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First steps to understanding environmental issues

Первые шаги начинающего эколога

Учебное пособие



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Учебное пособие “First steps to understanding environmental issues. Первые шаги начинающего эколога” предназначено для школьников старших классов и студентов младших курсов неязыковых вузов, интересующихся актуальными проблемами загрязнения и охраны окружающей среды. Цель учебного пособия — научить извлекать информацию из аутентичных текстов, аудио- и видеоматериалов, делать сообщения и обсуждать проблемы загрязнения и охраны окружающей среды, используя основные экологические термины.

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**FIRST STEPS TO UNDERSTANDING ENVIRONMENTAL ISSUES.
ПЕРВЫЕ ШАГИ НАЧИНАЮЩЕГО ЭКОЛОГА**

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Дорогие читатели!

Вы держите в руках учебник “First steps to understanding environmental issues. Первые шаги начинающего эколога”, подготовленный коллективом авторов кафедры английского языка № 4 МГИМО МИД России. Учебник предназначен для тех, кто хочет изучать английский язык на основе материалов, связанных с экологией и охраной окружающей среды.

Сегодня часто говорят, что воздействие человека на окружающую среду достигает критического уровня. В России, как и во всем мире, особое внимание уделяется решению экологических проблем, разрабатываются и принимаются законы, направленные на ликвидацию накопленного вреда, охрану воздуха и водных ресурсов. Практическая реализация таких законов требует подготовки специалистов в сфере экологии и природопользования со знанием международных аспектов экологической политики. Для этого в 2010 году в МГИМО на Факультете прикладной экономики и коммерции была создана кафедра Международных комплексных проблем природопользования и экологии и было открыто новое направление подготовки — „Экология и природопользование“.

Государственная экологическая политика носит не только управленческий, но и коллективный характер, поскольку правильное отношение и рациональный подход к использованию природных ресурсов формируются в первую очередь в обществе. Чем раньше будет воспитываться бережное отношение к природе, тем больших результатов нам удастся достичь в решении экологических проблем. Поэтому приятно осознавать, что молодое поколение проявляет интерес к вопросам охраны природы, изучению проблем загрязнения и очищения окружающей среды. Эти проблемы носят глобальный характер, в связи с чем изучение вопросов экологии на английском языке становится необходимым.

Уверен, что этот учебник понравится студентам, поможет расширить их кругозор, а школьникам, возможно, определиться и с выбором будущей профессии.

Желаю вам успехов в начале пути!

Ректор МГИМО МИД РОССИИ
АКАДЕМИК РАН
А. В. Торкунов

Предисловие

Предлагаемое учебное пособие “First steps to understanding environmental issues. Первые шаги начинающего эколога” предназначено для школьников старших классов и студентов младших курсов неязыковых вузов, интересующихся актуальными проблемами загрязнения и охраны окружающей среды. Цель учебного пособия — научить извлекать информацию из аутентичных текстов, аудио- и видеоматериалов, делать сообщения и обсуждать проблемы окружающей среды, используя основные экологические термины.

Пособие содержит аутентичные тексты, аудио- и видеоматериалы. Материалы представлены в логической последовательности, способствуют закреплению знаний учащихся, полученных по другим предметам, и расширяют их кругозор. При отборе текстов, аудио- и видеоматериалов учитывалась их информативность, познавательная ценность и актуальность тематики.

В соответствии со статьей 1274 Гражданского кодекса Российской Федерации о „Свободном использовании произведения в информационных, научных, учебных или культурных целях“ авторы данного учебного пособия использовали в своей работе правомерно обнародованные произведения и отрывки из них в качестве иллюстраций (в широком смысле) в объеме, оправданном поставленной целью или методикой, материалы с обязательным указанием имени автора, произведение которого было использовано, и источника заимствования. В конце пособия приводится список источников, которые прямо или косвенно были использованы авторами при подготовке данного учебного пособия.

Методическая записка

Пособие состоит из 6 разделов (Units), посвященных следующим темам:

1. About the Earth
2. Ecosystems and Biodiversity
3. Energy and Resources
4. Human Population
5. Global environmental issues
6. Waste

В первом разделе „О Земле“ рассматривается строение Земли и ее оболочек: литосферы, гидросферы, атмосферы и биосферы, а также их взаимосвязь.

Во втором „Экосистемы и биоразнообразие“ — типы и размеры экосистем, основные процессы, поддерживающие их функционирование, а также понятие биоразнообразия и причины его снижения. В качестве наиболее уязвимой экосистемы приводится пример экосистемы тундры.

Третий раздел „Энергия и ресурсы“ посвящен вопросам классификации природных ресурсов, альтернативной энергетики, а также управлению энергоресурсами.

Четвертый раздел „Население“ содержит основные демографические тенденции, причины и последствия урбанизации, миграции и перенаселенности Земли.

Раздел „Глобальные экологические проблемы“ посвящен вопросам изменения климата, истощения озонового слоя, загрязнения водных ресурсов, опустынивания и другим экологическим проблемам.

В разделе „Отходы“ рассматриваются такие актуальные на сегодняшний день темы, как виды и источники отходов, методы их утилизации, преимущества их переработки.

Каждый раздел (Unit) начинается с **Lead-in** для активизации уже имеющихся знаний обучающихся из курса школьной программы и создания у них мотивации для дальнейшего изучения темы раздела.

Раздел, в свою очередь, состоит из 4 подразделов (Sections), связанных одной темой. Все подразделы имеют одинаковую структуру и содержат упражнения на формирование навыков чтения, аудирования, говорения, письма и на развитие критического мышления.

Блок **Vocabulary Practice** состоит из списка активной лексики подраздела и лексических упражнений. Указанный блок способствует расширению словарного запаса в области экологии и охраны окружающей среды и направлен на постепенное овладение лексикой по изучаемым экологическим темам.

Блок **Reading Practice** включает тексты, раскрывающие основную тему и содержащие активную лексику. К каждому тексту составлены вопросы и предложены различные задания.

Блок **Listening Practice** предлагает обучающимся познакомиться с BBC news, National Geographic, TedEd, TedTalks и другими информационными каналами. Задания выстроены по принципу от простого к сложному: верные / неверные утверждения (true / false sentences), заполните пробелы (fill in the gaps), ответы на вопросы (answering questions). Обязательными и важными являются задания формата после прослушивания (After Listening). В ходе выполнения таких заданий слушатели курса учатся выражать собственное мнение по изучаемой теме, подкрепляя его примерами из прослушанных программ и информацией, полученной из других источников, используя при этом активную лексику урока. Работа с данными видами деятельности не требует предварительной подготовки слушателей и проводится непосредственно на занятии.

Блок **Video and Note-taking Practice** содержит задания на просмотр видеосюжетов по заявленным темам и задания, обучающие конспектированию. Последние готовят слушателей курса воспринимать информацию в целом, развивают умение выделять главную мысль, учат реферированию текста. Ведение записей является одним из важнейших навыков, который положительно влияет на процесс обучения. Учащиеся, которые умеют правильно вести записи, лучше усваивают материал и запоминают больше информации. Предлагаемый в данном учебном пособии метод *Cornell* помогает обучающимся выделить основные темы сообщения, добавить необходимые детали и обобщить полученную информацию в виде краткого сообщения *Summary*.

Задания блока **Speaking Practice** направлены на стимулирование выражения собственного мнения обучающихся, использование методов убеждения и аргументирования.

Блок **Writing Practice** содержит задания по написанию двух видов эссе: выражение собственного мнения (Opinion essay) и решение проблемы (Solution essay). Слушателям курса предлагается формат, соответствующий как международным стандартам, так и формату единого государственного экзамена по иностранному языку в России. Подготовка включает в себя предварительную дискуссию, обсуждение аргументов и составление плана, что значительно облегчает работу слушателей над эссе, учит их критическому мышлению.

Рекомендуется выделять на изучение каждого раздела 24 академических часа, из них на работу с одним подразделом отводить 6 академических часов по 1 академическому часу на отдельный блок соответственно.

В методических целях все заимствованные из современных аутентичных ресурсов текстовые, аудио- и видеоматериалы, включенные в пособие, прошли авторскую обработку: материалы были сокращены и адаптированы.

Для удобства школьников и преподавателей в конце пособия приведен список терминов рассматриваемой предметной области, используемой в пособии.

Пособие включает в себя Приложения **Useful Language for Presentations, Writing Skills for Opinion and Solution Essay** и словарь активной лексики, используемой в пособии.

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ABOUT THE EARTH

Lead-in

Look at the picture. What do you know about these spheres? What are we going to talk about in this unit? How are these spheres connected with environmental issues?

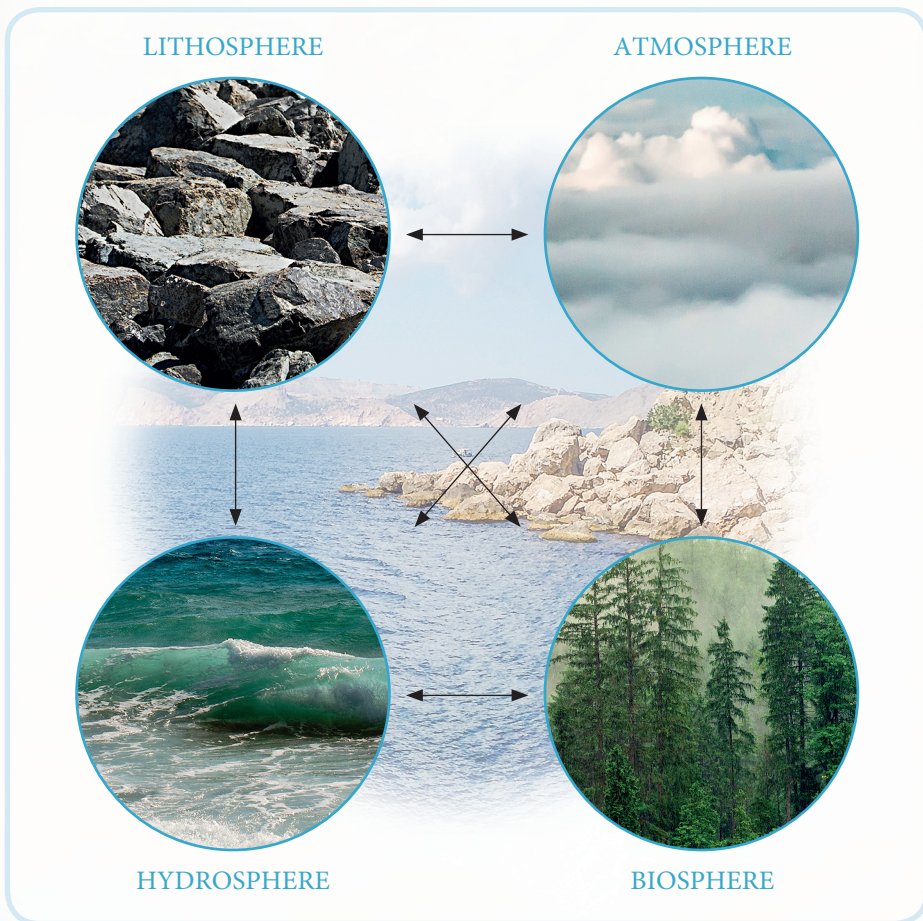


Figure 1. Earth system

Section 1

Earth system

Vocabulary Practice 1

1. carbon dioxide — углекислый газ
2. (to) cause — быть причиной
3. constantly — постоянно
4. core of the earth — ядро земли
5. (to) decompose — разлагать на составные части
6. earth's crust — земная кора
7. molten magma — расплавленная магма
8. (to) overlap — перекрывать, частично совпадать
9. particle — частица
10. (to) pour out — изливаться (о лаве)
11. solid — твердый
12. surface — поверхность
13. (to) sustain — поддерживать
14. vital — жизненно важный
15. volcanic eruption — извержение вулкана

Exercise 1. Fill in the gaps with the words from the box.

earth's crust, surface, causes, molten magma, core of the earth

1. Igneous rocks are those that have formed from _____.
2. Scientists study the movement of the _____.
3. Smoking _____ lung cancer.
4. The _____ is responsible for the generation of Earth's magnetic field.
5. Mountains cover about a quarter of the world's land _____ and provide water and mineral resources, timber and non-timber forest products, and many other food, fiber and fuel product.

Exercise 2. Fill in the blank with an Active Vocabulary unit that means the same as the phrase in brackets.

1. The hygienic handling and production of feed is _____
(*necessary for continued existence*) to ensure safe food.
2. The movie's _____ (*an occasion when a volcano explodes*)
looks so natural that it is easy to forget that it all came out of a
computer.
3. Leaves _____ (*decay*) quickly, which can turn water dark
and even make it smelly.
4. Scientists believe that deep down inside the earth, there is the
_____ (*the innermost geologic layer of the earth*) that
protects us from the dangerous radiation of space.
5. When lava _____ (*erupts*) near the sea surface, tremendous
volcanic eruptions sometimes occur.

Exercise 3. Correct the spelling of the jumbled words underlined.

1. Raw coal contains moisture and SDLOI _____ particles of
mineral matter.
2. Teenagers today are CANTONLYST _____ being told that
it is vital to protect the environment.
3. Water helps to STAUINS _____ life by regulating our body
temperature.
4. When fossil fuels are burned, they release CBAONR _____
EXIDIDO _____ and other greenhouse gases.
5. Where a sunbeam enters, every LIPACRET _____ of dust
becomes visible.

Exercise 4. Guess the words. The first letter of the word is given.

1. A little over 70 per cent of the Earth's s_____ is covered
in water.

2. The fish's body is covered with scales that o_____ each other like the shingles on the roof of a house.
3. The climate is c_____ changing.
4. Photosynthesis happens when the plant takes in the c_____ d_____ that we breathe out and uses it as food.
5. The word atom comes from the Greek word "atmos" and means indivisible p_____.

Reading Practice 1

Read the text and answer the questions given after the text.

When you think of the Earth, what comes to mind? Water, trees, animals, winds, rocks and so on, right? Yes, all that is part of the planet we call Earth.

The Earth is a system. It has four major parts all connected and working in harmony to make the planet function properly. These four parts are called *spheres*. They are the Atmosphere, Lithosphere, Biosphere, and Hydrosphere (figure 1). Each sphere has its own function and it is constantly changing in a process called cycles.

The *lithosphere* is the solid, outer part of the Earth, including the upper portion of the mantle and the crust. Examples are all the rocks and minerals, lava and molten magma from beneath the earth's crust, mountains.

The *hydrosphere* includes all the water parts on the planet: the water in the oceans and seas, including all the frozen water and ice, lakes, lagoons, rivers and ponds, as well as underground water. They are all parts of the hydrosphere and together they cover more than 70% of the surface of the earth. The hydrosphere functions and supports other spheres through water cycle.

The *atmosphere* is made up of gases and tiny water particles. Nitrogen (78%) and oxygen (21%) make up the most. These gases are of vital importance to life on earth because plants and animals depend on them to live. The atmosphere is sustained by energy from the sun. When the sun shines, heat is radiated to the earth's surface and reflected back into the atmosphere. The heat also warms the surface of the earth and causes evaporation, thereby sending moisture into the atmosphere. Thunderstorms, hurricanes, lightning and tornadoes are all processes of the atmosphere.

The *biosphere* is all living components of the earth (humans, plants, animals, bacteria) and all microscopic organisms on land, in the air and in the oceans. It also includes all organic matter that has not yet decomposed. This living part is hugely dependent on the other three spheres.

These spheres are constantly changing. For example, the atmosphere does not produce the same weather every day. Living things such as animals are also born, while older ones die. Deep down the earth, there is molten magma that can be poured out in the form of lava during volcanic eruptions. Sometimes there are seismic movements in the earth's crust, which causes changes on the surface of the earth. So, you can see that there is always something going on in all the parts of the earth. It is a dynamic earth.

All the spheres in the system interconnect and overlap. The hydrosphere provides moisture or water to plants and animals. The lithosphere provides the solid surface for animals and plants and heat from beneath the earth. The atmosphere provides the gases (nitrogen, oxygen and carbon dioxide) needed by living things and the screen from the sun's UV radiation and helps us receive just enough of the sun's heat.

Answer the following questions:

1. What are the four main spheres of the Earth?
2. What does each sphere include?
3. Which sphere is hugely dependent on the other three spheres?
Why?
4. What changes take place in the spheres?

Illustrate how each sphere interacts with the others.

Listening Practice 1

Lead-in

- What natural disasters can you name?
- Have you experienced any of them?
- What natural disaster do you consider the most dangerous?
- Can smartphones predict earthquakes?



Video 1

<https://www.youtube.com/watch?v=jhRuUoTnA6g>

1. **Listen to or watch the video about predicting earthquakes and answer the following questions::**
 1. What happened in 132 CE?
 2. How did Zang Heng invention prove to work?
 3. Do we still rely on pots to predict earthquakes?
 4. What can influence rock movement and cracks?
 5. What are the variables?
 6. What variables should be analyzed to predict earthquakes?
 7. Is it easy to predict earthquakes?
 8. What do the events of 2011 in South Korea and Japan illustrate?
2. **Describe how earthquakes occur. Make use of the following words: tectonic plates, 1 sm–20 sm a year, cracks, pressure, trigger.**



Video 2

<https://www.youtube.com/watch?v=Wx9vPv-T51I>

1. **Listen to or watch the video about tsunamis and answer the following questions:**
 1. Were the 479 BC events the struck of luck?
 2. Are tsunamis and tides caused by the same factors?
 3. Is a tsunami a movement of water or energy?
 4. Where does the energy come from?
 5. What is the average speed a tsunami travels with?
 6. Why does the height of a tsunami rise closer to coast?
 7. What does the word *tsunami* mean in Japanese?
 8. How harmful can tsunami be?
 9. Can people protect themselves from tsunamis?
 10. What are the methods?
2. **Give examples of the most dreadful tsunamis in history (surf the Net).**

Speaking Practice 1

Make a 2-minute presentation on any natural hazard you know (see Appendix).

Writing Practice 1

1. Find information about the ways of predicting and preventing natural disasters and write a descriptive essay (200–250 words) on the following topic: *Natural disasters endangering human population and wild life.*
2. Peer checking.
Read the essay of one of your groupmates. Complete the table given below. Discuss the results.

Praise	Criticise

Feedback



Video and Note-taking Practice 1

<https://www.youtube.com/watch?v=d6s0T0m3F8s>

Watch the video *El Nino 101*. Complete the chart using the Cornell note taking method (see Appendix).

