where large amounts of smoke and soot would be injected into the Earth's stratosphere.

This layer of particles would significantly reduce the amount of sunlight that reached the surface. Smoke and soot arising from the burning petroleum fuels and plastics would absorb sunlight very effectively. The ash would be carried by the midlatitude west-to-east winds, forming a uniform belt of particles encircling the

northern hemisphere from 30° to 60° latitude. These thick black clouds could block out much of the sun's light for a period as long as several weeks, causing surface temperatures to drop by as much as 20C.

The combination of darkness and killing frosts, combined with high doses of radiation from nuclear fallout, would severely damage plant life in the region.

The extreme cold, high radiation levels, and the widespread destruction of industrial, medical, and transportation infrastructures along with food supplies would trigger a massive death toll from starvation, exposure, and diseases. It is also thought that nitrogen oxides generated by the blasts would degrade the ozone layer. Secondary effects from ozone depletion and concomitant increases in ultraviolet radiation would be significant, with impacts on the viability of most human staple agricultural crops as well as disruption of ocean food chains by killing off phytoplankton. After that a so-called nuclear summer can happen which would worsen the situation.

A Nuclear summer is a hypothetical scenario resulting from a nuclear war that would follow a nuclear winter. In this scenario, after the nuclear winter the amount of water in the stratosphere would increase, causing greenhouse warming of the surface. It would happen because thick clouds of soot and smoke over burning cities would reflect the major amount of sunlight that would be generated in the stratosphere, accumulating water.

Also the nuclear detonations would also produce a great amount of oxides of nitrogen that would then deplete the ozone layer around the Earth. It is a common knowledge that this layer screens out sun ultraviolet radiation, which causes genetic damage to life forms on the surface. The absorption of ozone also results in a heating of the stratosphere, which results in a further contribution to greenhouse heating.

Exercise 1. Answer the following questions:

1. What is atomic war?
2. What is the only nation to have actually used nuclear weapons in war?
3. When did the USA drop nuclear bombs on Japanese cities?

4. When did the USSR test its first nuclear bomb?
5. What is the most possible result of any large-scale military conflict with the use of nuclear weapons?
6. What is a nuclear winter?
7. What is a nuclear summer?
8. Why might the ozone layer be depleted after a large-scale nuclear war?
9. What countries causing current fears of nuclear war do you know?
10. When did Pakistan test its first nuclear bomb?

Exercise 2. Translate the following words and word-combinations:

to aim, target, to drop, remote, insignificant, to compare, race, collapse, to appear, stockpile, nuclear warhead, to reduce, tension, mutual, dozen, arsenal, to wage, susceptible, retaliation, dispersed, to discourage, threat, former, to create, capable, contamination, hypothetical, global climate, outcome, to cause, flammable, soot, to inject, stratosphere, amount, sunlight, surface, petroleum, to absorb, ash, midlatitude, to encircle, hemisphere, latitude, frost, fallout.

Exercise 3. Give English equivalents:

Ушкоджувати, широко поширений, постачання їжі, рівень смертності, приходити в занепад, озоновий шар, виснаження запасів, фітопланктон, відбуватися в результаті.

Exercise 4. Translate the following words and make your own sentence with each of them:

To deplete	To screen
Absorption	Damage
Radiation	Threat

Grammar exercises

Exercise 1. Translate the sentences into Ukrainian. Mind that meaning is not past:

1. What would you do if you won a million pounds?
2. I don't really want to go to their party, but I probably will go. They would be offended if I didn't go.
3. Kate has decided to apply for the job. She isn't really qualified for it, so she probably wouldn't get it if she applied.
4. I would be very frightened if somebody pointed a gun at me.
5. If you took more exercise, you would probably feel healthier.

Exercise 2. Translate the following sentences:

1. Було б краще, якби він купив щось приємніше.
2. Вона б допомогла, якби він попросив.
3. Якби вона не соромилася, то й сама б зателефонувала.
4. Вона зачекала б на нас, якби не була така заклопотана.
5. Якби вона мала більше часу, вона б вивчала французьку.
6. Він би зміг закінчити роботу, якби знав, що робити.
7. Якби він і прийшов, то нікого б не знайшов.
8. Якби його запитали, він би порадив залишитися вдома.
9. Якби вона була дорослою, то робила б усе, що забажає.
10. Якби він був поетом, то присвятив би їй поему.
11. Вона б також купила словника, якби знайшла його.
12. Вона б поїхала, якби не було так холодно.
13. Вона б купила мікрохвильову піч, якби мала гроші.
14. Він би поїхав на море, якби мав відпустку влітку.
15. На вашому місці, вона б поїхала туди.
16. Якби вона зустріла його, то не впізнала б.
17. Вона б не почала обговорювати це, якби їй не доручили.
18. Якби авто не було таким старим, вони б поїхали на ньому у відпустку.
19. На твоєму місці, вона б розповіла про все.
20. Якби він її запросив, вона б не відмовилася.
21. Якби вона мала гроші, то об'їхала б увесь світ.
22. Якби це трапилося з нею, вона б засмутилася.
23. Вона б зраділа, якби це було правдою.
24. Якби він звернувся за допомогою, вона б не змогла йому відмовити.
25. Якби він знав, що робити, то не звертався б за порадою.

Exercise 3. Work in pairs. Discuss what would happen if the situations were different:

Example: Ken didn't earn enough money last year. He can't buy a motorcycle now.

If Ken had earned enough money last year, he would buy a motorcycle now.

1. John was not a student then. He doesn't have a degree now.
2. Diana failed to win lottery then. She can't buy a house now.
3. Eve refused to marry John then. She is not his wife now.
4. Helen didn't work enough at her English then. She can't get a good job now.

5. Ann used to ignore all young men then. She is not married now.
6. Kate did not go to Paris then. She can't tell anything about the city now.
7. Linda did not leave her job then. She can't get a new job now.
8. Mike and Barbara were close friends then. They are married now.
9. Morris could not find out David Beckham's phone number then. He doesn't have his autograph now.
10. Jack was not very clever then. He has serious problems now.

Exercise 4. Translate the following sentences:

1. Якби наш бухгалтер не помилився вчора, то закінчив би розрахунки сьогодні.
2. Якби він зателефонував учора, вона б зараз не турбувалася.
3. Якби вчора був вихідний день, вона б не була такою втомленою сьогодні.
4. Якби вчора пройшов дощ, зараз не треба було б поливати город.
5. Якби він повторив домашнє завдання перед заняттям, то тепер не чекав би підказки.
6. Якби він раніше пішов спати, у нього б не боліла зараз голова.
7. Якби він не почув про це по радіо учора, то сьогодні прочитав би про це в газеті.
8. Якби замок не зламався, вони б тепер пили чай.
9. Якби вона прийшла учора, ми могли б усі разом поїхати за місто сьогодні.
10. Якби ти послухав мою пораду, мені б не потрібно було зараз викликати слюсаря.
11. Якби він учора надягнув плаща, у нього б тепер не боліло горло.
12. Якби вона закінчила переклад учора, їй би зараз дозволили прогулятися.
13. Якби вона мала сумнів щодо його чесності, вона б тепер розмовляла з ним інакше.
14. Якби їх познайомили раніше, їм було б легше зараз знайти спільну мову.
15. Якби їй позичили учора трохи грошей, вона б сьогодні їх уже повернула.
16. Коли б вони з'їздили влітку на південь, то не говорили б про це так часто тепер.
17. Якби вона пояснила все вчора, він би не розпитував про це зараз.
18. Якби їм вдалося дістати квитки вчора, вони б тепер ніжилися на сонечку.
19. Якби йому в дитинстві читали казки, він би зараз вірив у дива.

20. Якби він не зламав ногу, вони б сьогодні пішли на прогулянку.
21. Якби вони написали диктант учора, сьогодні вона б його перевіряла.

Exercise 5

a) **Work in pairs. Discuss what would happen if the situations were different:**

Example: I didn't have a million dollars. I couldn't buy an island.

If I had had a million dollars then, I would have bought an island.

1. John's video was broken. He failed to record the Super Bowl game.
2. The play was good because Diana Hightower played the leading part.
3. Eve was there. That's why John did not leave.
4. Helen didn't marry David. That's why she did not emigrate.
5. Ann did not become an opera singer. That's why she was very unhappy then.
6. Kate was not a skilled dancer. That's why she was very shy.
7. Linda did not know about Andrew's problems. That's why she did not help him at once.
8. Mike managed to buy a house because his bank gave him a loan.
9. Morris met his wife-to-be at the New-Year party. He went there by chance.
10. Jack was a success because he invested his money well.

b) **Work in pairs. Discuss what would happen if the situations were different:**

Example: I don't live on the Bahamas. - ***I wish I lived on the Bahamas.***

I didn't live on the Bahamas then. - ***I wish I had lived on the Bahamas then***

1. I didn't have enough time to learn English well.
2. He hated having music classes when a child
3. Eve failed to find a better job.
4. Helen didn't learn English well so she is doing it now.
5. Ann watches TV too much. Her mother wants to stop it.
6. Kate can't stop having too much coffee.
7. Linda does not have a lot of money.
8. Mike is too old to start a new business.
9. David does not understand his parents.
10. Jack did not make much money last year.