Main ideas	Notes

Summary:

Section 2

Rocks and soils

Vocabulary Practice 2

1. acid — кислота
2. crucial — решающий, ключевой
3. (to) decay — разлагаться
4. (to) extract — извлекать
5. fertile — плодородный
6. fossil fuels — полезные ископаемые
7. igneous rocks — вулканические породы
8. landforms — формы рельефа
9. layer — слой, пласт
10. metamorphic rocks — метаморфические породы
11. mining — горная промышленность, шахтный способ добычи полезных ископаемых

12. quarrying — добыча полезных ископаемых открытым способом
13. sedimentary rocks — осадочные породы
14. soil — почва
15. weathering — выветривание

Exercise 1. Fill in the gaps with the words from the box.

metamorphic rocks, acid, fossil fuels, landforms, extract

1. The roots will penetrate cracks in the rock and produce an organic _____ that dissolves calcium carbonate.
2. There are several main groups of _____, including coal, oil, and natural gas.
3. A wide variety of rock coatings is found on _____ at the Earth's surface.
4. _____ are created by the physical or chemical alteration by heat and pressure of an existing igneous or sedimentary material into a denser form.
5. One can _____ plant oil by crushing or pressing plant material or by the more complex process of steam distillation.

Exercise 2. Fill in the blank with an Active Vocabulary unit that means the same as the phrase in brackets.

1. Bacteria and insects break down organic material to produce _____ (*a thin upper layer over most parts of the Earth's land surface*) and nutrients so plants can grow.
2. There are many different ways to _____ (*to remove or take out*) essential oils from a plant.
3. Mechanical or physical _____ (*changes to the colour or form over the period of time because of weather conditions*) involves the breakdown of rocks and soils through direct contact with atmospheric conditions, such as heat, water, ice and pressure.

4. _____ (able to produce a large number of good quality crops) soil contains all the major nutrients for basic plant nutrition.
5. From a visual perspective, _____ (an open excavation or pit from which stone is obtained by digging, cutting, or blasting) and mining look pretty much the same.

Exercise 3. Correct the spelling of the jumbled words underlined.

1. A piece of fruit will YDAEC _____ far less quickly if refrigerated, than if left out in the sun.
2. Ambitious plans to complete a vehicle-free sector in the city centre have reached a ACRCIUL _____ stage.
3. The soil is extremely LEFETIR _____ and produces immense crops when there is enough rainfall.
4. INMING _____ of stones and metal has been a human activity since pre-historic times.
5. The innermost ELARY _____ of the earth is known as the core.

Exercise 4. Guess the words. The first letter of the word is given.

1. Organic materials d_____ rapidly, especially in hot climates.
2. Lactate, your body's buffering agent, neutralizes the a_____ that builds up in your legs and makes them burn during heavy exertion.
3. I_____ r_____ are formed through the cooling and solidification of magma or lava.
4. All types of rocks are relentlessly exposed to erosion and w_____.
5. S_____ r_____ are made from the deposit of sediments that are weathered, eroded, deposited and eventually compacted and cemented.

Reading Practice 2

Read the text and answer the questions given after the text.

Rocks and soils are all around us, in all shapes and sizes, in all colors and forms. The Earth's crust is made primarily up of these two things, which were formed from inside the Earth. Rocks eventually break down to become soil.

There are three basic types of rocks on the Earth. *Igneous rocks* result from volcanic activity. They consist of crystals, which formed as the volcanic rock cooled down, e.g. granite. *Sedimentary rocks* have been laid down in layers, e.g. sandstone, coal. *Metamorphic rocks* are those that have been altered by extremes of heat and pressure, e.g. marble.

Rocks have different strength and so produce different landforms. For example, the harder the rock, the more resistant it is likely to be to erosion. Harder rocks are usually found as hills and mountains. The softer and less compact the rock, the more likely it is to be either broken up or worn away. Valleys are formed in soft rocks.

Many rocks may seem unbreakable and unchangeable. Rocks do, however, undergo changes. One of those changes is called weathering, and over both short and long periods of time, it can drastically alter rocks in a number of ways. *Weathering* of rocks describes the process of weakening and breaking down of rocks and minerals. This can happen due to temperature changes, plants and animals, acids, salts and water, whether solid or liquid. Weathering of rocks takes place over a period of time. Rocks on the Earth's surface tend to weather faster than those underground.

The weathering of rocks plays a crucial role in the balance of the environment. Weathering is one of the processes that lead to soil production. When rocks are weathered from sharp objects to smoother ones, they are ready to contribute to making soils. Decayed plant and animal matter, bacteria and weathered minerals yield fertile soils. The more kinds of materials in soil there are, including weathered rock pieces, the more fertile the soil will be. This is important for growing plants, and as such is important for the farmers who grow food for humans and animals to eat.

Human action can increase the rate of weathering. Air pollution from fossil fuels leads to acid rain, which wears down rocks such as marble and limestone, and any buildings or monuments made from them.

Many rocks have an important economic value. Such rocks are extracted, usually by mining or quarrying, for specific purposes. Some examples of the economic importance of rocks are given in the chart.

Uses of rocks		
	Rock	Uses
Igneous	Granite	Building material (Aberdeen is known as “the granite city”). Sites for reservoirs. Grouse moors (granite gives very poor soils). Some tourism.
	Basalt	Produces fertile soil. Foundation material for roads. Some tourism.
Sedimentary	Coal	Thermal energy for power stations, industry, domestic use.
	Sandstone	Building material — site for many settlements.
	Limestone	Sheep pasture (soils thin and porous), quarried for cement and lime. Spring line is ideal for settlement.
	Chalk	Thin soils suited to cereals (wheat and barley). Also cement and lime. Spring line is ideal for settlement.
Metamorphic	Marble	Monuments
	Slate	Building material (roofs)

Answer the following questions:

1. What are the three types of rocks?
2. What landforms do rocks produce?
3. What does the term *weathering* mean?
4. How can human action increase the rate of weathering?
5. What rocks can be used as building materials? How can rocks be used in other ways?

Listening Practice 2

Lead-in

- Are rocks different or are they all the same?
- Do rocks change with time?



Video

<https://www.youtube.com/watch?v=jhRuUoTnA6g>

1. Listen to or watch the video 3 Types of Rocks and answer the following questions:

1. Can rocks be found everywhere?
2. How are rocks formed?
3. Can rocks change? What are the conditions?
4. What is a rock cycle? Draw it and describe it.

2. Fill in the chart:

rocks	igneous	sedimentary	metamorphic
How are they formed?			
Examples			

3. Translate the names of all the rocks.

4. Give examples of transformations.

Speaking Practice 2

1. Surf the Net to find out about different mountains of the planet.
2. Use the outcomes of the class discussion and make a 2-minute presentation (see Appendix).

Writing Practice 2

1. **Brainstorm the topic of Soils. What different soils do you know? Collect information in the Net about different kinds of soil as well as the role of soil. Present the information found in class.**
2. **Fill in the chart with characteristics and supporting sentences.**

Soils	Supporting sentences
Characteristics	
Ecosystem services	
Threats	
Possible consequences	

3. Choose the arguments that seem to be the most illustrative. Write a descriptive essay, 200–250 words on the topic *The Role of Soil*.

4. Peer checking

Read the essay of one of your groupmates. Complete the table given below. Discuss the results.

Praise	Criticise
Feedback	



Video and Note-taking Practice 2

<https://www.youtube.com/watch?v=uy9GFAOGGXU>

1. Watch the video *Why is Mount Everest so Tall*.

At 8,850 metres above sea level Qomolangma, also known as Mount Everest, has the highest altitude on the planet. But how did this towering formation get so tall? Michele Koppes peers deep into our planet's crust, where continental plates collide, to find the answer.

2. Complete the chart using the Cornell note taking method (see Appendix).

Main ideas	Notes

Summary:

Return to the questions in the Lead-in section and answer them once again.

Section 3

Wonders of water

Vocabulary Practice 3

1. available — доступный, имеющийся в распоряжении
2. (to) determine — определять
3. disposal — использование
4. (to) dissolve — растворять
5. distribution — распределение, распространение
6. (to) exist — существовать
7. fresh water — пресная вода
8. glacier — ледник
9. liquid — жидкость
10. pollution — загрязнение
11. shallow — мелкий

12. (to) store — накапливать, содержать
13. water cycle — круговорот воды
14. water storage — запас воды
15. water supply — водоснабжение, обеспечение водой

Exercise 1. Fill in the gaps with the words from the box.

determines, glaciers, fresh water, water supply, disposal

1. They had to cross the mountains, _____ and snowfields to reach the whaling station on the other side.
2. Heavy rains increased the _____.
3. Cats should always have access to _____.
4. Some cities in the world do not have proper facilities for the _____ of sewage.
5. Demand _____ the price.

Exercise 2. Fill in the blank with an Active Vocabulary unit that means the same as the phrase in brackets.

1. There have even been a few documented cases of dolphins supporting drowning swimmers to _____ (*of little depth*) water.
2. The house looks out on a beautiful view of the _____ (*a slowly moving mass of ice formed by the accumulation of snow on mountains*) and the mountains.
3. They aimed to achieve a more equitable _____ (*the action of sharing something out among a number of recipients*) of resources.
4. The discovery suggests that life could _____ (*have objective reality or being*) on planets very different from Earth.
5. _____ (*water stored for later use in natural water sources*) needs to be protected against viruses, contamination, and bacteria.

Exercise 3. Correct the spelling of the jumbled words underlined.

1. The purpose of IBUDISTITORN _____ system is to deliver water to consumer with appropriate quality, quantity and pressure.
2. Rising greenhouse gases are affecting rainfall patterns and the global ETWAR _____ ELCYC _____.
3. IPOTLOLUN _____ of the soil is the main cause of extinction of plant species in the UK.
4. Solar energy is ELALVABIA _____ for free and in unlimited quantities.
5. Wax passes from solid to DULIQI _____ when you heat it.

Exercise 4. Guess the words. The first letter of the word is given.

1. Much of the earth's f_____ w_____ is unsuitable for drinking without some treatment.
2. Around the world, human activity and natural forces are reducing a_____ water resources.
3. Do you know what regulations are for the d_____ of pesticides and other chemicals?
4. Sugar and salt d_____ in water.
5. I could remove all the CDs from my living room and s_____ them away for good.

Reading Practice 3

Read the text and answer the questions given after the text.

Water is everywhere. It covers over three fourths of the earth's surface, lies underground, and is present in the air that surrounds the earth.

Water supports all forms of life — plants, animals and humankind. Some very simple forms of life can exist without air. But no form of life can exist without water. Two thirds of the human body is made of water.

Water shapes and reshapes the crust of the earth. It does this whether it falls as rain, flows in rivers, collects in deep and shallow places, or freezes into ice.

Water plays an important role in determining climate, in weathering rocks and forming soil, and in making other natural resources usable. Water does all these things because it has special qualities which make water a wonder on the earth and the earth is a favourable place on which to live. Water is present on the earth not only as a liquid, but also as a gas and as a solid.

One of water's most important qualities is its ability to store huge amounts of heat energy from the sun. Because water releases heat even as it freezes, it helps to keep air temperatures from getting too cold too fast.

Water dissolves materials. Many minerals and other materials that come in contact with water dissolve it. Plants and animals need these materials to grow and to build healthy bodies. So do humans. All living things take in dissolved materials. And the water that humans and animals drink helps them to digest the foods they eat.

Day after day, the movement of water from earth to the air and back again to earth takes place. The water cycle never stops renewing the earth's water supply (figure 2).

As you know, 2% of earth's total water supply is locked in ice caps and glaciers. There is enough fresh water to supply. Then why do people talk about water storage?

One problem is distribution. Fresh water is not distributed evenly on the earth. Lands along the equator usually get more than enough rain. But lands north and south of the equator often receive less than they need. There are some places where a dry season and a rainy season follow each other every year. There are other places that are dry throughout the year.

Another problem is pollution. Where water is available, it is often polluted by the disposal of water from homes and factories. One city dweller out of five does not have safe water to drink. In rural areas, three people out of four do not have safe drinking water and some of them die of illnesses caused by polluted water. To support life, water needs to be kept free from pollution in any form.

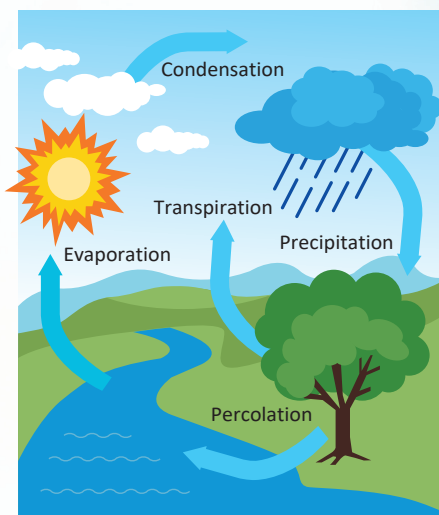


Figure 2. Water cycle

Answer the following questions:

1. What makes water a wonder?
2. What are the water special qualities?
3. What are the problems that affect the world's water supply?

Describe the water cycle.

Listening Practice 3

Lead-in

- Did the Earth use to look the same millions of years ago?
- Do you think the Earth is always changing?
- Are weather and weathering the same?



Video

<https://www.youtube.com/watch?v=R-Iak3Wvh9c>

1. Listen to or watch the video about weathering and answer the questions:

1. What is a landform?
2. How does water shape earth's landform?
3. What is the difference between weather and weathering?
4. What can weathering be caused by? Name five factors.

**2. Paraphrase the question using the words *hydrosphere* and *geosphere*.
Fill in the gaps in the definition.**

Weathering is the _____ that takes place as _____,
and other parts of the _____, are _____ into
smaller pieces.

3. Define two types of weathering.

	mechanical	chemical
definition		
factors		

4. Answer the questions:

1. What is the role of erosion in forming landforms?
2. Are weathering and erosion similar?

5. Describe the way landforms are formed. Give an example to illustrate your answer.

Speaking Practice 3

1. Discuss the following questions:

1. What role do the rivers play in the development of economy?
2. What is a river system?
3. Which river is the longest?
4. What lake is the deepest?

2. Choose one of the questions above, use the outcomes of the class discussion and make a 2-minute presentation (see Appendix).

Writing Practice 3

1. Brainstorm the topic of *Rivers/Lakes/Seas and Oceans* using the following questions:

1. What role do the rivers, lakes, seas and oceans play?
2. Are people facing severe water pollution problems today?
3. How can the water mass be protected?

2. Make a list of arguments on one of the topics below, discuss them in class:

River(s) of my district

The lake I admire

The cleanest sea

Where did oceans take their names?

1. Watch the video *What's so Great about The Great Lakes*. Complete the chart using the Cornell note taking method (see Appendix).

Main ideas	Notes
Summary:	

Return to the questions in the Lead-in section and answer them once again.

Section 4

Weather and climate

Vocabulary Practice 4

1. (to) affect — влиять
2. altitude — высота
3. angle — угол
4. dense — плотный
5. (to) evaporate — испаряться
6. latitude — широта
7. long-term — долгосрочный, длительный, постоянный
8. moisture — влажность
9. ocean currents — океанические течения
10. precipitation, rainfall — осадки

11. prevailing winds — преобладающие ветры
12. sea level — уровень моря
13. short-term — краткосрочный, временный
14. (to) spread (spread, spread) over — распространяться (по поверхности)
15. variety — разнообразие

Exercise 1. Fill in the gaps with the words from the box.

sea level, dense, latitude, affect, evaporated

1. When harmful gases like carbon dioxide are released into the atmosphere, they form a _____ layer around the earth.
2. Most of the corrosive acid quickly _____ from the road that was warmed by early morning sunshine.
3. The polar ice caps will expand to reach around 45 degrees _____ north and south.
4. The South Pole Observatory was established at the geographical South Pole at 2,837 m above _____ in 1957 as part of the International Geophysical Year.
5. These flow-rate differences _____ the glaciers' surface topography.

Exercise 2. Fill in the blank with an Active Vocabulary unit that means the same as the phrase in brackets.

1. Air at very high _____ (*the height of an object in relation to sea or ground level*) smells completely different to lower ones.
2. A lack of _____ (*the quality or state of being different or diverse*) and poor nutritional quality of foods limits shoppers' ability to eat healthfully.
3. The region has cool temperatures and frequent _____ (*rain, snow, sleet, or hail that falls to or condenses on the ground*), fog, heavy cloud cover, and strong winds.

4. The polar ice caps will expand to reach around 45 degrees _____ (a geographic coordinate that specifies the position of a point on the Earth's surface) north and south.
5. The South Pole Observatory was established at the geographical South Pole at 2,837 m above _____ (the plane used as a barometric standard).

Exercise 3. Correct the spelling of the jumbled words underlined.

1. Coconut oil offers a IVEARYT _____ of health benefits and can be used for cooking as well as skin and hair care.
2. As the air rises, it cools and the ESUMOTIR _____ contained within it condenses into clouds and eventually it rains.
3. There are plenty of beautiful mountains and stunning views to be found at a much lower ETALUTDI _____.
4. I have a good TSOHR-ETMR _____ memory, and can carry chunks of poetry around in my head.
5. We don't believe that this is a NLGO-MTER _____ solution to the problems of the health service.

Exercise 4. Guess the words. The first letter of the word is given.

1. L_____ is used together with longitude to specify the precise location of features on the surface of the Earth.
2. The region's p_____ w_____ are the result of global patterns of movement in the Earth's atmosphere.
3. The North and South Magnetic Poles are also known as Magnetic Dip Poles because they "dip" at a 90° a_____ towards the Earth.
4. Smoke from the conflagrant forest s_____ o_____ hundreds of square miles.
5. O_____ c_____ flow for great distances, and together, create the global conveyor belt, which plays a dominant role in determining the climate of many of the Earth's regions.

Reading Practice 4

Read the text and answer the questions given after the text.

Climate is just the weather, right? Well...sort of. In ecology, these terms have slightly different meanings:

Climate refers to long-term, typical atmospheric conditions in an area, such as temperature and rainfall taken over a period of time, usually 30 years (e.g. the equatorial or Mediterranean climate).

Weather is the hour-to-hour, day-to-day state of the atmosphere. It includes temperature, sunshine, precipitation and wind. It is short-term and is often localized in area.

Basically, you can think of climate as a place's "average" weather.

In general, temperatures on Earth's surface drop as we move from the equator to the poles. That is not a big surprise — we tend to think of the Arctic as chillier than the tropics! But why is it the case? What are the factors affecting climate?

Latitude. Places nearer to the equator are much warmer than places nearer to the poles. Rays of sunlight hit the Earth directly near the equator, but at an angle near the poles, so the same amount of energy is spread over more area in the polar regions as you can see in the diagram below (figure 3).

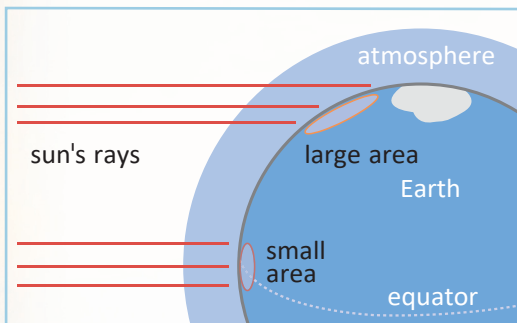


Figure 3. How climate changes with latitude

The strong sunlight at the equator (and weak sunlight at the poles) makes the tropics warmer than the Arctic.

Altitude above sea level is one key factor that shapes climate. Places at high altitude tend to have a colder climate than nearby low-lying areas. In general, for each 1000 metres we move upwards, the air temperature will drop by 6°C because temperature changes with

altitude (along with things like moisture and soil type). As a result a mountain can have different biomes at different altitudes.

Distance from the sea. The sea is less dense than the land and can be heated to a greater depth. This means that the sea takes much longer to heat up in summer than does the land. Once warmed, however, the sea retains its

heat for much longer, and cools down more slowly than the land in winter. This is why places that are inland are warmer in summer but colder in winter than places on the coast.

Prevailing winds will bring warm weather if they pass over warm surfaces (the land in summer, the sea in winter) and cold weather if they blow across cold surfaces (the land in winter, the sea in summer).

Bodies of water (especially big ones like oceans and lakes) can affect the climate of surrounding regions. In fact, bodies of water influence climate in a variety of ways. At a basic level, lakes, oceans, and streams play a vital role in climate processes by serving as reservoirs for water, which can evaporate from the surface to fall later as rain or snow.

Finally, **ocean currents** (which carry water from one place to another) can strongly affect the climate of nearby land.

Answer the following questions:

1. What is the difference between weather and climate?
2. What factors affect climate?
3. Why are places nearer to the equator much warmer than places nearer to the poles?
4. How does the temperature change with altitude?
5. How do prevailing winds and ocean currents affect the climate of nearby land? Give examples.

Listening Practice 4

Lead-in

- What kind of weather do you like?
- What climate do you live in?
- What is atmosphere?
- How would you describe weather?
- How would you describe climate?



Video

<https://www.youtube.com/watch?v=YbAWny7FV3w>

1. Listen to or watch the video *Weather vs Climate* and answer the questions:

1. What does weather have to do with?
2. Is it only about temperature?
3. What factors determine the weather?
4. What characteristic does weather have that climate does not?
5. What is rain?
6. What are the other forms of precipitation?

2. Fill in the gaps in the following definitions:

Weather is the _____ of the air, or the _____, on our planet.

Weather is a _____ change in the _____.

3. Fill in the gaps in the definition of the climate.

Climate is what the _____ is like over a _____ period of time in a _____ area.

4. Give examples of extreme weather.

5. Sum up information about weather and climate. Give examples to illustrate your answer.

Speaking Practice 4

1. Choose one of the climate zones of the world and make a 2-minute presentation (see Appendix).

Writing Practice 4

1. Fill in the chart with facts and supporting sentences from the Speaking Practice. Choose one of the topics from the same section, write a descriptive essay. Use 200–250 words.

Facts	Supporting sentences

2. Peer checking

Read the essay of one of your groupmates. Complete the table given below. Discuss the results.

Praise	Criticise

Feedback



Video and Note-taking Practice 4

<https://www.youtube.com/watch?v=fHztd6k5ZXY>

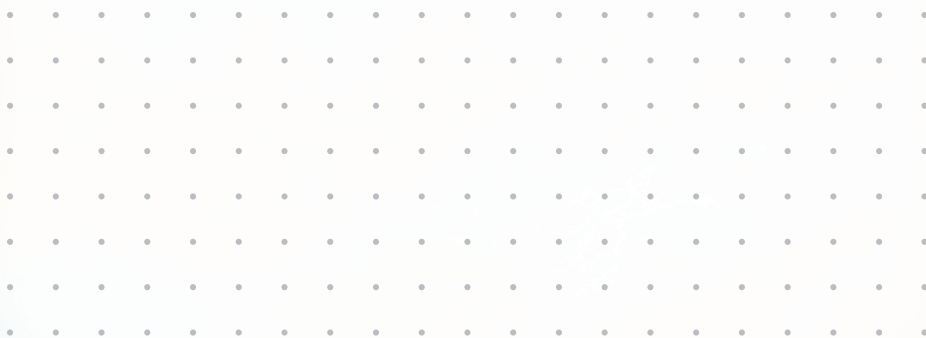
1. Watch the video *A guide to the energy of the earth*.

Energy is neither created nor destroyed — and yet the global demand for it continues to increase. But where does energy come from, and where does it go? Joshua M. Sneideman examines the many ways in which energy cycles through our planet, from the sun to our food chain to electricity and beyond. Pay special attention to this video as it determines the whole course you are going to study as it touches upon the problems that are going to be discussed in detail later in book.

2. Complete the chart using the Cornell note taking method (see Appendix).

[illegible]

Return to the questions in the Lead-in section and answer them once again.



ECOSYSTEMS AND BIODIVERSITY

Lead-in

Look at the pictures. What do a tide pool on the California coast and the Amazon rainforest of South America have in common?



Photos 1.1, 1.2

Section 1 What is an ecosystem?

Vocabulary Practice 1

1. (to) absorb — поглощать
2. (to) consume — потреблять
3. (to) damage — повреждать, наносить вред
4. environment — окружающая среда
5. fragile — хрупкий, слабый
6. life cycle — жизненный цикл
7. marine — морской
8. nutrients — питательные вещества

9. on a local/global scale — в местном/глобальном масштабе
10. oxygen — кислород
11. (im)permeable — водопроницаемый (водонепроницаемый)
12. (to) provide — обеспечивать
13. (to) release — выпускать, освобождать
14. terrestrial — земной
15. (to) wash out — вымывать (питательные вещества)

Exercise 1. Fill in the gaps with the words from the box.

absorb, consume, local scale, provide, washed out

1. Members of the Ladies Club _____ a wonderful service with refreshments available at all times.
2. When it rains heavily, nitrogen and calcium are the first elements to be _____ from soil.
3. The gases, especially carbon dioxide and methane, _____ the Earth's heat radiation and thus warm the surface, just as a blanket traps body heat.
4. At school, they _____ mainly processed food and fizzy drinks.
5. Our results suggest that conserving regional pond biodiversity will require actions mainly on a _____.

Exercise 2. Fill in the blank with an Active Vocabulary unit that means the same as the phrase in brackets.

1. The driver escaped serious injury although the car was badly _____ (*inflicted physical harm*) in the impact.
2. Tourists also damage the _____ (*easily broken or damage*) ecosystem by dumping plastic waste and driving over the grasslands.
3. Like other animals, they pass through a _____ (*the series of changes in the life of an organism including reproduction*) from birth to maturity to death.

4. It also damages plants and animals, including the plankton that sustains the _____ (*relating to the sea*) food chain.
5. Their home designs use the natural landscape as well as _____ (*allowing liquids or gases to pass through it*) materials to capture and retain storm water onsite.

Exercise 3. Correct the spelling of the jumbled words underlined.

1. Education and the ROTEMNENVNI _____ are the key areas of interest.
2. Most SLRETARTERI _____ planets have uniform crusts.
3. Plants give out NOGEXY _____ and animals expel carbon dioxide and methane.
4. Fast-growing trees remove NTUSTERIN _____ and impoverish the soil.
5. The cell has a EPEBREMAL _____ membrane.

Exercise 4. Guess the words. The first letter of the word is given.

1. O _____ is made by plants during a process of photosynthesis.
2. Those toys, made of plastic, wood or cloth, were very expensive but f _____, and easily broken.
3. Sea turtles are m _____ reptile living in salt water but have lungs and they come to the surface to breathe air.
4. Plants r _____ a gas, which is called oxygen, that lets us breathe.
5. Pollution could cause changes to weather patterns on a g _____ s _____.

Reading Practice 1

Read the text and answer the questions given after the text.

An *ecosystem* is a natural system in which the life cycles of plants (flora) and animals (fauna) are closely linked to each other and to the non-living environment. The *non-living environment (abiotic factors)* includes: water (either in the form of rain or from water stored in the soil); air (which provides oxygen, essential for all forms of life, and carbon dioxide); solar energy; rocks (which provide nutrients and which may be permeable or impermeable); soils (which vary in depth, acidity, nutrients and fertility).

The *living environment (biotic factors)* includes plants, animals, insects and micro-organisms (most of which live in harmony with one another) and people (who rarely seem to live in harmony with the environment).

Some ecosystems are marine, others freshwater, and others terrestrial — land based. Ocean ecosystems are most common on the Earth, as oceans and the living organisms they contain cover 75% of the Earth's surface. Freshwater ecosystems are the rarest, covering only 1.8% of the Earth's surface. Terrestrial ecosystems cover the remainder of Earth.

Ecosystems vary in size from extensive areas of rainforest or desert (known as *biomes*), to areas of woodland and wetland, down to under a stone or within a droplet of water.

Any ecosystem depends upon two basic processes: the flow of energy and the recycling of nutrients.

Energy flow

Each ecosystem is sustained by the flow of energy through it. The main source of energy is sunlight, which is absorbed by green plants and converted by the process of *photosynthesis*. These green plants that convert energy from the Sun are called *producers*. Energy is then able to pass through the ecosystem in the *food chain* (figure 4) in which plants are eaten by animals, and some animals consume each other. These organisms are *consumers* of the energy. In

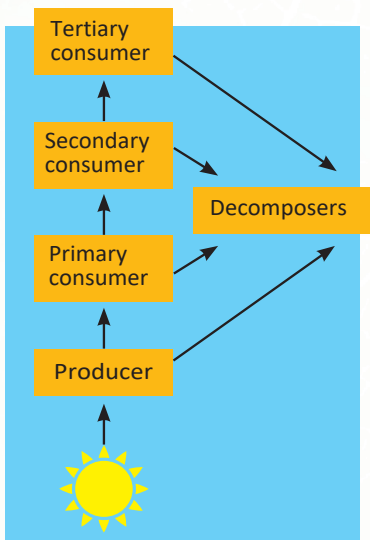


Figure 4. Transfers of energy in an ecosystem

other words, each link in the chain feeds on and obtains energy from the link preceding it. In turn, it is consumed by and provides energy for the link that follows it. As energy only passes one way, the ecosystem is an *open system*, with inputs, flows, stores and outputs.

Recycling of nutrients

Nutrients are foods that are used by plants and animals to grow. There are two main sources of nutrients: rainwater washes chemicals out of the atmosphere and weathered rock releases nutrients into the soil.

Certain nutrients are continually circulated within the ecosystem and so are part of a *closed system*. Each cycle consists of plants taking up nutrients

from the soil. The nutrients are then used by plants, or by animals, which consume the plants. When the plants or animals die, they decompose and the nutrients are released and returned to the soil ready for future use (figure 5).

Ecosystems can often be very fragile. Some, like the arctic tundra, tropical rainforest and areas of wetland, may take hundreds of years to develop fully. They can, however, be irretrievably damaged in a short

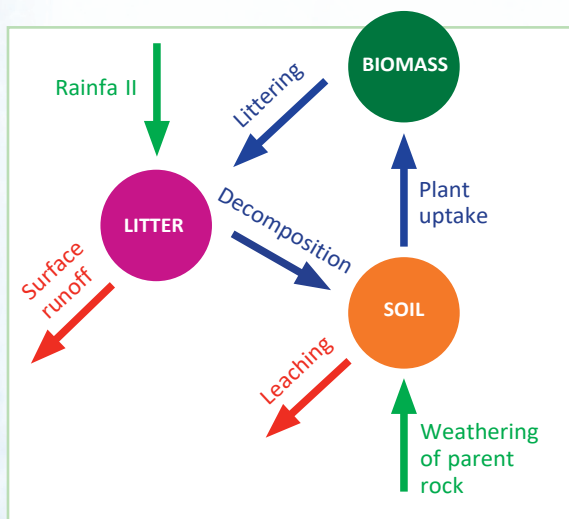


Figure 5. The nutrient cycle

time by human activity, e.g. the tundra in Alaska and the Amazon rainforest. Also, changes to an ecosystem can occur naturally: such as climate change on a global scale or changes to a habitat on a local scale.

Answer the following questions:

1. What is an ecosystem?
2. What does non-living environment include? What does living environment include?
3. What are groups of ecosystems?
4. What two basic processes does any ecosystem depend upon? Describe them.

5. Explain the difference between an open and a closed system.
6. Complete the table with your own examples of ecosystems.

Levels of ecosystems		
Level	Examples	
Micro	water droplet	
Messo (middle)	sand-dunes	
Global (biome)	tropical rainforest	

Listening Practice 1

Lead-in

- Why is life distributed unevenly?
- What are biogeochemical cycles?



Video

<https://www.youtube.com/watch?v=3OAFIjxQUg4>

1. Listen to or watch the first 1:32 of the video and mark the sentences as true or false:
 - 1) Life on the Earth without humans would be distributed evenly.
 - 2) Ranges never overlap.
 - 3) Every species tends to have a characteristic range.
 - 4) A range allows to get food, to reproduce.
 - 5) There are 5 main factors that determine the preferences of the species.
2. Listen to or watch the episode (1:32 – 4:15) and describe the PHYSICAL factors. Give examples.
3. Listen to or watch the episode (4:15 – 5:38) and describe the BIOTIC factors. Give examples.
4. Listen to or watch the episode (5:38 – 7:05) and describe the EVOLUTIONARY factors. Give examples.
5. Listen to or watch the final part and sum up the role of humans, how they can EXPAND and CONTRACT ranges.

6. Look through the following words and word combinations. Try to recall the definitions given in the video. In case you cannot remember all of them watch the video one more time and write down the definitions.

ranges

distribution

adaptation to temperature regime

barriers to movement

terrestrial organisms

productivity

habitat

diversity

exploit

invaded environment

After Listening

1. Discuss the following questions:

1. Why is life on the Earth distributed unevenly?
2. What barriers of movement can you remember?
3. What is their role?
4. Why is Evolution not a ladder or a line of change?
5. Why is it compared to a bush?
6. What is the role of chances in the Evolution?

Speaking Practice 1

1. Discussion time:

1. Comment on 'You can't always get what you want.'
2. Explain the contradiction: Huge Biomass but Low Species Richness.
3. Give examples of Invaded Environment.

2. Choose one of the points from exercise 1 above, use the outcomes of the class discussion and make a 2-minute presentation (see Appendix).

Writing Practice 1

1. Fill in the chart with arguments and supporting sentences from the Speaking Practice. Choose one of the topics from the same section, write an opinion essay, make sure that you choose the topic different from the one you chose for your presentation. Use 200–250 words.

Arguments	Supporting sentences

2. Peer checking

Read the essay of one of your groupmates. Complete the table given below. Discuss the results.

Summary:

Return to the questions in the Lead-in section and answer them once again.

Section 2

World biomes

Vocabulary Practice 2

1. annual — годовой
2. average — средний, обычный
3. biome — природная зона, биом
4. coniferous forests — хвойные леса
5. deciduous forests — лиственные леса
6. (to) enrich — обогащать
7. (to) estimate — оценивать, давать оценку
8. heavy rain — ливень
9. humidity — влажность
10. large-scale — широкомасштабный
11. rainforest — тропические леса
12. slash-and-burn agriculture — подсечно-огневая система земледелия
13. species — вид, разновидность
14. timber harvesting — рубка леса
15. vegetation — растительность

Exercise 1. Fill in the gaps with the words from the box.

large-scale, heavy rain, average, rainforests, deciduous forest

1. Those rates beat the _____ level of ownership in most European countries.
2. _____ is found in three middle-latitude regions with a temperate climate characterized by a winter season and year-round precipitation.
3. At last, the _____ began to ease off.
4. It is not small food production, but _____ factory farming, that presents a threat to our health.
5. Over the past 30 years, the world has lost fully a fifth of all biodiverse tropical _____.

Exercise 2. Fill in the blank with an Active Vocabulary unit that means the same as the phrase in brackets.

1. He hopes that this tournament can become an _____
(*occurring once a year*) event, perhaps even once every term.
2. Share your wisdom and experience with others and _____
(*improve or enhance the quality or value of*) the quality of your work and relationships.
3. Red Cross officials _____ (*calculate the cost, size, value, etc. of something*) that 20,000 refugees streamed into the city last week.
4. Large areas of _____ (*dense forest rich in biodiversity, found typically in tropical areas with consistently heavy rainfall*) are chopped down every year.
5. Explore earth science by picking and studying a specific _____
(*large naturally occurring community of flora and fauna occupying a major habitat*): tundra, taiga, forest, grassland, or desert.

Exercise 3. Correct the spelling of the jumbled words underlined.

1. The conference is the premier NUANLA _____ event in cardiology on the medical education calendar in the region.
2. Those rates beat the ERAVEAG _____ level of ownership in most European countries.
3. The goal would be to improve body composition, increase muscle strength and CRENIH _____ the quality of life.
4. The city had a foggy appearance from the heat and YDIHITUM _____.
5. Very few plant species seem to be endemic to this NEIVEOTGAT _____.

Exercise 4. Guess the words. The first letter of the word is given.

1. C_____ f_____ consist mostly of trees that grow needles instead of leaves, and cones instead of flowers.
2. Is t_____ h_____ related to deforestation?
3. The field was plowed just before planting, but natural v_____ was allowed to regrow during the experiment.
4. The s_____ -and-b_____ method begins by cutting down the trees and woody plants in an area.
5. Organisms of a particular s_____ all have the same genes.

Reading Practice 2

Read the text and answer the questions given after the text.

Large-scale ecosystems are known as global ecosystems (or biomes). They are defined mainly by the dominant type of vegetation that grows in the region, such as tropical rainforest or tundra. They form broad belts across the world from west to east, parallel to the lines of latitude. This is because the climate and characteristics of ecosystems are determined by global atmospheric circulation (ocean currents, winds, the distribution of land and sea). These factors produce small variations in temperature and moisture, which in turn

affect the ecosystems. For example, the Mediterranean region — with its dry, hot summers and warm, wet winters — has its own global ecosystem.

Biomes play a crucial role in sustaining life on Earth. For example, the Aquatic biome is home to millions of fish species and the source of the water cycle. It also plays a very important role in climate formation. The terrestrial biomes provide foods, enrich the air with oxygen and absorb carbon dioxide and other bad gases from the air. They also help regulate climate and so on.

Examples of terrestrial biomes include tropical rain forests, savannas, deserts, coniferous forests, deciduous forests, and tundra. The map below shows the broad distribution of biomes on Earth (figure 6).