LESSON 8

Pre-text exercise.

1. Read and remember the following words and their meaning:

Word	Meaning
settlement	a place, typically one which has previously been uninhabited, where people establish a community.
accident	something bad that happens that is not expected or intended and that often damages something or injures someone.
reactor	a large machine in which atoms are either divided or joined in order to produce power.
capable	able to do things effectively and skilfully, and to achieve results; having the ability, power, or qualities to be able to do something.
attention	the act or state of applying the mind to something.
dangerous	a dangerous person, animal, thing, or activity could harm you.
incompetence	lack of ability to do something successfully or as it should be done.
catastrophic	involving or causing sudden great damage or suffering.
awareness	knowledge that something exists, or understanding of a situation or subject at the present time based on information or experience.
evacuation	the process of moving people from a dangerous place to somewhere safe.
explosion	a large-scale, rapid, or spectacular expansion or bursting out or forth.

Read, translate and retell Text A

Text A

THE CHERNOBYL ACCIDENT

The Chernobyl station is situated at the settlement of Pripyat, Ukraine, 18 km northwest of the city of Chernobyl, 16 km from the border of Ukraine and Belarus, and about 110 km north of Kiev, the capital of Ukraine.

The station consisted of four reactors, each capable of producing 1 GW of electric power. Construction of the plant began in the 1970s, with reactor number 1 commissioned in 1977, followed by number 2 in 1978, number 3 in 1981, and number 4 in 1983. Two more reactors number 5 and number 6, also capable of producing 1 Gigawatt each were under construction at the time of the accident.

The Chernobyl accident riveted international attention. Around the world, people read the story and were profoundly affected. As a result, «Chernobyl» has entered the public consciousness in a number of different ways and received worldwide media attention.

The Chernobyl accident was clearly a major disaster in human history. Public awareness of the risks of nuclear power increased significantly. Organizations, both pro- and anti-nuclear, have made great efforts to sway public opinion.

The Chernobyl accident also came to symbolize the crumbling state of the USSR in public perception, in particular a dangerous culture of incompetence and cover-up.

On Saturday, April 26, 1986, at 1:23:58 a.m. local time, the fourth reactor of the Chernobyl power plant known as Chernobyl-4 suffered a catastrophic steam explosion that resulted in a fire, a series of additional explosions, and a nuclear meltdown.

It is regarded as the worst nuclear accident in the history of nuclear power ever happened. It produced a plume of radioactive debris that drifted over parts of the western Soviet Union, Eastern Europe, Scandinavia, UK, and even eastern USA.

Large areas of Ukraine, Belarus, and Russia were badly contaminated, resulting in the evacuation and resettlement of more than 300,000 people. About 60% of the radioactive fallout landed in the neighbour republic Belarus.

Even now it is difficult to accurately tally the number of deaths caused by the event at Chernobyl, as most of the expected deaths are from cancer, have not yet actually occurred, and are difficult to attribute specifically to the accident.

The Chernobyl accident was not a unique event. Long before, in 1957 near Chelabinsk-40, a small top-secret town, the first nuclear accident occurred involved the first serious nuclear contamination of vast territories. It was a nuclear explosion happened in a tank with nuclear wastes. In 30 years such tragedy repeated at Chernobyl.

People hope that it was the last time because the third time might be the last one.

Exercise 1. Answer the following questions:

1. Where is the Chernobyl station located?
2. When did construction of the plant begin?
3. What happened on Saturday, April 26, 1986, at 1:23:58 a.m. local-time?
4. How many people were resettled due to the accident?
5. Where did most radioactive fallouts land?

6. Why is it difficult to accurately tally the number of deaths caused by the event at Chernobyl?
7. What does the Chernobyl accident symbolize?
8. What happened at Chelaybinsk-40 in 1957?