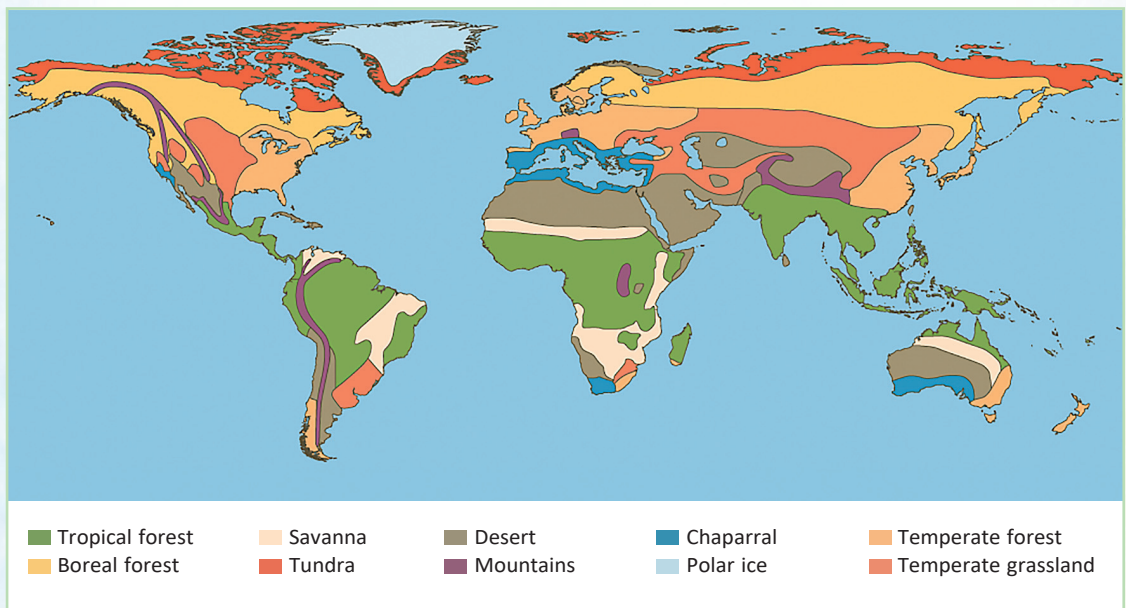


Figure 6. World biomes

Let us have a look at one of Earth's most diverse biomes: the tropical rainforest.

The tropical rainforest biome has four main characteristics: very high annual rainfall, high average temperatures, nutrient-poor soil, and high levels of biodiversity.

The word “rainforest” implies that these are some of the world's wettest ecosystems. Rainforests generally receive very high rainfall each year, although the exact amount varies among different years and different rainforests. For example, South America's tropical rainforests receive between 200 and

300 centimetres of rain in a typical year. Also, there are dry seasons in some rainforests. Tropical rainforests also have high humidity: about 88% during the wet season and approximately 77% in the dry season.

Tropical rainforests are found near the equator, between the Tropic of Cancer (23°27'N) and the Tropic of Capricorn (23°27'S). The equator receives direct sunlight. This steady flow of radiation produces consistently high temperatures throughout the year. A typical daytime temperature any time of year in tropical rainforests is 29°C, although temperatures can be much higher.

Rainforest soils are nutrient-poor because nutrients are not stored in them for very long. The heavy rains in rainforests wash out organic material from the soil. Tropical rainforests are areas of extremely high biodiversity compared to other ecosystems. In the tropical rainforests of Borneo scientists have documented more than 15,000 plant species, including 2,500 species of orchids. Biologists estimate that tropical rainforests contain about 50% of the world's terrestrial plant and animal species, yet they cover only about 6% of the world's land area.

Unfortunately, there is enormous human pressure on rainforests all around the world because of slash-and-burn agriculture, mining, unsustainable timber harvesting, and the development of roads and cities.

Answer the following questions:

1. What is a biome?
2. What factors affect the formation of different biomes?
3. Prove that biomes play a crucial role in sustaining life on Earth.
4. Look at the map showing the distribution of biomes on Earth.
What biome do we live in?
5. Describe the tropical rainforest biome. Why are tropical rainforests in danger?

Listening Practice 2

Lead-in

- Are there many biomes in the world?
- Are all biomes of the same size?
- Do you think that *highlands, land of lakes, lavender fields, lush desert*, as well as *grasslands, flower fields, eucalyptus forest* are biomes?
- Have you heard of *mangroves*?

In case you do not know the answers to the above questions, you will find them in the video about mangroves.



Video

<https://www.youtube.com/watch?v=si5wtu-zSYE>

1. Listen to or watch the video and answer the following questions:

1. What makes mangroves a crucial ecosystem on the Earth?
2. What are the ecosystem characteristics?
3. What are the ecosystem services?
4. What are the threats to mangroves?
5. What will the consequences be?

Speaking Practice 2

1. Surf the Net to find out what is being done to save mangroves.
2. Prove that Healthy Mangroves are a Happy World.
3. Use the outcomes of the class discussion and make a 2-minute presentation (see Appendix).

Writing Practice 2

1. Brainstorm the topic of biomes. Make a list of biomes. Collect information about them in the Net. Present the outcomes in class.
2. Fill in the chart with characteristics and supporting sentences.

Biome	Supporting sentences
Characteristics	
Ecosystem services	
Threats	
Possible consequences	

3. Choose the arguments that seem to be the most illustrative. Write a descriptive essay on the following topic: *The most important world biome*. Use 200–250 words.
4. Peer checking
Read the essay of one of your groupmates. Complete the table given below. Discuss the results.

Praise	Criticise

Feedback



Video and Note-taking Practice 2

<https://www.youtube.com/watch?v=kuEe4376il8&t=33s>

1. Watch the video *Coral Reefs*. Complete the chart using the Cornell note taking method (see Appendix).

Main ideas	Notes

Summary:

Return to the questions in the Lead-in section and answer them once again.

Section 3

Reasons for the decline in biodiversity

Vocabulary Practice 3

1. biodiversity — биоразнообразие
2. current — современный, текущий
3. (to) exploit — эксплуатировать, использовать в своих интересах
4. extinct — вымерший, исчезнувший
5. habitat — среда обитания
6. impact — воздействие
7. (to) interact — взаимодействовать
8. (to) maintain a balance — сохранять равновесие
9. (to) make (made, made) up — образовывать, составлять
10. (to) meet (met, met) needs — удовлетворять потребности
11. natural hazards — стихийные бедствия
12. (to) pose a problem — представлять собой проблему
13. rate — темп
14. (to) reduce — уменьшать, сокращать
15. vulnerable — уязвимый

Exercise 1. Fill in the gaps with the words from the box.

interacts, maintain a balance, make up, meet needs, pose a problem

1. These three articles _____ the whole book.
2. Earthquakes really _____ to those who are in seismic centre.

3. They don't have enough food to _____.
4. Lucy _____ well with other children in the class.
5. She was finding it hard to _____.

Exercise 2. Fill in the blank with an Active Vocabulary unit that means the same as the phrase in brackets.

1. How many species of animals have become _____
(*no longer in existence*)?
2. The next film will feature more animals in their natural —
_____ (*home or environment of an animal, plant,
or organism*).
3. The ice masses are particularly _____ (*exposed to the
possibility of being attacked or harmed, either physically or emotionally*)
to the advance of global warming.
4. It is not surprising that Europeans are prepared to pay a considerable
amount to _____ (*make smaller or less in amount, degree,
or size*) the risk of such a change.
5. The speed and extent of _____ (*belonging to the present
time*) global warming exceeds any similar event in the past 2,000 years,
researchers say.

Exercise 3. Correct the spelling of the jumbled words underlined.

1. Many NTCETXI _____ or vanishing Indian languages are
the only evidence we have of the long migrations and complex histories
of particular peoples.
2. This chance to view the animals in their natural AHTABIT
_____ should not be passed by.
3. Sometimes it is necessary to LEXIPOT _____ your
opponent's weakness.
4. We must work to increase and protect BSIODIVYTER _____
on all levels, in our backyards as well as our bioregions.

5. These are among the most **AVULNLEBRE** _____, fragile and threatened habitats in Britain.

Exercise 4. Guess the words. The first letter of the word is given.

1. We must e_____ the resources we are given wisely.
2. Will the water and soils and b_____ cope with this level of forestry?
3. The introduction of these foreign organisms can have a devastating i_____ on marine environments.
4. To calculate your maximum heart r_____, subtract your age from 220.
5. N_____ h_____ can be classified into two broad categories: geophysical and biological.

Reading Practice 3

Read the text and answer the questions given after the text.

Biodiversity describes the variety of species that make up an ecosystem. The Earth contains an estimated 10 million species. For an ecosystem to function, it depends on a rich variety of organisms, interacting with each other to maintain a balance in that particular ecosystem. Some factors can affect this biodiversity and thus the sustainability of an ecosystem. Let us have a look at them.

Humans have always exploited nature, but as the global population have grown exponentially in recent centuries, so humanity's impact on biodiversity has grown too. As a result of *human exploitation* numerous animal and plant species are extinct, or threatened. Humans exploit other natural resources, which are a habitat for these species for food, sport, building materials, medicine and cultural purposes. Habitat is damaged in order to meet growing needs for agriculture, urban development, water and materials.

Another reason is *pollution*. Pollution of terrestrial and aquatic ecosystems with chemical and physical (light, noise) pollutants has caused ecosystem degradation by altering species diversity and biomass.

The rapid rate of current *global warming* poses a problem for biodiversity. It is likely that many species will not have time to adapt to changing habitat

conditions and they can go extinct. Scientists predict that climate change will increase the frequency of natural hazards, creating more stress for biodiversity.

Invasive species are one of the largest threats to our terrestrial, coastal and freshwater ecosystems. Invasive species are not native to an ecosystem. When these species are introduced to an ecosystem, they can quickly put down the natural habitats, competing with native species for limited resources and causing a decline in native numbers.

Each time people damage an ecosystem, they also increase the probability that biodiversity will decline in response to future environmental change. A species that is spread over a large geographic area is less vulnerable to local damage, compared with a species distributed on a small area. The capacity of today's ecosystems to protect environmental change, like global warming, has been significantly reduced by past human actions.

Humans have a poor understanding of the current status of biodiversity and less understanding of what biodiversity looked like before human influence. Scientific research and biodiversity monitoring are expensive, so only a small percentage of the world's biodiversity is studied. Because of these difficulties, laws protecting biodiversity are slow to develop.

Answer the following questions:

1. What does the term biodiversity mean?
2. Why does the world's biodiversity decline?
3. What human activities damage ecosystems?
4. In what way does global warming pose a problem for biodiversity?
5. Why are invasive species one of the largest threats to our ecosystems?
6. Do scientists study biodiversity? What problems do they face?

Listening Practice 3

Lead-in

- Is there a place on the planet where there is no life?
- Have you heard of Lake Vostok?
- Why is biodiversity threatened?
- Can human activities threaten biodiversity?

In case you do not know the answers to the above questions, you will find them in the following three videos.



Video 1

<https://www.youtube.com/watch?v=BTOHSRVqN20>

1. **Listen to or watch the first episode (0:00 – 2:15) of the video *Where do we find biodiversity?* and answer the following question:**

Why does the host compare Antarctic and Yellow Stone Park?

2. **Listen to or watch the episode (2:15 — up to the end) and answer the questions:**

1. What is Biogeography?
2. What do Bio-Geo-Graphy stand for?
3. Is it possible to measure Species Richness?
4. What do tundra and Amazon rain forests have in common?

3. **After watching (or listening to) the programme explain what the author means by ‘species richness’.**



Video 2

<https://www.youtube.com/watch?v=2RC3Hsk90t8>

1. **Listen to or watch the first 3:07 minutes of the video *Human activities that threaten biodiversity* and answer the following questions:**

1. Why does the programme start with the illustration of World population growth through history?
2. What is the concept of carrying capacity?
3. What is the carrying capacity for the planet?
4. What is the role of technology?

2. **Listen to or watch the episode (3:07 – 3:34) and answer the questions:**

1. What is quality of life?
2. What is the percentage of wealthy people in the world?
3. How much of the world resources do wealthy people use?

3. Listen to or watch the episode (5:45 — up to the end). There are 7 major human mediated causes of biodiversity loss which can be considered as local and global factors. Learn about the local factors and make the list of them after watching (or listening).



Video 3

<https://www.youtube.com/watch?v=JGcIp4YERc>

1. Watch the video 3 *Animals That Keep Their Whole Ecosystem* and name keystone species that have impact on the habitat.

Speaking Practice 3

1. Discussion time.

1. Think of three global factors that cause biodiversity loss.
2. Comment on the following: *No two things can occupy the same place at the same time.*
3. Answer the following questions:
What are endangered species? Give examples.
What is extinction?
Can endangered and extinct species be saved?
Is it necessary to save endangered species? Shouldn't they die out due to the laws of natural selection?

2. Listen to the BBC programme *Animal species — extinction crisis* (www.bbc.co.uk/learningenglish/), read the following sentences and check if the information in the sentences is correct.

1. 100 governments from around the world have met in Brussels to talk about how to tackle the problem of illegal trade in wildlife.
 2. The dodo bird has been extinct since the early 1900's.
 3. 'Dead as dodo' means that something is unnecessary.
 4. Poachers are people who save animals.
 5. International agreement is enough to tackle the problem.
3. Make a 2-minute presentation on one of the endangered species or choose one of the points from the 'discussion time' section and use it as topic for you presentation (see Appendix).

Writing Practice 3

1. Brainstorm the topic of biodiversity. Should we keep biodiversity?
Make a list of arguments on one of the topics below:

Why are the wild animals in danger?

What could make endangered species go extinct?

What could save endangered species from extinction?

2. Fill in the chart with arguments and supporting sentences.

Arguments	Supporting sentences

3. Choose the arguments that seem to be the most convincing. Write an opinion essay, 200–250 words.

4. Peer checking

Read the essay of one of your groupmates. Complete the table given below. Discuss the results.

Praise	Criticise

Feedback



Video and Note-taking Practice 3

<https://www.youtube.com/watch?v=h5eTqjzQZDY>

1. Watch the video *Endangered Species — Worth Saving from Extinction*. Complete the chart using the Cornell note taking method (see Appendix).

Main ideas	Notes
<hr/>	<hr/>
<hr/>	<hr/>
<hr/>	<hr/>
<hr/>	<hr/>
<hr/>	<hr/>
<hr/>	<hr/>
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Summary:

Return to the questions in the Lead-in section and answer them once again.

Section 4

Efforts to protect the tundra

Vocabulary Practice 4

1. (to be) conscious of — осознавать, понимать
2. (to) decline — уменьшаться
3. (to) include — включать в себя
4. in search of — в поисках
5. (to) melt — таять
6. (to) monitor — контролировать, отслеживать
7. mountain range — горная цепь
8. permafrost — вечная мерзлота
9. (to) preserve — сохранять
10. (to) recover — восстанавливаться
11. resistance — сопротивляемость
12. survival — выживание, сохранение жизнеспособности
13. (to) threaten — угрожать, предвещать
14. vehicle — транспортное средство
15. (the) World Wildlife Fund — Всемирный фонд дикой природы

Exercise 1. Fill in the gaps with the words from the box.

melt, vehicles, threaten, search, monitor

1. Many buses and large transport _____ were sent to evacuate the community.
2. The cattle roamed in _____ of water.
3. The snow _____ as soon as touched the ground.
4. To _____ your systematic progress, record each day's results.
5. The clouds _____ rain.

Exercise 2. Fill in the blank with an Active Vocabulary unit that means the same as the phrase in brackets.

1. Sandra was _____ (*be aware of and responding to one's surroundings*) of her shortness and always wore high heels.
2. Crop yields will _____ (*become smaller, fewer, or less*) and droughts will grow more severe.
3. In regions influenced by _____ (*a thick layer of soil that remains below freezing point throughout the year*), water migrates along the thermal gradient from warm to cold, thereby feeding ice in the frozen core.
4. He noticed the long shadows on the ground below him, cast from a distant _____ (*series of mountains connected together*) behind him.
5. These prices are per room per night and _____ (*comprise or contain as part of a whole*) dinner and breakfast for two people.

Exercise 3. Correct the spelling of the jumbled words underlined.

1. I was ICOSOCNSU _____ of the fact that I had to make a good impression.
2. Vancouver is close to both the ocean and the NATIMOUN _____ GERAN _____ so lots of rain is expected.
3. New buildings should RESPEREV _____ the existing environment while applying the latest science and materials.
4. DWORL _____ LFIWILED _____ FDUN _____ is the leading organisation in wildlife conservation and endangered species.
5. Under current conditions, we need a small robotic CIVEHEL _____ rather than one to transport humans.

Exercise 4. Guess the words. The first letter of the word is given.

1. Housing prices in general continued to d_____ in April, with a drop of 7.1 per cent.
2. The p_____ below the topsoil is frozen all year around, and this prevents roots from penetrating deeply into the ground.
3. Most patients eventually r_____ spontaneously, but symptoms can persist for six to 24 months.
4. This heat dries out the skin and lowers its r_____ to the sun.
5. There are two basic rules of s_____.

Reading Practice 4

Read the text and answer the questions given after the text.

The tundra is the coldest biome on Earth. Arctic tundra spreads over much of the northern most regions of the planet including Canada, northern Russia, Iceland and the coasts of Greenland. Alpine tundra covers the higher altitudes of mountain ranges throughout the world, including the Andes, Rockies and Himalayas. Climate change and human development are threatening the survival of these ecosystems, endangering animals like polar bears and threatening to melt layers of permafrost that sustain their plant life.

Scientists are studying the sharp and dramatic impacts of human activity and climate change on the tundra. A study in 2010 led by Janet Jorgensen examined the impact of trails left by vehicles in Alaska that were performing seismic operations in search of oil. The study found that most species of plant had difficulty recovering and very low resistance to the disturbances. Research like this allows us to better understand the tundra and thus how to protect it.

Groups such as Polar Bears International (PBI) are closely monitoring populations of tundra animals. In 2009, PBI found that of 12 measured polar bear populations, eight were declining, three were stable and one was increasing. This was compared to their 2005 study in which five were declining, five were stable and two were increasing. They conclude that the greatest threat is the loss of sea ice from global warming, which the bears rely on for fishing and breeding. The World Wildlife Fund (WWF) has a

list of 36 endangered species that are considered priority species in the race against extinction. According to the WWF, the polar bear is important in conservation because it is at the top of its food chain.

Wildlife organisations aim to educate people about the tundra to connect to its beauty, understand its fragility and be more conscious of human impact. PBI, for example, offers video conferences with middle and high school students in classrooms.

National and state parks have been established to preserve and protect areas of tundra. They also attract visitors to develop humanity's appreciation for these beautiful regions. Alaska has 23 national parks, attracting more than 2 million visitors and \$200 million a year. Russia also has many national parks, including the Great Arctic and Gydansky above the Arctic Circle. These parks are home to polar bears, reindeer, walrus and beluga whales, and preserve vast areas untouched by humans.

Answer the following questions:

1. What is the coldest biome on Earth?
2. What threatens the tundra ecosystem?
3. What did the study led by Janet Jorgensen find?
4. What was Polar Bears International research about?
5. What wildlife organisations do you know? What is their aim?

Listening Practice 4

Lead-in

- What is the difference between Zoos and National Parks?
- Is there anything they have in common?
- Have you ever been to a Zoo or a National Park? Share your impressions.

**1. Listen to the BBC programme devoted to Great Barrier Reef —
Heritage Sites and find out what the situation is like.**

Quiz question: Can you tell me which sea creature is a potential threat to the Great Barrier Reef's ecosystem?

Is it...

- a) starfish? b) jellyfish? c) cuttlefish?

While Listening

1. Listen to the programme (www.bbc.co.uk/learningenglish/), read the sentences below and check if the information in the sentences is correct.
 - 1) Tourists never damage important sights around the world.
 - 2) Heritage means very old things.
 - 3) The Grand Canyon in the United States is not a heritage.
 - 4) Sustainable tourism is when a few people visit places of interest.
2. Listen to the inserts of the programme and fill in the gaps. Translate the inserts.

Roger Harrabin, BBC reporter

The most precious _____ of the natural world — Australia's Great Barrier Reef, America's spectacular Grand Canyon, the Barrier Reef of Belize in South America, second biggest on Earth — all facing _____ from humans. The Great Barrier Reef is attracting urgent concern. There's a huge _____ over mining and port development. A giant coalmine has just been given the go-ahead by the Queensland _____ even though scientists warn it may _____ the Reef.

Paul Crocombe, Snorkelling and diving company, Townsville, Queensland, Australia

The Reef's pretty dynamic, it's been through a couple of _____, and is still here, so its resilience will ensure that the Reef will be here in years to come. But the _____ diversity and the... the visual aesthetics of the Reef may change quite considerably, especially if we get an increase in _____ temperature, an increase in _____ in the water, and things like that.

3. Look through the following words and word combinations. Try to recall the definitions given during the programme. In case you cannot remember all of them listen to the programme one more time or to the last episode and write down the definitions.

heritage

encroach on something

sustainable tourism

dynamic

resilience

species diversity

visual aesthetic



Video

<https://www.youtube.com/watch?v=LxCuaVh8s3M>

<https://www.youtube.com/watch?v=YsXzh5Gf5vc>

1. Watch 2 videos about Parks and Preservance Maintenance Keeper (Pinells Country Parks, Park and Preserve Maintenance worker).

While Watching

1. Answer the following questions:

1. How many parks were there in 1960?
2. How many parks are there now?
3. How many people visited the parks every year some time ago?
4. How does the number compare with today?
5. What diversity do they offer?

6. Is there any difference between National Parks and preserved lands?
7. Why do they expand the park system?
8. When does the Maintenance worker day start?
9. What does he do?
10. Is Thomas a good worker?
11. Is his work important? Why?

Speaking Practice 4

- 1. Choose one of the National Parks, make a 2-minute presentation describing the place (see Appendix).**

Writing Practice 4

1. Recall all the facts about National Parks and Preserves and write an opinion essay (200–250 words) on the following topic: *National Parks — the best place to save biodiversity.*

- ## 2. Peer checking

Read the essay of one of your groupmates. Complete the table given below. Discuss the results.

Praise	Criticise
Feedback	



1. Watch the video about National Parks: *Gates of the Arctic National Park*.
2. Complete the chart using the Cornell note taking method (see Appendix).

ENERGY AND RESOURCES

Lead-in

**Look at the pictures. What types of natural resources do they show?
What is the difference between them? Why are natural resources
important?**



Photos 2.1, 2.2

Section 1 What are resources?

Vocabulary Practice 1

1. abundant — обильный, изобилующий
2. access (to) — доступ к чему-либо
3. basis of life — основа жизни
4. conservation — сохранение
5. (to) destroy — разрушать
6. (to) encourage — поощрять, поддерживать

7. (un)even — равномерный (неравномерный)
8. income — доход
9. (to) regard — рассматривать, считать
10. renewable (non-renewable) — возобновляемый (невозобновляемый)
11. (to) replace — заменять
12. (to) satisfy — удовлетворять
13. (to) take (took, taken) for granted — воспринимать как должное
14. value — ценность
15. wildlife — живая природа

Exercise 1. Fill in the gaps with the words from the box.

abundant, values, basis of life, nonrenewable, destroys

1. Most fossil fuels, such as oil, natural gas, and coal are considered _____ resources, as their use is not sustainable because their formation takes billions of years.
2. Moral _____ help us distinguish between what is right and wrong, good or bad for you as well as society.
3. In terms of his legacy, a victory gains him nothing and defeat _____ him.
4. Carbon is the fourth most _____ element in the universe and is the building block of life on earth.
5. Water is the _____.

Exercise 2. Fill in the blank with an Active Vocabulary unit that means the same as the phrase in brackets.

1. The aim of the organisation is to promote nature _____ (*preservation of the natural environment*) nationally and internationally.
2. The twins _____ (*assume that something is true without questioning it*) that every family member takes care of them.

3. The problem with this new structure is that it does not _____
(*take the place of*) or provide the kind of skills in sufficient quantity now
needed in the new business environment.
4. The largest island in the Caribbean also has the region's greatest array
of _____ (*the native fauna of a region*).
5. Wind and solar are clean, efficient and _____ (*not depleted
when used*) sources of energy.

Exercise 3. Correct the spelling of the jumbled words underlined.

1. Rainfall is more DANBUNAT _____ in summer.
2. Polluted water sources are a hazard to LILWIDEF _____.
3. The main source of hydrogen today is natural gas — a polluting and
BAERNONEWNEL _____ fossil fuel.
4. Two side entrances provide SESACC _____ to the back
garden.
5. A salad won't be enough to SFATISY _____ my appetite.

Exercise 4. Guess the words. The first letter of the word is given.

1. Think about ways to earn extra money or increase your
i _____.
2. I believe we need to recognise that some of the collections in Auckland
are of national importance and v _____ to the whole nation.
3. I r _____ it as my duty.
4. Add the potato slices in an e _____ layer and cook gently
for about 12 minutes until softened.
5. If you really want to e _____ someone who gives you
excellent service, write a letter of commendation to the person's boss.

Reading Practice 1

Read the text and answer the questions given after the text.

Resources help people satisfy their needs and wants. Natural resources are parts of the environment which are needed and used by people and are the basis of life on the Earth. Resources include not only minerals, soil, water, forests and wildlife, but also air and the energy of the sun when people know how to make use of them. People convert the things that nature provides into useful machines, tools, and foods.

There are two main categories of natural resources: renewable and non-renewable resources (figure 7).

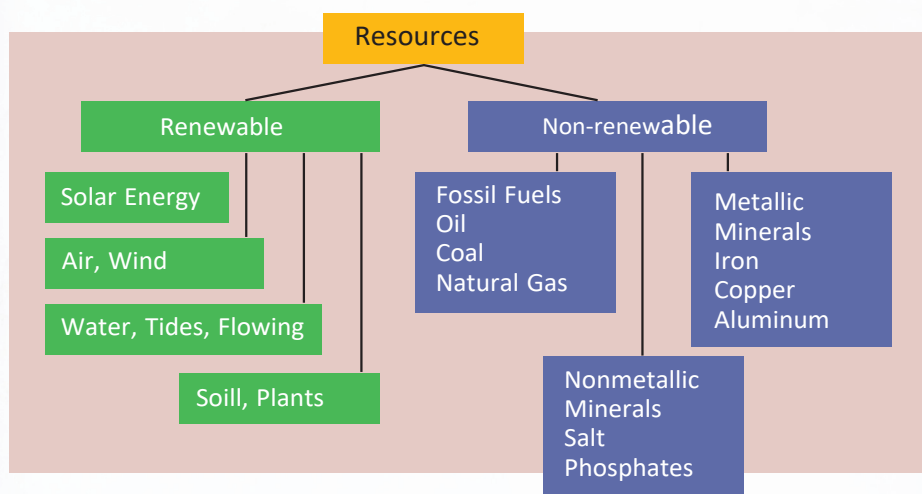


Figure 7. Classification of resources

Non-renewable resources are those that cannot easily be replaced once they are destroyed. Examples include fossil fuels. Minerals are also non-renewable because even though they form naturally in a process called the rock cycle, it can take thousands of years, making it non-renewable.

Renewable resources are those that are constantly available (like water) or can be reasonably replaced or recovered, like soils. For many years people thought that water was one of the most abundant natural resources. Scientists regard water as a renewable resource because it is constantly recirculated by the water cycle. However, water is a fragile resource. Water entering the water cycle often carries fertilizers, pesticides, chemicals. They pollute water and can destroy its value as a resource.

Forests are renewable resources if people plant trees to replace cut down trees. Fish and wildlife are renewable if people leave enough of them for reproduction and if they preserve natural habitats.

Perhaps the natural resource that people most take for granted is soil. But even soil must be protected to remain a valuable resource. Clearing the land of its natural vegetation encourages soil erosion. Farming the same crops in the soil depletes it of valuable minerals. For these and other reasons, scientists consider soil to be a renewable resource only if people take measures to prevent erosion, grow plants that restore nutrients, or use natural fertilizers.

Natural resources are not evenly distributed all over the world. Some places are richer in resources than others — for instance, some regions have lots of water (and access to ocean and seas). Others have lots of minerals and forest lands. Others have metallic rocks, wildlife, fossil fuels and so on.

The demand for world's resources continues to grow at an increasingly rapid rate due to economic development and population growth. Many countries have developed their economies by using their natural resources. Some also get a lot of income from their resources in the form of tourism and recreation. Brazil and Peru for example, make a lot of money from the Amazon Forests, which is very diverse in trees and animals.

As the world's population continues to grow, there is a growing need to manage the Earth's resources. This can be done in the form of conservation, recycling, controlling pollution, developing renewable resources.

Answer the following questions:

1. What is a resource?
2. What is the difference between renewable and non-renewable resources? Give examples of both types of resources.
3. Why is water a fragile resource?
4. What natural resource do people take for granted?
5. How are resources distributed all over the world?

Listening Practice 1

Lead-in

- Are resources distributed equally all over the world?
- Have people used the same resources for centuries?
- Can resources run out?



Video

<https://www.youtube.com/watch?v=wMOpMka6PJI>

- 1. Listen to or watch the video devoted to different sources of energy.**
- 2. Listen to or watch the first 40 seconds of the video and answer the questions:**
 1. Who are energy ambassadors?
 2. What do we need energy for?
- 3. Listen to or watch the extract devoted to Solar Energy (1:10 – 1:45) and describe how solar energy is used, what the pluses and minuses of it are.**
- 4. Watch the episode (1:45 – 3:40) and answer the following questions:**
 1. What is the main source of energy around the world? Why do you think so?
 2. Where does oil come from?
 3. What kind of fuel is oil?
 4. What is another major source of energy?
 5. How can energy be obtained from coal?
 6. Where can't natural gas be found?
 7. Where is it often located?
 8. What does the word 'natural' mean?
 9. What is this source used for?
 10. What is the earliest known energy source in human history?
 11. What are the uses of wood as energy resource?
- 5. Listen to or watch the episode (3:40 – 6:00) and mark sentences as true or false:**
 1. Wind power is an old source of energy.
 2. Water power is converted to electricity with the help of giant machines.
 3. The machines are called turbines.
 4. Water resource is a new renewable source of energy.
 5. Hydropower is the correct term for water power.
 6. Water power is seldom used to convert electricity.

7. It is impossible to use water power without dams.
8. Nuclear energy creates steam power.
9. Nuclear energy does not generate any waste.
10. Nuclear power is exceptionally clean.
11. Geothermal means 'heat from the earth'.
12. Geothermal energy is not efficient.
13. Geothermal resource can be found in volcanoes.

After Watching

- 1. Use the information from the video (watch the first 6 minutes of the video once again if necessary) and fill in the chart.**

Sources of energy	Advantages	Disadvantages
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		

Speaking Practice 1

- 1. Discuss the following questions.**
 1. What energy is used in the area you live?
 2. Do people use this energy effectively?
 3. Do you consider this energy clean and harmless?
- 2. Choose one of the questions above, use the outcomes of the class discussion and make a 2-minute presentation (see Appendix).**

Writing Practice 1

1. Brainstorm the topic of natural resources. Answering the following questions might help: What resources is Russia rich in? What are the most popular ones? Why? What about other countries? Speak about the countries you know.
2. Choose the country that seems interesting for you and write a descriptive essay on the following topic: *Natural resources of ...* . Use 200–250 words.
3. Peer checking
Read the essay of one of your groupmates. Complete the table given below. Discuss the results.

Praise	Criticise
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
Feedback	



Video and Note-taking Practice 1

<https://www.youtube.com/watch?v=42lxgPflEKM>

1. Watch the video *Conservation of Natural Resources*. Complete the chart using the Cornell note taking method (see Appendix).

Main ideas	Notes

Summary:

Section 2

Threats to natural resources

Vocabulary Practice 2

1. alteration — изменение
2. (to) apply — применять
3. consequence — следствие
4. (to) cultivate — возделывать
5. (to) deplete — истощать, исчерпывать
6. excessive — чрезмерный, избыточный
7. (to) face — сталкиваться
8. favourable — благоприятный
9. (to) force — принуждать, заставлять
10. (to) hurt (hurt, hurt) — причинять боль, нанести повреждение

11. (to) invade — вторгаться, захватывать
12. natural phenomenon (phenomena — *pl.*) — природное явление
13. pressure — давление
14. settlement — поселение
15. (to) take (took, taken) a hit — принять на себя удар, понести потери

Exercise 1. Fill in the gaps with the words from the box.

invaded, natural phenomenon, take a hit, consequences, hurt

1. China's GDP growth, which relies heavily on credit, will _____.
2. The slightest error can have serious _____.
3. I was lucky to see such a fascinating _____.
4. Where does it _____?
5. Weeds have _____ the garden.

Exercise 2. Fill in the blank with an Active Vocabulary unit that means the same as the phrase in brackets.

1. We all _____ (*have a difficult situation*) problems in our life.
2. The ideas and innovations, which have been brought together at the conference, can be _____ (*brought or put into operation or use*) to any home.
3. Traditionally, producers begin to _____ (*prepare and use for crops or gardening*) the land for planting in spring.
4. Vitamin A is dangerous in _____ (*more than necessary*) doses.
5. The strangers established a new _____ (*previously uninhabited place*) on the outskirts of the town.

Exercise 3. Correct the spelling of the jumbled words underlined.

1. The terms of the agreement are AREFAVOBUL _____ for both parties.
2. Activities such as logging and mining ELDEPET _____ our natural resources.
3. You YPAPL _____ the appropriate standards of behaviour and again you consider all the circumstances.
4. The TALATERINO _____ can cause significant changes in his way of living.
5. SEXICVESE _____ logging can have serious environmental impacts.

Exercise 4. Guess the words. The first letter of the word is given.

1. Soils that remain saturated d_____ soil oxygen and reduce root growth, resulting in overall plant decline.
2. When a f_____ wind came, we were able to set off.
3. The land was too rocky to c_____.
4. I had to f_____ myself to get up that morning.
5. P_____ is the force that pushes water through pipes.

Reading Practice 2

Read the text and answer the questions given after the text.

From fossil fuels to clean water, society uses a huge amount of natural resources. Some natural resources, such as sunlight or wind, are renewable and aren't in danger of being depleted, whereas others, such as natural gas or trees, need to be conserved, as they cannot be replaced as fast as they are used. The threats to natural resources include overpopulation, climate change and environmental pollution.

Overpopulation is probably the most significant threat that natural resources face. The world's population is increasing at a very fast rate. The increase in population means there will be pressure on almost all natural

resources. Natural resources such as land, water, energy, and ecosystems take a direct hit when population grows.

LAND RESOURCES:

With more mouths to feed and people to house, large areas of land will be needed to be cultivated and developed for housing. Many forest or vegetative lands will be converted to settlements for people, roads and farms. More farming chemicals will be applied to increase food production. So, the land is degraded as a result of continuous construction and land pollution.

WATER RESOURCES:

Fresh water will face problems too as we will continue to depend heavily on them. Water pollution, water-shortage and water stress is often a characteristic of overpopulated regions. This is usually caused by the combination of poor sanitation, waste disposal, and excessive dependence on freshwater systems.

ENERGY RESOURCES:

People need energy to fuel their cars, industries, warm and heat their homes and so on. This energy comes from many sources, fossil fuels, hydro-electricity, wood and many other forms. Overpopulation means more energy is needed and all these sources directly affect the environment negatively.

ECOSYSTEMS:

Ecosystem structure, function, integrity, and composition, supported by land and water resources directly take a hit when populations grow. Habitat and food chains are destroyed as humans invade the living spaces of biodiversity. Animals are forced away to find new habitats, many more die and some species have become extinct as a result. There will be more demand for wood (timber) and forest products. People will therefore use more forest resources than they can naturally recover. Bigger fishing companies are going deeper into sea to catch fish in even larger quantities. Some of the fishing methods they use are not sustainable, thereby destroying much more fish and sea creatures in the process.

Human's demand for a comfortable life means more items (communication, transport, education, entertainment and recreation) will need to be produced. This requires more industrial processes and more need for raw materials and natural resources.

Climate Change. The alteration in climate as a result of excessive anthropogenic carbon dioxide is hurting biodiversity and many other abiotic natural resources. Species that have adapted to their environments may die and others will have to move to more favorable conditions to survive.

Environmental Pollution. Land, water and air pollution directly affect the health of the environments in which they occur. Pollution affects the chemical composition of soils, rocks, lands, ocean water, freshwater and underground water, and other natural phenomena. This often has catastrophic consequences.

Answer the following questions:

1. What are the main threats to natural resources?
2. Why is overpopulation a significant threat to land resources?
3. What water problems do overpopulated areas face?
4. What impact does overpopulation have on ecosystems?
5. What consequences does climate change have for natural resources?
6. How does pollution affect natural resources?

Listening Practice 2

Lead-in

- What non-renewable resources can you name?
- Which do you consider the most precious one?
- Which of them are running out?



Video

<https://www.youtube.com/watch?v=SCg81A6kwg0>

1. Watch or listen to the programme devoted to non-renewable resources 'Non-Renewable Energy Resources'.

While Watching

1. Watch the programme and answer the questions:

1. What are fossil fuels?
2. How were they formed?
3. How do they work?
4. What are the disadvantages?
5. How do fossil fuels compare to nuclear energy?

After Watching

1. Surf the Net to find facts about the negative impact of fossil fuels.

Speaking Practice 2

1. Discuss the following questions:

1. Should the use of fossil fuels be banned?
2. Do fossils have more advantages than disadvantages?

2. Choose one of the questions above, use the outcomes of the class discussion and make a 2-minute presentation (see Appendix).

Writing Practice 2

1. Write about either one of the fossil fuels or the harmful effect of the use of fossil fuels. Use 200–250 words.

2. Peer checking

Read the essay of one of your groupmates. Complete the table given below. Discuss the results.

Praise	Criticise
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
Feedback	



Video and Note-taking Practice 2

<https://www.youtube.com/watch?v=thdKsEA-llo>

1. Watch the video *History of Non-Renewables*. Complete the chart using the Cornell note taking method (see Appendix).

Main ideas	Notes
Summary:	

Section 3

Energy and the environment

Vocabulary Practice 3

1. (to) account for — составлять (определенную часть)
2. advantage (disadvantage) — преимущество (недостаток)
3. (to) cut (cut, cut) down — вырубать
4. desertification — опустынивание
5. emissions — выбросы
6. environmental concerns — экологические проблемы
7. (to) flood — затоплять
8. (to) generate — производить
9. greenhouse gas — парниковый газ
10. (to) lead (led, led) — приводить к

11. (to) manufacture — производить, перерабатывать
12. nuclear waste — ядерные отходы
13. oil spill — разлив нефти (на поверхности воды)
14. polluter — источник загрязнения, загрязнитель
15. (to) spoil — испортить, повредить

Exercise 1. Fill in the gaps with the words from the box.

disadvantages, greenhouse, spoil, flooded, emissions

1. The company's waste _____ were 14% lower than two years ago.
2. Don't let one mistake _____ your day.
3. I think that the benefits outweigh the potential _____.
4. The hurricane caused a surge of water that _____ large areas of the historic city centre.
5. Nuclear power has an advantage over coal and oil in that it doesn't emit any _____ gases.