Exercise 2. Translate the following words and word-combinations:

to be situated, settlement, northwest, border across, to consist of, capable, plant, to commission, to follow, to be under construction, to rivet, attention, profoundly, to affect, consciousness, to receive, worldwide, clearly, disaster, awareness, significantly, effort, to sway, to symbolize, crumbling state, perception, incompetence.

Exercise 3. Give English equivalents:

Отримувати, зусилля, стан розвалу, випар, розплавлення активної зони реактора, зрушуватися за вітром, радіоактивні осадки, приземлятися, сусід, перераховувати, пояснювати, особливо, ядерні відходи, надсекретне місто, ліквідація наслідків аварії, уважність, бути в процесі будівництва.

Exercise 4. Translate the following sentences:

a) 1. The Chernobyl accident dominates the Energy accidents sub-category, of most disastrous nuclear power plant accident in history, both in terms of cost and casualties.

2. During the accident, blast effects caused 2 deaths within the facility and later 29 firemen and employees died in the days-to-months afterward from acute radiation syndrome, with the potential for long-term cancers still being investigated.

3. As the plumes and subsequent fallout continued to be generated, the evacuation zone was increased from 10 to 30 km about one week after the accident, resulting in a further 68,000 evacuated, including from the town of Chernobyl itself.

4. The accident raised the already heightened concerns about fission reactors worldwide, and while most concern was focused on those of the same unusual design, hundreds of disparate electric-power reactor proposals, including those under construction at Chernobyl, reactor No.5 and 6, were eventually cancelled.

5. The accident also raised concerns about the cavalier safety culture in the Soviet nuclear power industry, slowing industry growth and forcing the Soviet government to become less secretive about its procedures.

в) 1. Кількість людей, що брали участь в гасінні пожежі на ЧАЕС, становила 240 тис.

2. Всі вони отримали високі дози радіації. Однак саме пожежникам вдалось врятувати нас від справді серйозної катастрофи – сильного водневого вибуху, який міг стати наступним етапом трагедії.

3. Перше офіційне повідомлення в СРСР зробили аж 28 квітня під тиском міжнародної спільноти, але і в ньому майже не повідомлялось про масштаби проблеми.

4. Після аварії розпочався судовий процес, на якому директора станції В. Брюханова було звинувачено в тому, що він не вжив відповідних заходів для захисту населення і працівників станції після виникнення аварійної ситуації.

5. Як виявилось, помилки персоналу АЕС неодноразово призводили до небезпечних ситуацій, але ці випадки ретельно приховувались.

Read, translate and retell

Text B

AFTER THE CHERNOBYL ACCIDENT

The Chernobyl accident occurred on April 26, 1986, at the Chernobyl nuclear power plant in the Ukraine which used to be the part of the Soviet Union that time.

The Chernobyl accident was clearly a major disaster for the whole humanity. Public awareness of the risks of nuclear power increased significantly.

The workers involved in the recovery and cleanup after the accident received high doses of radiation. In most cases, these workers were not equipped with individual dosimeters to measure the amount of radiation received, so experts can only estimate their doses.

According to Soviet estimates, up to 600,000 people were involved in the cleanup of the 30 km evacuation zone around the reactor. In the first year after the accident, the number of cleanup workers in the zone was estimated to be 211,000, and these workers received an estimated average dose of 16.5 rem. In reality the number of people involved in cleanup processes can be higher.

Besides liquidators there were many people who lived in that area. The accident produced a huge plume of radioactive debris that drifted over parts of the western Soviet Union, Eastern and Northern Europe, the UK, and even eastern USA. Large areas of Ukraine, Belarus, and Russia were badly contaminated. More than 300,000 people were evacuated and resettled. But many people remained to live on the contaminated grounds, some people who were evacuated returned and still live in the 30 km zone.

Some children in the contaminated areas were exposed to high radiation doses because of an intake of radioactive iodine, a relatively short-lived isotope, from contaminated local milk. Several studies have found that the incidence of thyroid cancer among children in Belarus, Ukraine and Russia has risen sharply.

Late in 1995, the World Health Organization linked nearly 700 cases of thyroid cancer among children and adolescents to the Chernobyl accident. In reality the number of cases of thyroid cancer and leukemia is much higher.