Exercise 2. Fill in the blank with an Active Vocabulary unit that means the same as the phrase in brackets.

1. The dust storms in Korea are the result of rapid _____
(*the process by which fertile land becomes desert*) in China.
2. Exports _____ (*make up a specified amount or proportion*)
72% of overall business.
3. The _____ (*an escape of oil into the water*) was an
environmental catastrophe.
4. Trees _____ (*produce*) oxygen, prevent soil erosion and
reduce the heat.
5. Earth is currently facing lot of _____ (*problems relating
to the nature*).

Exercise 3. Correct the spelling of the jumbled words underlined.

1. In what circumstances does advertising have a particular TADAVANEG _____ over direct communication?
2. Every year the tides FOLOD _____ the surrounding area.
3. They built a large plant to AFMANUCUTER _____ automobiles.
4. The shipping industry is a minor ULPOLRET _____ compared to road transport.
5. The company transports ELNUCRA _____ SETWA _____ from Lucas Heights all the way to France for reprocessing.

Exercise 4. Guess the words. The first letter of the word is given.

1. Global warming results from the e_____ of heat trapping gases, such as carbon dioxide and methane.
2. Exposure to air will s_____ the product.
3. Can we g_____ electricity from a car engine heat?
4. The human activities that cause damage to the environment may l_____ to an ecological catastrophe.
5. People c_____ d_____ too many trees nowadays.

Reading Practice 3

Read the text and answer the questions given after the text.

Men's power was once the chief source of energy. The energy was needed to plow fields, raise crops and manufacture products. Today people use fuels for energy and search for energy sources. Without energy, nothing can live and no work can be done. Think of the energy needed in your home and school for light and heat and to power things like cookers and TVs. Energy is required for economic development: it powers factories and machinery and provides fuel for transport.

Non-renewable energy sources. In the mid-1990s, coal, oil and natural gas accounted for about 90 per cent of the energy generated in the world. These three types of energy, called *fossil fuels*, are regarded as non-renewable. Fossil fuels have, in the past, been relatively easy to get and cheap to use, but they have become main polluters of the environment. For example, the burning of coal causes air pollution and contributes to global warming. Mining also damages the environment. The burning of gas and oil releases nitrogen oxide and sulphur dioxide which contribute to acid rain. There is the danger of oil spill, explosions and fire.

Two other non-renewable sources of energy are nuclear energy and fuel wood. *Fuel wood* is a vital source of energy in poor developing countries of Africa as it provides people with their basic needs (shelter, food, fuel and shade). But as Africa's population grows, more trees cut down. This leads to soil erosion and desertification.

Nuclear energy is also considered non-renewable because there is a limited supply of uranium in the earth's crust. It is believed to produce less greenhouse gases, but there are serious fears over its safety. Nuclear materials are very dangerous and nuclear waste can remain radioactive for many years.

Renewable energy sources. Renewable energy generates from natural sources that can be replaced over a relatively short time period. Examples of renewable energy include hydro, solar, wind, geothermal, tidal and biomass energy.

Hydroelectric plants use the energy of moving water and generate the highest proportion of the renewable types of energy. Such plants are expensive to build but efficient to use because water is an abundant resource. At the same time there are some environmental concerns. Large areas of farmland and wildlife habitats may be flooded forcing people and animals to move.

The sun provides an inexpensive power source. Scientists have made solar cells that change sunlight into a reliable source of electricity. *Solar energy* is safe and pollution-free, but energy production is seasonal, the construction of solar "stations" is expensive and requires further advances in technology.

People have long used energy of winds. The most familiar form of wind power is windmills. They generate electricity. As with other forms of energy, wind power has its advantages and disadvantages. *Wind energy* is widely available but is less reliable than other sources. Wind does not blow all the time. Wind turbines do not cause air pollution but are noisy and spoil the attraction of the countryside.

Geothermal energy comes from the heat that is stored in magma or in rocks beneath the Earth's surface. It is considered relatively pollution-free as there are emissions of sulphuric gases. Like wind energy, geothermal energy is usable only in some parts of the world, mostly in volcanic areas. The same problem limits the use of *tidal energy*.

Biomass energy is energy produced from organic matter (for example, sugar cane, and maize). Burning organic matter can create smoky unhealthy conditions.

Answer the following questions:

1. What are the three major fossil fuels? How do they pollute the environment?
2. Where is fuelwood still a vital source of energy?
3. Why is nuclear energy not popular in the world?
4. What are the advantages and disadvantages of renewable sources of energy? Make up a table and complete it.
5. What source of energy is the most eco-friendly?

Listening Practice 3

Lead-in

- What renewable resources can you name?
- Which do you consider the most efficient one?
- Are renewables the resources of the future?
- Are there any obstacles?



Video 1

<https://www.youtube.com/watch?v=KEeH4EniM3E>

1. Watch or listen to the first part of the programme devoted to renewable resources *Renewable Energy Explained* (1:30 – 2:40). Check how right you were in your answers to the above questions.
2. Listen to or watch the first 35 seconds of the programme and answer the questions:
 1. What is tidal power?
 2. How are tides formed?
 3. Where can tidal plants be installed?
 4. How much should be the difference between high tide and low tide to produce electricity?



Video 2

<https://www.youtube.com/watch?v=VkTRcTyDSyk&t=20s>

1. Watch the video devoted to tidal energy *Tidal Power*.

While Watching

1. Watch the episode about Tidal Technologies (0:35 – 1:24).

Fill in the chart.

Barrages	Fences	Turbines

2. Watch the video to the end and prove that tidal power is the most predictable but difficult to apply.

After Watching

1. Surf the Net to find facts about the negative impact of renewable energy.

Speaking Practice 3

1. Discuss the following issues:

1. Different sources of energy.
2. Energy is not unlimited.
3. The difference between renewable and non-renewable energy sources.
4. Using energy responsibly.
5. Ways to conserve energy at home and make a difference.

2. Watch the video *Different Sources of Energy* (7:48 – 17:33) and check how close were your suppositions concerning the issues from exercise 1 to those described in the video.

3. Choose one of the one of the topics from exercise 1, use the outcomes of the class discussion and make a 2-minute presentation (see Appendix).

Writing Practice 3

1. Read an essay about water. Divide it into logical parts. Write a similar essay about any other renewable source. Use 200–250 words.

Water

Water is one of the most precious resources; to put it simply, without water there would be no life. Unfortunately, many of us seem to have forgotten this fact, and as a result the world is facing the danger of running out of fresh water. The actual amount of water on earth has changed little since the time of dinosaurs. The problem has been caused by people's misuse of our water supply. This not only means that we have polluted our rivers and seas, but also that we are wasting a great deal of this precious resource. Unfortunately, the destruction of the rain forests has made this problem worse since much of the rain that falls is lost because it runs off into the sea. The population of the earth is increasing daily, so it is vital that we find a solution to this problem before it is too late. The first step is to educate people, especially by reminding them of the value of water. For most of us it is available whenever we require it, whether to bath in or to drink, so we seldom bother to think about it. People then need to be taught how to reuse or recycle water. One of the simplest ways of doing this is to reuse bath or shower water for household cleaning or watering the garden. Ponds which filter used water are also becoming popular. Whatever methods we might decide to use, we must appreciate the value of water and do our best to conserve it.

2. Discuss the following issue: *Renewables are the future of our planet.*
Fill in the chart with arguments and supporting sentences: your own ones and those mentioned and described in the programmes you listened to and watched.

Arguments	Supporting sentences

Choose the ideas that seem to be the most convincing. Write an opinion essay, 200–250 words.

3. Peer checking

Read the essay of one of your groupmates. Complete the table given below. Discuss the results.

Praise	Criticise
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
Feedback	



Video and Note-taking Practice 3

<https://www.youtube.com/watch?v=1kUE0BZtTRc>

1. Watch the video *Renewable Energy 101*.
2. Competition Time! Watch the programme and write down as many benefits of renewables as possible. The one who writes all — wins!
3. Watch the programme one more time and complete the chart using the Cornell note taking method (see Appendix).

Main ideas	Notes

Summary:

Section 4

Energy management

Vocabulary Practice 4

1. (to) acquire — приобретать, получать
2. demand (for) — спрос на
3. (to) design — планировать, проектировать, конструировать
4. energy consumption — потребление энергии
5. energy deficit — дефицит электроэнергии
6. energy-efficient — энергосберегающий
7. energy saving — снижение потребления электроэнергии
8. energy supply — энергообеспечение
9. (to) import — импортировать, ввозить
10. (to) increase — увеличивать
11. (to) involve — включать в себя

12. per person — на человека
13. (to) predict — предсказывать
14. (to) recycle — повторно использовать, перерабатывать
15. regular — регулярный, обычный

Exercise 1. Fill in the gaps with the words from the box.

energy-efficient, per person, energy supply, increase, energy consumption

1. The North's share of the world's _____ is expected to decrease from 70% to 60%.
2. Passengers' baggage allowance is 75 pounds _____.
3. The company hopes to _____ its sales.
4. _____ can be disrupted by different factors.
5. Switching to _____ lighting is one of the fastest ways to cut your energy bills.

Exercise 2. Fill in the blank with an Active Vocabulary unit that means the same as the phrase in brackets.

1. There is a huge _____ (*the desire for a particular commodity, service, or other item*) for new cars.
2. _____ (*economical use of forms of energy*) brings down the overall energy costs and helps a significant number of people.
3. They are also working to _____ (*say that a specified thing will happen in the future*) the results of the negotiations.
4. They _____ (*decide upon the look and functioning*) dresses for the Queen.
5. At a basic level, it is our moral obligation to reduce, reuse and _____ (*convert into reusable material*) our waste.

Exercise 3. Correct the spelling of the jumbled words underlined.

1. You should gradually CESAINRE _____ the duration of your workout.
2. Supermarkets may no longer POTIRM _____ cheap jeans from Bulgaria.
3. The old words sometimes UACEQIR _____ a new meaning.
4. I'm saving money on a LURERGA _____ basis.
5. The residents need to learn to LYCRECE _____ waste.

Exercise 4. Guess the words. The first letter of the word is given.

1. It is impossible to p_____ the outcome of a future referendum.
2. They i_____ fine silk textiles from China.
3. E_____ s_____ is the delivery of fuels or transformed fuels to point of consumption.
4. Unfortunately, the region has had e_____ d_____ for many years.
5. Try to i_____ as many children as possible in the game.

Reading Practice 4

Read the text and answer the questions given after the text.

Energy consumption per person is very high in countries like the USA, Canada, Australia, much of Europe and parts of the Middle East. It is low across most of Africa and parts of south East Asia.

Why is energy consumption increasing? The world becomes more developed and their demand for energy is rising. Moreover, by 2050 the world's population is predicted to rise to 9 billion. All these extra people will use more energy. Another reason for a greater demand for energy is the increasing use of technology, like computers and other electrical equipment.

In many countries energy demand exceeds energy supply and as a result they have energy deficit. To increase its energy supply a country may:

1. develop and increase the use of renewable (sustainable) sources of energy;
2. continue to exploit non-renewable fossil fuels such as oil and gas and develop the use of nuclear power;
3. import energy from other countries.

Another option is to reduce consumption through new technologies or greater energy saving.

There are several ways of reducing energy demand and saving energy. Energy demand can be reduced by increasing *energy conservation*. This is the practice that results in less energy being used. For example, designing more energy-efficient homes and workplaces, turning the taps, computers, lights, and TV off when not in use. Energy conservation is great because we can all do this everywhere and anytime. It is a behavior we must acquire.

Energy efficiency is the use of manufacturing techniques and technology to produce things that use less energy for the same result. For example, if a heater is designed to warm your home with less energy than regular heaters, that would be an energy efficient heater. If your washing machine uses less energy to do the same job as other washers, that is an energy efficient washer.

Recycling involves the use of waste or old materials to make new ones. For example, we can collect all old newspapers from the town at the end of every day and turn the papers into fresh paper for printing again. We can collect all plastic bottles and send them to be used for new plastic bottles, or used for children plastic toys. Recycling saves energy because less energy is used to recycle than to turn new raw materials into new products.

Answer the following questions:

1. Why is world energy consumption increasing?
2. Explain *energy supply* and *energy deficit*.
3. How to increase energy supply if there is energy deficit in a country?
4. What are the ways to reduce energy demand and saving energy? Give examples.
5. What does recycling involve and how does it save energy?

Listening Practice 4

Lead-in

- What countries are considered the cleanest?
- Do you consider Russia an energy-efficient country? Why? Give reasons.



Video 1

<https://www.youtube.com/watch?v=ytk2YxGou4>

1. Watch the video about the top green countries. Make the list of the most energy efficient ones.



Video 2

<https://www.youtube.com/watch?v=pcKE4CCaPv8>

1. Make the list of countries with most renewable energy. Watch the video *Top 10 countries with most renewable energy*. How right you were in your answers?



Video 3

<https://www.youtube.com/watch?v=MXXkhesMylo>

1. Watch the video devoted to Energy and Environment.

While Watching

1. Answer the following questions:

1. What is Denmark famous for?
2. How energy is conserved in Denmark?
3. What energy provides electricity and heat?
4. What makes Denmark the most energy efficient nation?
5. What do the major investments go to?
6. What small things make the real difference?

After Watching

1. Recall all the small things from the whole unit that make the real difference.
2. Think of your own ideas how to make the world better.

Speaking Practice 4

1. Choose one of the countries from the top green list and make a 2-minute presentation on the practices that make this country energy efficient (see Appendix).

Writing Practice 4

1. Read an essay about protection of the environment. Complete the table given below. Discuss the results.

Protection of the Environment in Russia

There are many big and small rivers, green forests, high mountains, lakes and seas in Russia. There are a lot of industrial enterprises in our country, that's why we can't ignore the problem of the protection of our environment. In Russia and former Soviet republics there are some areas where the environment is in poor state. It is the Aral Sea, Lake Baikal and Chernobyl. We have to control atmospheric and water pollution, to study man's influence on the climate.

The pollution of the environment influences the life of animals, plants and human life. If we don't use chemicals in a proper way we'll pollute our environment. Our plants and factories put their waste materials into water and atmosphere and pollute the environment. There are many kinds of transport in our big cities, that is why we must pay attention to the protection of our nature and the health of the people.

Now radiation has become one of the main problems. It is not good for health of people. Many people died from radiation some years ago in Chernobyl. It was a tragedy.

Another problem is earthquakes. We know some terrible earthquakes in the world. Our scientists try to forecast earthquakes, then we can protect ourselves from them.

The people all over the world do everything to protect nature, to make their country richer, to make their life happier. We need to have laws and decisions on this important subject.

Praise	Criticise

Feedback

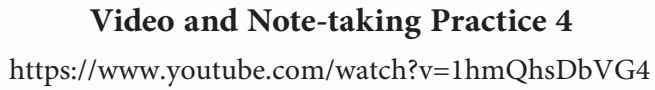
2. Choose the best ideas of how to make the world better discussed in class and write an opinion essay (200–250 words) on the following topic: *How to make energy more affordable and less harmful for the environment.*

3. Peer checking

Read the essay of one of your groupmates. Complete the table given below. Discuss the results.

Praise	Criticise

Feedback	



- | Main ideas | Notes |
|------------|-------|
| | |
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| Summary: | |
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4

HUMAN POPULATION

Lead-in

Look at the pictures. Where do the majority of people live? Why are some places overpopulated?



Photos 3.1, 3.2

Section 1 Population trends

Vocabulary Practice 1

1. age-sex pyramid — половозрастная пирамида
2. crowded — многолюдный, переполненный
3. (to) exceed — превышать
4. healthcare — здравоохранение
5. hunger — голод
6. improvement — улучшение
7. level — уровень
8. life expectancy — продолжительность жизни

9. malnutrition — недоедание, неправильное питание
10. natural increase — естественный прирост
11. (to) remain — оставаться
12. sanitation — оздоровление, улучшение санитарных условий
13. sparsely populated (densely populated) — малонаселенный (плотно населенный)
14. standard of living — уровень жизни
15. steady — стабильный

Exercise 1. Fill in the gaps with the words from the box.

life expectancy, densely populated, healthcare, remained,
age-sex pyramid

1. _____ is a graphical illustration that shows the distribution of various age groups in countries or regions of the world.
2. Germany has a universal multi-payer _____ system paid for by a combination of statutory and private health insurance.
3. The average _____ of men and women showed a big difference.
4. Several points _____ to be settled.
5. What are the most _____ countries in Europe?

Exercise 2. Fill in the blank with an Active Vocabulary unit that means the same as the phrase in brackets.

1. For this reason, drivers are allowed to _____ (*go beyond what is allowed or stipulated by a set limit*) the speed limit on such calls.
2. The city centre is always _____ (*full of people*).
3. Common symptoms of the disease are weakness, shaking, _____ (*a feeling of discomfort or weakness caused by lack of food*) and sweating.

4. For the first time last year, unemployment rose to an unprecedented _____ (*position on a scale of amount, quantity, extent, or quality*) of 10 per cent.
5. How is the rate of _____ (*the difference between the birthrate and the death rate*) calculated?

Exercise 3. Correct the spelling of the jumbled words underlined.

1. The cost must not CEXEDE _____ \$100.
2. In these cases, a patient usually does not feel pain, EHURNG _____, or thirst.
3. There is so much room for EMIMPERTONV _____ with our sport, education, healthcare and emergency services.
4. People in many of the world's poorer nations suffer from disease and IMATLNUTORIN _____.
5. Finally, I have a ASYTED _____ job and some money.

Exercise 4. Guess the words. The first letter of the word is given.

1. The committee has adapted a four-level model to clarify the structure and dynamics of the h_____ system.
2. S_____ of l_____ in the region leaves much to be desired.
3. S_____ p_____ areas are usually rather challenging places to live.
4. Access to clean drinking water and adequate s_____, especially in the rural countryside, is limited.
5. In the most populated areas of California, the cost of living far e_____ the national average.

Reading Practice 1

Read the text and answer the questions given after the text.

Human population, or the number of people living on the planet, constantly increases. No one can know exactly how many people there are in the world because birth and death records are not always well kept. In general it is considered that the total population of the world is exceeding 7,5 billion people.

Stages of population growth. Population growth rates differ in different parts of the world and vary with the level of a country's economic development. As a nation develops, it goes through five stages of population growth (figure 8).

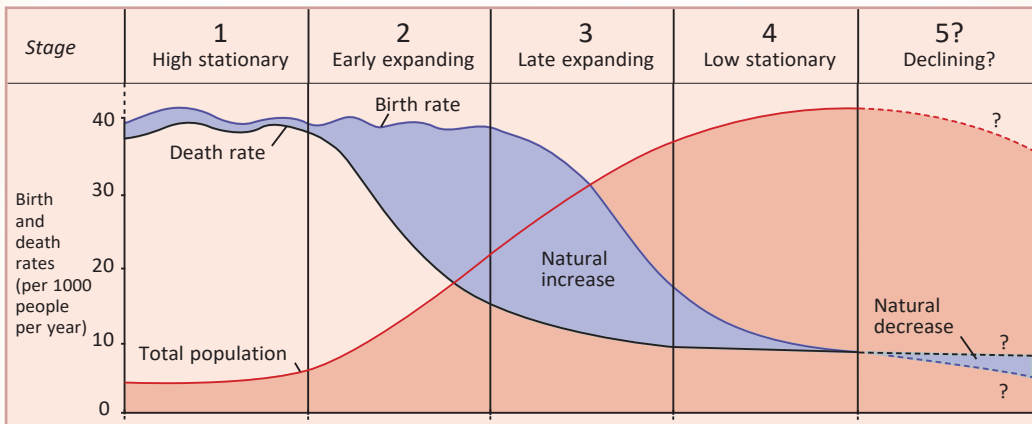


Figure 8. Stages of population growth

In the first stage the number of people increases slowly. The *birth rate*, the average number of births per 1000 people, is high. But the *death rate*, the number of people who die per 1000 people, is high too. Many people die of malnutrition and hunger.

Life expectancy, the number of years that the average person is expected to live, is about 30. So, the *natural increase*, the difference between the birth rate and the death rate, remains low.

In the second stage technological advances in farming, nutrition, medicine, and sanitation result in increased supplies and improvements in healthcare. As a result, people live longer, the death rate drops rapidly and the population starts growing very fast.

In the third stage in order to improve their standard of living adults begin limiting the size of their families, thus lowering the birth rate. The population still grows, but at a lower rate than before.

In the fourth stage, both the birth rate and the death rate remain low, fluctuating slightly to give a steady population.

Finally, the fifth stage is suggested where birth rate falls below death rate leading to natural decrease of the total population.

The rate of natural increase, birth rate, death rate and life expectancy all affect the population structure of a country. The population structure of a country can be shown by a *population pyramid* (or *age-sex pyramid*). The pyramid shows males on the left and females on the right in five-year age groups (figure 9).

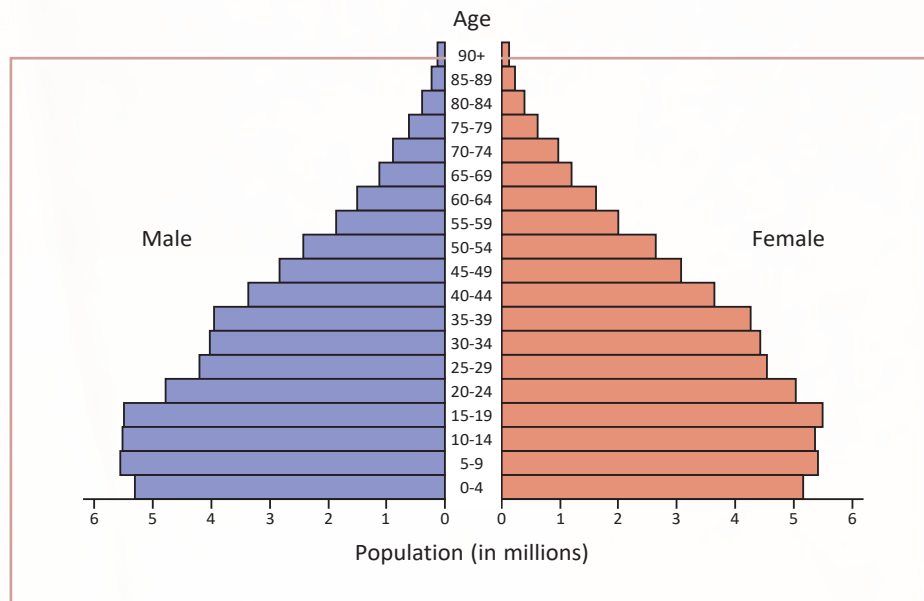


Figure 9. Stages of population growth

Distribution and density. Population distribution is uneven and changes over periods of time. People are concentrated into certain parts of the world making those places very crowded. At the same time, other areas have relatively few people living there. *Density* describes the number of people living in a given area, usually a square kilometre. Density is calculated by dividing the total population of a place by its area. High population density means more people live in a specific area size (it is a densely populated area), and low population density means less people live in that same area size (it is a sparsely populated area). For example, 100 people per square kilometre would be higher density area compared to 40 people per square kilometre.

On global and continental scales, distribution and density are mainly affected by physical factors such as relief, climate, vegetation, soils, natural resources and water supply. At regional and more local scales, distribution and density are influenced by human factors which may be economic, political or social. Nearly 90% of the world's land remains "empty" or sparsely populated. The remaining 10% is densely populated.

Answer the following questions:

1. What are birth and death rates? What is natural increase?
2. What stages is population of a country likely to go through?

Complete the table by adding the words: high, low or decreasing (for the birth rate and death rate) and slow decrease, slow increase or rapid increase (for the population change). Give your examples of countries for every stage.

	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5
Birth rate					
Death rate					
Population change					
Examples					

3. What does the population pyramid show?
4. How is population density calculated?
5. What factors influence uneven population distribution and density?

Listening Practice 1

Lead-in

- How does climate influence population distribution?
- Population is not distributed evenly across the United States but instead is concentrated in certain states and regions. What do you think are the states?
- Sunbelt region is going to exceed that of the Northwest and Midwest combined by 2030 for the following reasons:
 - a) people searching for a better quality of life
 - b) escape from the colder weather and higher expenses in northern cities
 - c) both reasons.



Listening 1

<https://www.youtube.com/watch?v=JjtxO7SII9Q>

1. Listen to an interview with Robert Spendlove devoted to US population trends.

While Listening

1. Look through the following words and word combinations. Read the definitions, try to translate them:

surpass — to do or be better than

natural increase — well expected growth

a long-term trend — continuing for a long time tendency

shift — move or change

2. Listen to the first 2:15 minutes of the programme and try to recall the sentences the words above were used in.
3. Listen to the episode again and read the following sentences, check if the information given in the sentences is correct.
 1. US population from 2015 to 2016 surpassed 200 million people.
 2. The number of added people was lower than 2.2 million.
 3. The number of immigrants was over a million.
 4. The population is moving to the South and the East.
 5. The centre of population is outside of Baltimore Maryland.
 6. The centre of population this year is Middle Missouri.



Listening 2

<https://www.youtube.com/watch?v=QAPXizkNtnE>

1. Listen to a short episode of another programme (0:38 – 3:46) and find the answer to the main question *Why Americans are moving to the Sun Belt* as well as the following ones:
 1. How much did Harris County in Texas and Maricopa County in Arizona grow an average of people a day?
 2. Where is the Sun Belt situated?
 3. Could you name the states there?
 4. Why do people find the Sun Belt attractive?
 5. When did the shift start and why?

After Listening

1. Discuss the following questions:

1. Are population trends discussed in the programme similar in other regions?
2. Should problems existing in the areas where people live be solved by local authorities or a better solution is to change the place of living?
3. What are the popular places to live in the area you live? Give reasons.

Speaking Practice 1

1. Discuss the following questions:

1. Should people be made to live in some particular areas? Why? Give reasons and examples.
2. How can modern technologies influence where people can live?
3. What are the advantages and disadvantages of living in coastal and central areas?
4. How land is used in different countries? Give examples.

Writing Practice 1

1. **Brainstorm the topic of country living. What are the disadvantages of country living that make people move to urban areas? Make a list of problems and possible solutions on the topic: *Countryside is not a perfect place to live in.***
2. **Fill in the chart with the problems given below, add up more if any. Brainstorm the possible solutions.**

Growing up in the country means a certain degree of isolation.

People you meet every day tend to be just like you, most have the same background with you.

Modern people are more sophisticated for simple country pleasures.

The problem of employment in the countryside is very crucial today, it is especially acute for the young people and professionals.

Countryside lacks developed transport system, sewerage system, information, sports, shopping malls etc.

Problems	Solutions

3. Choose the arguments that seem to be the most convincing. Write a problem solution essay, use 200–250 words.

4. Peer checking

Read the essay of one of your groupmates. Complete the table given below. Discuss the results.

Praise	Criticise
Feedback	



Video and Note-taking Practice 1

<https://www.youtube.com/watch?v=s9dFy6xBOBM&feature=youtu.be>

1. Go to <https://www.youtube.com/watch?v=s9dFy6xBOBM&feature=youtu.be>
and watch the video *Population distribution and density* or to <https://www.youtube.com/watch?v=RLmKfXwWQtE>
to learn more about *Population pyramids: Powerful predictors of the future* by Kim Preshoff.



2. Complete the chart using the Cornell note taking method (see Appendix).

Main ideas	Notes

Summary:

Section 2 Urbanisation

Vocabulary Practice 2

1. according to — в соответствии с
2. contemporary — современный
3. employment — занятость, работа
4. facilities — удобства
5. investment — инвестиции, вложения

6. (to) reach — достигать
7. (un)reliable — надежный (ненадежный)
8. rural — сельский
9. services — услуги
10. sewage disposal — сброс сточных вод
11. shelter — убежище
12. slums — трущобы
13. (to) surround — окружать
14. (the) United Nations — ООН (Организация Объединенных Наций)
15. urban — городской

Exercise 1. Fill in the gaps with the words from the box.

reached, services, United Nations, according, rural

1. Work is proceeding _____ to plan.
2. The _____ officially came into existence on 24 October 1945 to promote international peace, security, and cooperation.
3. She _____ the yellow front door and turned to look at the view from there
4. There is a huge population drift from the _____ areas to the towns and cities.
5. The company's _____ vary depending on the customer.

Exercise 2. Fill in the blank with an Active Vocabulary unit that means the same as the phrase in brackets.

1. Why do you think it beyond the capabilities of students to take on paid _____ (*the state of having paid work*) while studying?
2. Car parking, banking _____ (*place or equipment provided for a particular purpose*) and a wider variety of shops are among the hopes for the future of the town.
3. There is still a large segment of the population that lives in urban _____ (*overcrowded district inhabited by very poor people*) and poor rural areas without electricity or running water.

4. Now the victims live in a temporary _____ (*a place giving temporary protection from bad weather or danger*).
5. Dublin was the earliest of the Irish towns to take on _____ (*relating to a town or city*) characteristics.

Exercise 3. Correct the spelling of the jumbled words underlined.

1. The new element in the Australian family situation is maternal EMEMPLOTNY _____.
2. When you look closely, the Net is not a very ARELEBIL _____ source of information at all.
3. In fact, most foreign MINETVESTN _____ in Britain is about buying up existing firms, not new development.
4. Every community should have well-organised GASEWE _____ SOPDISLA _____.
5. The house itself was finished some time ago, but the pair have continued to work on it and the grounds that RONSUDRU _____ it.

Exercise 4. Guess the words. The first letter of the word is given.

1. The project will combine ideas taken from c_____ climatic design and traditional Middle Eastern art and architecture.
2. It was accepted that a new car would be u_____ and poorly made.
3. The courses are not only open to farmers but to everybody in the r_____ community.
4. I _____ in housing is a very reliable source of income.
5. Passengers would have a choice of airlines, terminal f _____ and car parks.

Reading Practice 2

Read the text and answer the questions given after the text.

Urbanisation, the movement of people from rural to urban areas, has been taking place for thousands of years. It has increased dramatically over the last 200 years. Today more than 75 per cent of people in developed nations live in urban areas. In developing countries, the urban population is generally about 45%. However, urbanisation in many developing countries is increasing rapidly. According to the United Nations, urban population is expected to reach 50% in 2020. The largest growth in urban population will take place in India, China and Nigeria.

One of the most striking features of contemporary urban growth is the increase of large cities with a million or more people. In 1850 there were only two “million” cities — London and Paris. This number increased to 70 by 1950 and to 428 in 2017. Cities with a population of over 10 million are called megacities. In 2015 there were 28 megacities, and the United Nations estimates that by 2050 there may be as many as 50.

Why do people in developing countries leave the countryside and move to the city? The variety of functions, which towns or cities offer, is one of the “pull” factors attracting people to the city.

Even the smallest town serves as the central place, or the location of specialized activities and services for the area around it. Most cities have several functions at the same time. First, all towns have a residential function: they are places where people live. Second, all towns also have a social function: they provide education facilities (schools and colleges), health facilities (clinics and hospitals), churches and places of entertainment. At the same time many of them are used by people from the surrounding rural areas. All towns have a commercial function: they are places where business takes place; there are shops and markets for the sale of goods, banks. Among the most important functions of towns and cities are transportation, manufacturing and administrative functions. There are a number of towns which have grown as a result of the development of mining industry. Several towns can be called tourist centres.

Among other “push” and “pull” factors of this rural-urban migration are:

“Push” factors: hard work (farming), lack of employment, overpopulation, hunger, soil erosion, natural disasters, severe weather conditions, lack of services, lack of investments;

“Pull” factors: better-paid jobs, higher quality of life, wide range of services, reliable sources of food.

But the reality is often very different. In many parts of the world the rapid growth in the size of towns has led to serious urban problems. As city population increases, so do demands for housing, water, electricity, sewage disposal, schooling and health care. Even cities in developed countries have difficulties meeting these demands. Cities in developing nations have greater problems. As many new arrivals to the city are unlikely to have much money, they are unable to buy or rent a house. They make a temporary shelter using cheap or waste material that leads to growth of slum settlements.

Answer the following questions:

1. What is urbanisation?
2. What are the global trends of urbanisation?
3. What is the most striking feature of contemporary urban growth?
4. What are megacities?
5. What functions and services do cities and towns provide?
6. What are economic, social and environmental push and pull factors of migration? Make up the table and complete it.
7. What urban problems do cities in developed and developing countries face?

Listening Practice 2

Lead-in

- What do you think the cities of the future will be like? Think about the question and describe a city of the future the way you see it.
- Will people enjoy living in cities of the future?
- Vast mega-cities are emerging in the developing world as people migrate in search of work. Cities in the richer world need to find ways to improve the quality of life for their inhabitants. What might be the solutions to these problems?
- What is the percentage of the world’s population that will be living in cities in 2050? We’re dealing with approximates here.
Is it...
a) 10%? b) 50%? c) 70%?

1. **Listen to a BBC programme** (www.bbc.co.uk/learningenglish/) devoted to cities of the future and find out what smart cities are like.

While Listening

1. **Listen to the first 2:12 minutes of the programme and correct the mistakes in the following sentences:**
 1. Neil was very good at playing SimCity computer game.
 2. Managing a city is an easy thing.
 3. Among issues urban planner might face are good transport networks, housing, dealing with draughts.
 4. A utopia is a real place where everything is perfect.
 5. Los Angeles is a beautiful urban sprawl with no traffic problems.
2. **Listen to 2 extracts devoted to Dr Janice Pearlman's expert opinion on the issue and fill in the gaps (2:12 – 2:56).**

Dr Janice Pearlman, founder and president of the Megacities Project non-profit organisation, Rio de Janeiro:

People are coming massively into the cities which have no _____ that's affordable to them. So, they can't rent and they can't _____, and they end up building their own _____ and houses on unoccupied land. And these communities are becoming in some places the _____ not the minority and they're off the grid so they're not often serviced by either the social _____ but also many of them don't have water, sanitation and electricity.

and Rossant, founder and chairman of the non-profit organisation New Cities Foundation, New York City (3:50 — 4:25):

I think, you know, generally it's accepted that cloud _____, ubiquitous internet, robust _____ networks etc, will transform our cities, whether they're in the _____ south or the developed world. And, you know, _____ is really a game changer, I think, in urbanisation.

3. Listen to two more episodes of the programme (2:56 and 3:50) and (4:25 – 5:29) and answer the following questions:

1. What are shanty towns?
2. What are the possible solutions?
3. What is ubiquitous?
4. What is the idea behind smart cities?
5. What is the percentage of the world's population that will be living in cities in 2050?

4. Look through the following words and word combinations. Try to recall the definitions given during the programme. In case you cannot remember all of them listen to the programme one more time or to the last episode (5:30 – 6:00) and write down the definitions:

congested

utopia

smog

urban sprawl

migrate

shanty towns

off the grid

infrastructure

ubiquitous

game changer

After Listening

1. Discuss the following questions:

1. Why is “cities of the future” an important subject?
2. Can you think of any others issues important for urban planners besides housing and transport?
3. Should the growth of urban sprawl be stopped?
4. What is the main reason people migrate from the countryside to city areas?
5. How can the problem of shanty towns be solved?

Speaking Practice 2

1. Discuss the following questions:

1. Where do people like to live more: urban areas or country areas? Why? Give reasons and examples.
2. How many types of settlements can you name? How are they different from each other?
3. Analyze how land is used in different cities. Give examples.
4. What are the advantages and disadvantages of living in a ‘smart’ city?

2. Choose one of the questions above, use the outcomes of the class discussion and make a 2-minute presentation (see Appendix).

Writing Practice 2

1. Brainstorm the topic of *Land use in cities*. What makes a city beautiful? Make a list of arguments on the topic below
It is important to use the space in the cities well than make them look beautiful.
2. Fill in the chart with arguments and supporting sentences your own ones and those given below:

Cities have high density of buildings: population of world is increasing, more people need to live in cities.

The space needs to be used well, effectively.

Design of high-rise architecture suitable for buildings in city — economic use of space.

Younger people tend to want to live in city — work opportunities.
Housing is very expensive — not enough of it.

Attractive surroundings improve quality of life, attract tourists and income.

Some companies spend money creating beautiful surroundings — improves productivity, many famous buildings used on tourist websites to attract interest.

Nowadays good design includes green space still economic also better for environment.

Arguments	Supporting sentences

3. Choose the arguments that seem to be the most convincing. Write an opinion essay, 200–250 words.

4. Peer checking

Read the essay of one of your groupmates. Complete the table given below. Discuss the results.

Praise	Criticise

Feedback

Video and Note-taking Practice 2

1. Go to <https://www.youtube.com/watch?v=EpBbnL3pMRA> and watch the video *Urbanisation and the growth of global cities* or watch the video *Urbanisation and the future of cities* by Vance Kite <https://www.youtube.com/watch?v=fKnAJCSGSdk>
2. Complete the chart using the Cornell note taking method (see Appendix).



Main ideas	Notes
<hr/>	<hr/>
<hr/>	<hr/>
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Summary:

Section 3

Migration

Vocabulary Practice 3

1. (in)accurate — точный (неточный, неверный)
2. (to) admit — признавать
3. asylum — убежище, приют
4. civil war — гражданская война
5. conditions — условия
6. crop failure — неурожай
7. housing — жилищные условия, обеспеченность жильем
8. (to) host — принимать гостей
9. opportunity — возможность
10. persecution — преследование, гонение
11. poverty — нищета
12. prospect — перспектива
13. refugee — беженец
14. (to) seek (sought, sought) — искать
15. voluntary — добровольный

Exercise 1. Fill in the gaps with the words from the box.

conditions, civil war, crop failure, prospect, host

1. The drought caused _____.
2. Air _____ and heating elements consume 50% of electricity in America.
3. Glasgow will _____ fan parties, including the NFL experience, an American football theme park in George Square.
4. In June, the _____ intensified.
5. Maybe the _____ of the landscape turning into a tourist facility will force a political change in the end.