As to the short and longer-term effects of radiation after the accident, the main health concern involved radioactive iodine, with a half-life of eight days. Today, there is not the less concern about contamination of the soil with strontium-90 and caesium-137, which have half-lives of about 30 years. The highest levels of caesium-137 are found in the surface layers of the soil where they are absorbed by plants, insects and mushrooms, entering the local food supply. Recent tests have shown that caesium-137 levels in trees of the area are continuing to rise. There is some evidence that contamination is migrating into underground and closed bodies of water such as lakes and ponds.

The main source of their elimination from the environment is predicted to be natural decay of caesium-137 to stable barium-137, since runoff by rain and groundwater has been demonstrated to be negligible.

The trouble at the Chernobyl plant itself did not end with the disaster in Reactor No. 4 and creation of the sarcophagus. The damaged reactor was sealed off and 200 metres of concrete placed between the disaster and the operational buildings. The Ukrainian government continued to let the three remaining reactors operate because of an energy shortage in the country. A fire broke out in Reactor No. 2 in 1991; the authorities subsequently declared the reactor damaged beyond repair and had it taken offline. Reactor No. 1 was decommissioned in November 1996 as part of a deal between the Ukrainian government and international organizations such as the IAEA to end operations at the plant. In November 2000, Ukrainian President Leonid Kuchma personally turned off the switch to Reactor No. 3 in an official ceremony, finally shutting down the entire plant.

The IAEA notes that, the Chernobyl accident released as much as 400 times the radioactive contamination of the Hiroshima bomb. That is why the so-called «Red Forest» of pine trees within the 10 km zone, immediately behind the reactor complex, can be observed. The forest is so named because in the days following the accident the trees appeared a deep red hue as they died due to extremely heavy radioactive fallout. In the post-disaster cleanup operations, a majority of the 4 km forest was bulldozed and buried. The site of the Red Forest remains one of the most contaminated areas in the world. However, it has proved to be an astonishingly fertile habitat for many endangered species.

Exercise 1. Answer the following questions:

1. When did the Chernobyl accident occur?
2. What short-term effects of radiation on the human being do you know?
3. What longer-term effects on the humanity do you know?
4. Did anything happen at the Chernobyl plant after the disaster of 1986?
5. How much contamination did the Chernobyl accident release?
6. How many people were involved in the cleanup of the 30 km evacuation zone around the reactor?
7. Why were the levels of radioactive contamination in trees of the area continuing to rise?
8. How many people were evacuated and resettled after the Chernobyl accident?
9. What countries were-hit by the Chernobyl accident?

Exercise 2. Translate the following words and word-combinations:

to occur, Chernobyl, powerplant, disaster, awareness, to increase from, significantly, recovery, cleanup, to equip with, dosimeter, to measure, amount, to estimate, to involve, evacuation zone, average dose, huge part of, plume, debris, to drift, contaminated, to resettle, to remain, to expose, intake, radioactive iodine, short-lived isotope, incidence, thyroid cancer, to link, adolescent, leukemia, half-life of, strontium-90, caesium-137, surface, to absorb, insect, mushroom, food supply, evidence, pond, elimination, environment.

Exercise 3. Give English equivalents:

Види тварин які знаходяться на межі вимирання, батьківщина, звільняти від, згодом, що не враховується, довкілля, піддавати дії радіації, відновлення, короткоживучий ізотоп.

Exercise 4. Translate the following words and make your own sentence with each of them:

Evidence	Groundwater
Concrete	Astonishing
Incidence	Average

Exercise 5. Translate Text B in writing.

Exercise 6.

a) Read and translate the text. Discuss the problem which are concerned in this text:

One of the most serious and persistent problems of nuclear power is what to do with radioactive waste. Supporters argue that radioactive waste is actually not a major problem since the quantities are small. Whilst this may be true in relation to coal-fired power plants, there are still huge amounts of waste created during the nuclear process. In fact the production of 1,000 tons of uranium fuel typically generates 100,000 tons of tailings and 3.5 million litres of liquid waste.

The amount of sludge produced is nearly the same as that of the ore milled. At a grade of 0.1% uranium, 99.9% of the material is left over. As long-lived decay products such as thorium-230 and radium-226 are not removed, the sludge contains 85% of the initial radioactivity of the ore. In addition, the sludge contains heavy metals and other contaminants such as arsenic, as well as chemical reagents used during the milling process.

Still, the volume of waste is not the main problem associated with nuclear waste. The main problem is that high-level waste remains dangerously radioactive for up to 240,000 years. After half a century of research there are still no satisfactory solutions to this problem. The most commonly suggested solution is to build underground waste repositories for long-term storage. In 1987, the U.S. Department of Energy announced plans to build such a repository at Yucca Mountain in Nevada. According to the plan, high-level radioactive waste will be buried deep in the ground where it will hopefully remain unexposed to groundwater and unaffected by earthquakes. On a timescale of hundreds of thousands of years, however, it is impossible to predict whether an area will remain dry or geologically stable.

Moreover the costs of monitoring and maintenance over such a timescale are unimaginable and generations for hundreds of thousands of years to come would still have to pay the cost for a few years electricity for our generation. The Yucca Mountain scheme has generated huge public outcry and it is likely that the project will never go ahead. Similar problems elsewhere in the world mean that there are currently no final repositories in operation.

In the last decades researchers have been working on the technology to reduce radioactivity and the decay time of nuclear waste, the so-called transmutation process. This has often been optimistically heralded as the future solution to the waste problem, however, there is no guarantee that this research will be successful, and if it is the financial costs will be enormous. Nuclear waste contains many different types of radioactive isotopes, which must all be partitioned separately and then transmuted separately. The aim is to decrease the decay time of the radioactivity of these isotopes. This will not be possible for all isotopes and not all isotopes can be partitioned. It will require new processing technologies and plants. At this moment only plutonium and uranium

are separated in reprocessing. The application of these new techniques will require a large-scale introduction of fast breeder reactors or other new advanced reactor types, which will take billions of dollars and many decades. And it is obvious that these techniques can only be applied for future spent fuel and not for the present amount of nuclear waste. Every attempt to present it as a solution for already present waste is misleading.

Other so-called solutions that have been proposed include: disposing waste in deep ocean trenches, blasting waste into space, and leaving waste by nuclear power plants until a use for it is possibly identified in the future. This last method is now applied on a large scale.

b) Express the main idea of the text in a few sentences.

Grammar exercises

Exercise 1. Translate the following sentences:

1. Він би давно вже добрався до міста, якби не заблудився.
2. Сад давав би гарний врожай, якби за ним доглядали.
3. Він би зараз не сидів за кермом, якби водій не взяв вихідний.
4. Шкода, що цей автор не вразив її.
5. На жаль, справи завадили йому взяти участь у експедиції.
6. Якби він з'явився тут, вона б одразу пішла геть.
7. Якби він не зробив зауваження, вона б ще й досі виступала.
8. Подорож була б гарною, якби не потрібно було робити пересадку.
9. Якби він не був занудою, то не набрид би усім.
10. Якби книжка була новою, вона б коштувала набагато більше.
11. Йому хотілося самому заробляти на життя.
12. Хотілося б, щоб уже розвиднилося.
13. Він би не вчився зараз керувати автомобілем, якби не купив його минулого тижня.
14. Якби він був підготовлений, то здав би іспит.
15. Він буде відрахований, якщо і далі пропускатиме заняття.
16. Він би не програв змагання, якби був у належній формі.
17. Якби він не складав іспити зараз, вони б могли бачитися частіше.
18. Якби вони не об'їхали всю Європу, їм би не заздрили так.
19. Шкода, що вони не мають мобільних телефонів.
20. На жаль, поїздка не принесла їм ніякої користі.
21. Він шкодує, що не буде на роботі кілька днів.
22. Якби вони не були друзями, то побилися б.
23. Якщо вони потраплять сюди, то будуть зачаровані природою.
24. Якщо його покарають, він дуже засмутиться.
25. Якщо вона поскаржиться, скажіть, що вона сама винна.

Exercise 2. Complete the Conditional Sentences (Type III) by putting the verbs into the correct form. Use conditional II with would in the main clause:

1. If you (study) for the test, you (pass) it.
2. If you (ask) me, I (help) you.
3. If we (go) to the cinema, we (see) my friend Jacob.
4. If you (speak) English, she (understand)
5. If they (listen) to me, we (be) home earlier.
6. I (write) you a postcard if I (have) your address.
7. If I (not / break) my leg, I (take part) in the contest.
8. If it (not/ start) to rain, we (walk) to the museum.
9. We (swim) in the sea if there (not / be) so many sharks there.
10. If she (take) the bus, she (not / arrive) on time.

Exercise 3. Translate the following sentences:

1. Він пошкодував, що прийшов без запрошення.
2. Якби вони не галасували, вона б не розгнівалася.
3. Якби вони зателефонували до поліції, над ними б лише посміялися.
4. Вона відчула б полегшення, якби все з'ясувалося.
5. Якщо словники не викуплять, вони будуть продані.
6. Шкода, що життя роз'єднало нас.
7. На жаль, вона йому не сестра.
8. Якби ви знали матеріал, то відразу б здали іспит.
9. Якщо їй не вдасться здати іспит, потрібно буде працювати додатково.
10. Якби він не був такий розумний, то не досяг би такого успіху.
11. Якщо ти знову загубиш ручку, бери мою.
12. Хотілося б гарно грати в теніс.
13. Шкода, що зараз не можна полювати.
14. Вони пожалкували, що залишили його вдома самого.
15. Якщо він не буде слухати записи, йому буде важко поставити вимову.
16. Якщо вона нікого не бажає бачити, то так і каже.
17. Якби ці операції робилися руками, це потребувало б набагато більше часу.
18. Він допоможе їй за умови, що вона більше не буде запізнюватися.
19. Якби її щось не влаштовувало, вона б одразу сказала про це.
20. Вона б не одужала так швидко, якби про неї так не піклувалися.
21. Якщо пливати вниз за течією, можна дістатися моря.
22. Якщо бажаєте одержувати більш високу зарплатню, слід краще працювати.
23. Вона пожалкувала, що не пообідала.

24. Хотілося б, аби йому було стільки ж років, як і їй.
25. Якби вона бачила, що вони були проти, то не наполягала б.

Exercise 4. Complete the Conditional Sentences (Type III) by putting the verbs into the correct form:

1. If the weather (to be) nice, they (to play) football.
2. If we (to go) to a good restaurant, we (to have) a better dinner.
3. If John (to learn) more words, he (to write) a good report.
4. If the boys (to take) the bus to school, they (to arrive) on time.
5. If the teacher (to explain) the homework, I (to do) it.
6. If they (to wait) for another 10 minutes, they (to see) the pop star.
7. If the police (to come) earlier, they (to arrest) the burglar.
8. If you (to buy) fresh green vegetable, your salad (to taste) better.
9. If Alex (to ask) me, I (to email) the documents.
10. If he (to speak) more slowly, Peggy (to understand) him.

Exercise 5. Translate the following sentences:

1. If it had rained, you would have gotten wet.
2. You would have passed your exam if you had worked harder.
3. I would have believed you if you hadn't lied to me before.
4. If you hadn't lied to me before, I would have believed you.
5. If I had worked harder I would have passed the exam.
6. If I had known you were coming I would have baked a cake.
7. I would have been happy if you had called me on my birthday.
8. If **you'd** given me your e-mail, **I'd** have written to you.
9. **I would** have bought you a present if **I had** known it was your birthday.
10. If I had found her address, I would have sent her an invitation.

Test 1. Choose the correct variant:

1. If I knew his address, I him.
a) visited b) would visit c) had visited
2. If Sue anybody the news, it won't be a secret.
a) tells b) had told c) told
3. If Tom the bus, he would have come to the meeting on time.
a) hasn't missed b) missed c) hadn't missed

4. If I see Jill, I her to call you.
a) would remind b) will remind c) has reminded
5. If I were you, I the red dress.
a) had chosen b) would choose c) choose
6. If she had been taking care of her health, she ill.
a) wouldn't have fell b) didn't fall c) wouldn't have fallen
7. We will stay at this hotel provided it much.
a) doesn't cost b) didn't cost c) hadn't cost
8. If Mark for the job, he would have got it.
a) applies b) will apply c) had applied
9. If it were not for the snow, we a car to the cinema.
a) can drive b) could drive c) could drove
10. If he had phoned me, I him the home task.
a) would have told b) would tell c) told

Test 2. Choose the correct variant:

1. They'll go to the restaurant if they a table in advance.
a) would reserve b) reserve c) reserved
2. If I found a purse, I it back to the owner.
a) would give b) had given c) will give
3. If Mark so much, he would be fit.
a) didn't ate b) won't eat c) didn't eat
4. If he hadn't asked for the directions, we ___ lost.
a) might has got b) might have got c) may got
5. We'll miss you a lot in case you to another house.
a) will move b) would move c) move
6. I wish I in the countryside. (but I don't)
a) lived b) live c) would live
7. I won't believe you unless you clear evidence.
a) give b) will give c) had given
8. We would have been injured in the crash if we seatbelts.
a) hasn't been wearing b) hadn't been wearing c) wore
9. If you hadn't left your camera at home, we lots of pictures.
a) could took b) took c) could have taken
10. If John the local race, he will take part in the national championship.
a) won b) wins c) would win

Test 3. Choose the correct variant:

1. If the temperature falls below 0 °C, water into ice.
a) turned b) turns c) will turn d) turn
2. If he the fine, he will go to the prison.
a) hadn't paid b) won't pay c) doesn't pay d) wouldn't pay
3. If I time, I'd take up sport.
a) have b) had had c) had d) am having
4. If she had studied harder, she the test.
a) would have passed b) would pass c) would passed d) passed
5. If you need help, to me.
a) will come b) would come c) comes d) come
6. If I hadn't been rude to her, she upset now.
a) would not have been b) wouldn't be c) will not be d) isn't
7. If I were you, I to your mother.
a) would listen b) had listened c) will listen d) listen
8. If you your work, we can have a rest.
a) will finish b) finished c) had finished d) have finished
9. If you add sugar to a cup of tea, it sweeter.
a) taste b) tasted c) tastes d) will taste
10. If he hadn't been acting so foolishly, he punished.
a) would be b) wouldn't have been c) would have not been d) would be not

Test 4. Choose the correct variant:

1. If you ever in our town, you should come and visit us.
a) will be b) were c) are d) be
2. If he had found a job, he, for money now.
a) won't ask b) would not have asked c) had not been asking d) wouldn't ask
3. If I a lottery, I a yacht.
a) win / would buy b) has won / would buy c) win / would have bought d) won / would buy
4. If the weather ... tomorrow, we'll go for a walk.
a) will be fine b) is fine c) was fine d) fine
5. If I earlier, I wouldn't be late now.
a) got up b) had got up c) were got up d) did get up
6. If I in a bigger house, I would invite a lot of friends to my party.
a) lived b) had lived c) live d) had been living
7. If I do my homework, the teacher happy.
a) is b) will be c) were d) was

8. If you heat water up to 100 °C, it
 a) will boil b) boiled c) boils d) had boiled
9. If he had had money, he her a gift.
 a) will buy b) would buy c) would have bought d) would not have bought
10. Emma a card if she had remembered it was their anniversary.
 a) would have sent b) would sent c) sends d) sent

Test 5. Choose the correct variant:

1. If Naomi Campbell hadn't been so beautiful, she ... a supermodel.
 a) will not become b) would not have become c) would not become
 d) would become
2. If I ... work late, I will call you.
 a) have to b) would have to c) will have to d) had to
3. If I were you, I to your sister.
 a) had talked b) would talked c) would talk d) talked
4. If you that plate, you'll burn your fingers.
 a) will touch b) touch c) touched d) had touched
5. If I ... the bus, I wouldn't have been late for my job interview.
 a) didn't miss b) would not missed c) would not have missed d) hadn't missed
6. They would have helped us if we them.
 a) had asked b) hadn't asked c) would asked d) asked
7. She will join us later unless she a lot of work to do.
 a) isn't have b) won't have c) doesn't have d) has
8. If nobody paid the bill, the electricity
 a) will cut off b) will be cut off c) would cut off d) would had been cut off
9. If he knew her, he to her.
 a) would spoke b) will speak c) spoke d) would have spoken
10. you leave the home now, you'll miss the bus.
 a) If b) Whether c) Unless d) Supposing

Список літератури

1. Bell Jan. Matters Intermediate – Longman: 2000. - 168p.
2. Swan Michael. How English Works. Oxford University Press. 1997.- 358 p.
3. Oxford English – Russian Dictionary. – Cambridge: “Cambridge University Press”, 1999. – 623 p.
4. Martin Hewings. Advanced Grammar in Use. – Cambridge: “Cambridge University Press”, 2005 – 296 p.
5. Dixon English Series. Robert V. – Dixon: “Press”, 1986 – 527 p.
6. Frequently asked questions. IPCC, 2007: Climate Change 2007: The Physical Science Basis. Contribution of working group I to the Fourth Assessment Report of Intergovernmental Panel on Climate Change/Solomon S., Qin D. etc. – Cambridge: “Cambridge University Press”. 2007. – 113 p.
7. Murphy English Grammar in Use. – Cambridge: “Cambridge University Press”. 1991. – 325 p.
8. Голіцинський Ю.Б. Англійська мова. Граматика. Збірник вправ, 2011. – 544 с.