Exercise 2. Fill in the blank with an Active Vocabulary unit that means the same as the phrase in brackets.

1. The chapel was built with _____ (*acting of one's own free will*) contributions.
2. Poor boys _____ (*attempt to find*) food and shelter.
3. Providing day care may be insufficient as a strategy to reduce _____ (*the state of being extremely poor*).
4. I think he should be given a/an _____ (*set of circumstances that makes it possible to do something*) of looking at these before I make an order.
5. We provide _____ (*shelter or protection from danger*) for those who are too weak to care for themselves.

Exercise 3. Correct the spelling of the jumbled words underlined.

1. Violence, war, poverty, unemployment, crime or UCPERSETINO _____ drive many others to escape.
2. One of the main problems they face is getting detailed and ARACECUT _____ information from potential companies.
3. During the war, she found LAMUSY _____ in Spain.
4. The story is told through the eyes of a EREFEUG _____ child.
5. He does ATVORLANY _____ work at a local hospital.

Exercise 4. Guess the words. The first letter of the word is given.

1. This information can be used to make more a _____ predictions of weather and climate.
2. We must generate environmentally sustainable energy consistent with the development of sustainable h _____.
3. I have to a _____ that the experiment was a failure.
4. R _____ used this border to enter Europe.
5. Looking at this village now, it is hard to imagine the p _____ that existed here 100 years ago.

Reading Practice 3

Read the text and answer the questions given after the text.

Migration is a movement of people from place to place. Many migrations that have taken place throughout history have resulted in a mixture of races, languages and religions. Migration does not increase world population, but it changes the population of some areas.

Migration from one country to another can be emigration (the movement of people out of a country) or *immigration* (the movement of people into a country). It can be voluntary, where people consider the advantages and disadvantages of moving or it can be *forced*, where people have little or no choice to escape natural disasters, wars or persecution. Also, there are other reasons why people migrate. Some people move to an area because they are attracted by better conditions or new opportunities: political or religious freedom, better jobs, more favourable climate conditions etc. Very popular type of migration is *economic migrant* — a person who moves voluntarily to seek a better-paid job or benefits like education and healthcare.

In the early 19th century, for example, more than 50 million people left their homelands in Europe to seek better life in North and South America and escape the poverty and periodic crop failures in Europe.

In more recent years, international migration is also on the rise. A UN study reports that over 60% of all international migrants live in Asia (80 million) or Europe (78 million). Northern America hosted the third largest number of international migrants (58 million), followed by Africa (25 million), Latin America and the Caribbean (10 million) and Oceania (8 million).

Most of migrants in the contemporary world are *refugees* — people forced to leave their home country often as a result of civil war or a natural disaster such as an earthquake, or for fear of persecution for reasons of race, religion, politics. They move to other countries hoping to find help and asylum. According to the UN, there are about 20,5 million refugees in the world. However, as most refugees are illegal immigrants, the United Nations admits that this figure could be very inaccurate. More than half of the world's refugees are children and most of the adults are women. Over 80% of refugees are in developing countries. Refugees live in extreme poverty, without food, shelter, clothing, education and medical care. They have no rights, no prospects and don't want to return to their homeland. At the same time refugees create a lot of problems for the countries which host them such as high rate of crime, overcrowded and poor-quality housing, unemployment etc.

Answer the following questions:

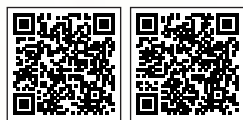
1. Why do people move from one place to another? Think about reasons for emigration and immigration.
2. What is the difference between voluntary and forced migration?
3. What is an economic migrant?
4. Which continent has hosted the most migrants?
5. What is a refugee? What countries produce the most refugees?
6. What problems do refugees face and create?

Listening Practice 3

Lead-in

- What is the difference between immigration and migration?
- Why do people migrate?
- What makes people immigrate?
- Is it easy for different ethnic groups to live together?

1. **Listen to two programmes devoted to migration: *Emigration vs. Immigration* and *Global migration*.**



<https://www.youtube.com/watch?v=OvFQs1L4TWU>
<https://www.youtube.com/watch?v=952A6ZNtRrs>

While Listening

1. **Listen to the first programme and find answers to the following questions:**
 1. What are the similar terms to migration?
 2. What is emigration?
 3. What is immigration?
 4. If you move from the USA to Spain how are you called in different countries?
2. **Listen to the second programme and tick the true sentences. Correct the information in the false ones:**
 1. Throughout history people left their countries of birth hoping for a better life.
 2. Global migration has grown by 100% over the last 5 years.
 3. 232 million people are considered migrants.

4. Germany as a country has the largest number of migrants.
5. Europe as a region is the most popular one among migrants.
6. People tend to move to Canada, Australia and New Zealand.
7. People move more to other countries than they move within one country.

After Listening

1. Discuss the following questions:

1. What countries do people usually migrate to?
2. What makes people's choice?
3. What country would you go to if you had a choice?

Speaking Practice 3

1. Discuss the following questions:

1. What will make you leave the place where you live? Think of all possible reasons. Compare your reasons with the ones you friends have.
2. Should people live where they were born?
3. Do you think the problem of migration and assimilation is an acute one? Give examples.

Writing Practice 3

1. Brainstorm the topic of the cosmopolitan cities. Can people of different ethnic groups live together harmoniously? Make a list of reasons on the topic below:

"Nowadays many countries have very cosmopolitan cities with people from all over the world. How can the government ensure that all these people live together harmoniously?"

2. Fill in the chart with arguments given below, add up more if possible.

Search for supporting information.

People travel more now than they ever did in the past and populations have had to adapt to this transitional lifestyle much more quickly than in the past.

Society as a group of individuals directs the way the new arrivals in a country are treated.

All governments should insist that schools teach history and culture from more than one country.

When immigrants settle in a country the host government should offer free language and culture lessons.

The governments should make sure that there are laws to protect people from aggression or prejudice.

It is important for immigrants to learn the culture of the place they have chosen to settle.

By learning how others have lived we gain insight into alternative cultures and ways of life which make us more accepting when we meet people from alternative cultures.

By ensuring people feel safe the host country shows that it is civilized and promotes integration.

Arguments	Supporting sentences

3. Watch a short documentary on how immigrants feel in the countries they choose to live in. Add up more data to the chart above.



https://www.youtube.com/watch?v=A5gkQ4_aAeY&list=PLZNAbh0qDoB4f_OQGJLgtDI'Tn-P2_FStW&index=6
Helping Immigrant Students Adjust to New Schools, New Lives

4. Choose the arguments that seem to be the most convincing. Write an opinion essay on the topic given in exercise 1, use 200–250 words.

5. Peer checking

Read the essay of one of your groupmates. Complete the table given below. Discuss the results.

Praise	Criticise
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Feedback



Video and Note-taking Practice 3

<https://www.youtube.com/watch?v=WXQd21to6xg>

1. Watch the video *Human Migration: Push and Pull Factors*. Complete the chart using the Cornell note taking method (see Appendix).

Main ideas	Notes
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Summary:

2. Go to <https://www.youtube.com/watch?v=54xM8VlgP7s>, watch the video *Migration — Why do people migrate?* and integrate the two videos.



	Human Migration: Push and Pull Factors	Migration — Why do people migrate?
Push factors		
Pull factors		

Section 4 Overpopulation

Vocabulary Practice 4

1. destruction — уничтожение, разрушение
2. ecosystem services — экосистемные услуги
3. (to) endanger — подвергать опасности, ставить под угрозу
4. exposure — выставление (на солнце, под дождь), подвергание (рisku)
5. (to) maintain a high standard of living — поддерживать высокий уровень жизни
6. numerous — многочисленный

7. origin — происхождение
8. overconsumption — чрезмерное потребление
9. quality — качество
10. recreational resources — рекреационные ресурсы
11. (to) run (ran, run) out — истощиться, закончиться
12. (to) share — делить, делиться, разделять
13. social unrest — общественное недовольство
14. underground and surface water — подземные и поверхностные воды
15. waste generation — образование промышленных отходов

Exercise 1. Fill in the gaps with the words from the box.

origins, underground and surface water, exposure, endanger, ecosystem services

1. What role does _____ play?
2. It took years of archeological excavation to trace the _____ and ancestry of various races.
3. _____ are the benefits that humans freely gain from the natural environment.
4. By their nature, these risks potentially can _____ all forms of life on the planet.
5. _____ has damaged the plaster ceilings, rotted joists, and peeled paint.

Exercise 2. Fill in the blank with an Active Vocabulary unit that means the same as the phrase in brackets.

1. The conservationists argue the vehicles _____ (*put at risk*) life and damage flora and fauna.
2. The two companies will _____ (*have a portion of something with others*) restructuring costs equally.
3. Is it easy today to _____ (*enjoy good quality of life*)?

4. Experimental studies of plants and animals have shown the harmful effect of excessive _____ (*the state of having no protection from something harmful*) to UVB radiation.
5. The protests were the biggest show of _____ (*general dissatisfaction of a group of people*) since the government came to power.

Exercise 3. Correct the spelling of the jumbled words underlined.

1. What are the effects of EWAST _____ NAGETINERO?
2. The label gives detailed information about the GORINI _____ and quality of the product.
3. The end of abundant, cheap oil means the end of our culture of SOVUMERCPONITNO _____.
4. Anglicans were the most SONUMERU _____ in the city.
5. The damage and CIDENSTRUTO _____ is what we're all afraid of.

Exercise 4. Guess the words. The first letter of the word is given.

1. The reforms were introduced against a background of s_____ u_____.
2. We have r_____ o_____ of sugar. Will you go the grocery and buy some?
3. Natural r_____ r_____ represent a complex of elements and physical agents, which are used for recovery, and development of physical and spiritual powers of a person, his working abilities and health.
4. A number of questions about the improvement of q_____ of life remain unanswered.
5. The two most dangerous conditions that can result from cold-weather e_____ are frostbite and hypothermia.

Reading Practice 4

Read the text and answer the questions given after the text.

Overpopulation is when the number of people living in a country or region is too many for the resources available (food, energy, minerals and technology). It means that there will be lack of jobs, houses, food and energy supplies to maintain a high standard of living. The opposite is *underpopulation* — when the natural and economic resources available are too numerous for the people living there.

The causes of overpopulation are: higher birth rate and life expectancy, lower death rate and increased migration.

All over the world, improved access to health care, information and communication have resulted in people living longer. For example, the life expectancy in the USA was 68 years in 1950. Today the life expectancy in the USA has increased to almost 80 years. Also improvements in healthcare have reduced the number of babies who die before, during and after birth.

Personal, economic, environmental and social factors force people to migrate to other places. In the last decade, international migration has been on the increase, mainly for economic reasons. By 2050, between 15 and 36% of the population of various countries in Western Europe is projected to be of “foreign origin.”

Overpopulation can put huge pressure on the earth’s resources, particularly resources within that geographic area. Think of land, water, the atmosphere and all the ecosystem services that we enjoy from our environment. What if we run out of these resources, or reduce the quality of the available resources as a result of overconsumption?

The greatest pressure of overpopulation is on land. The survival of ecosystems, animals, and insects in the soil, on the soil, underground and surface water, land for farming and agriculture, forestry and even places to develop housing for people all depend on the availability of quality land.

Overpopulation can result in the following changes:

- Loss of natural crop lands, forests and wetlands.
- Destruction and reduction of wildlife diversity and habitats.
- Destruction of vegetation and exposing land surfaces to erosion and flooding.
- Destruction of ecosystems and food chains. This goes on to endanger many fauna and flora species as their natural food chains and habitats have been destroyed. In some instances, species have been extinct.

- Destruction of lands due to mining, manufacturing and industrial developments.
- Economic loss due to floods and fires, natural hazards, low fertility farmlands etc.
- Health losses due to destroyed recreational resources.
- Social unrests when people have to share limited resources leading to civil wars and crime.
- Climate patterns can change when vegetation is destroyed. Exposure of land and water bodies to direct sun can alter atmospheric stability, causing extreme weather conditions.
- Air, land, and water pollution often increases due to increased energy use (burning fossil fuels), increased waste generation, and increased disposal of pollutants into water bodies.

Answer the following questions:

1. What is overpopulation? Give examples of overpopulated countries.
2. What is underpopulation? Give examples of underpopulated countries.
3. What are causes of overpopulation?
4. What natural resources can be affected greatly as a result of overpopulation?
5. What are environmental, economic and social consequences of overpopulation?

Listening Practice 4

Lead-in

- What is the world's population?
 - What was the world's population when you were born?
 - Why are some places overpopulated?
 - Why do birth and death rates differ?
 - Life expectancy is different in every country. What might it depend on?
 - By the year 2030, will the USA's life expectancy be:
 - a) in the top third
 - b) in the middle third
 - c) in the bottom third
 ...compared to the rest of the world?
- 1. Listen to a BBC programme (www.bbc.co.uk/learningenglish/) devoted to life expectancy. In this programme, Catherine and Dan will be discussing how long we humans can expect to live.**

While Listening

1. Listen to the first 2:10 minutes of the programme and correct the factual mistakes in the following sentences:

1. Dan looks fresh.
2. Live fast, die fast.
3. Life expectancy is how many years a person usually lives.
4. The USA has the current highest life expectancy.
5. By the year 2030 South Korea will have an average life expectancy of 100 years.

2. Listen to the extract devoted to Professor Majid Ezzati's expert opinion on the issue and fill in the gaps 2:10 – 3:12.

Professor Majid Ezzati, Chair in Global Environmental Health at Imperial College London:

It seems to be actually dealing with _____ better than other places, being very good at taking up new _____ and using it and, perhaps most importantly, doing this in a relatively equitable way compared to western countries.

So, France has had some of the lowest _____ rates among western countries, French women especially. UK has had some of the highest ones. And _____ in France, at least until now, has been consumed... it's much more _____ patterns, and in the UK there has been a lot more binge drinking.

3. Listen to the rest of the programme and answer the following questions:

1. What is the level of obesity in France compared to the UK?
2. Does France drink alcohol more or less than the UK?
3. Will the life expectancy in the USA by the year 2030 be?
 - a) in the top one-third
 - b) the middle on-third
 - c) the bottom third...compared to the rest on the world.

- 4. Look through the following words and word combinations. Try to recall the definitions given during the programme. In case you cannot remember all of them listen to the programme one more time and write down the definitions:**

dead on your feet

motto

life expectancy

equitable

obesity

binge

After Listening

1. Discuss the following questions:

1. Why do people live longer in some areas?
2. What can be done to live longer?
3. Do you think ageing population is a problem for the government?

Speaking Practice 4

1. Discuss the following questions:

1. Should people be made to live in some particular area? Why?
Give reasons and examples.
2. What prevents birth rate from growing?
3. How do modern technologies influence the quality of life and life expectancy?
4. Is it possible to solve the problem of overpopulation?

2. Watch a BBC programme and find out how an ageing population will change the world: <https://www.youtube.com/watch?v=x4r0S5qoIXc>



Writing Practice 4

1. Brainstorm the topic of overpopulation. Why the problem of overpopulation is more common in developing countries. Make a list of reasons on the topic below: *Problems overpopulation contributes to.*
2. Fill in the chart with arguments given below, add up more if any. Search for supporting information.

As human population keeps on enlarging natural resources deplete.

It can create competitive demand on life-important resources and contributes to decline in the quality of life.

It is out of overpopulation that activities such as excessive agriculture, environmental pollution have become more intensive.

The more number of people, the more number of vehicles and industries, therefore the more greenhouse gas emissions and climate change.

Overpopulation lowers the standards of living, creates stress, makes the poor become poorer.

Arguments	Supporting sentences

3. Choose the arguments that seem to be the most convincing. Write an opinion essay, 200–250 words.
4. Peer checking
Read the essay of one of your groupmates. Complete the table given below. Discuss the results.

Praise	Criticise

Feedback



Video and Note-taking Practice 4

<https://www.youtube.com/watch?v=hkdCklBc0gE>

1. Watch the video *Causes, Effects and Possible Solutions for Overpopulation*.
2. Complete the chart using the Cornell note taking method (see Appendix).

Main ideas	Notes

GLOBAL ENVIRONMENTAL ISSUES

Lead-in

Look at the pictures. They show causes and effects of one of the most crucial environmental issues. What is the issue? Is it the biggest threat to the environment today? Do you think human activity is responsible for global warming? How can we stop global warming?



Photos 4.1, 4.2

Section 1 Climate change and global warming

Vocabulary Practice 1

1. blanket — покров, защитный слой
2. (to) distort — исказить
3. drought — засуха
4. ice sheet — ледниковый покров
5. infrared radiation — инфракрасное излучение
6. methane — метан (горючий газ)

7. nitrous oxide — оксид азота
8. peat bogs — торфяные болота
9. (to be) responsible (for) — нести ответственность за что-либо
10. source — источник
11. swamps — болота
12. thermal expansion — термальное расширение
13. (to) trap — устраивать западню, ловушку
14. waste dump — свалка отходов
15. water vapour — водяной пар

Exercise 1. Fill in the gaps with the words from the box.

thermal expansion, nitrous oxide, infrared radiation, waste dump, drought

1. They found the largest _____ in the Pacific Ocean.
2. _____ is emitted from the cars, power stations and agricultural fertilizers.
3. The _____ caused crop failure.
4. Global warming causes _____ of land and water.
5. _____ was discovered in 1800 by astronomer Sir William Herschel, who discovered a type of invisible radiation in the spectrum lower in energy than red light, by means of its effect on a thermometer.

Exercise 2. Fill in the blank with an Active Vocabulary unit that means the same as the phrase in brackets.

1. The stars were hidden behind a _____ (*thick covering mass or layer*) of clouds.
2. Recent human activity is believed to be _____ (*being the primary cause of something*) for a rise in world temperatures.
3. Each of the millions of cars is potentially a _____ (*a thing from which something originates*) of air pollution.

4. Global warming causes _____ (layers of ice covering an extensive tract of land for a long period of time) to melt in icy regions of the world and mountain tops.
5. These birds require shallow water habitats for feeding such as ponds, lakes, _____ (an area of low-lying, uncultivated ground where water collects), wetlands, and flooded fields.

Exercise 3. Correct the spelling of the jumbled words underlined.

1. A secondary RESOCU _____ of carbon dioxide is deforestation and the burning of the tropical rainforests.
2. Recent human activity is believed to be _____ SIRESPONBEL for a rise in world temperatures.
3. Greenhouse gases include REWAT _____ ROVAPU _____, carbon dioxide, nitrous oxide, methane, ozone.
4. TAPE _____ GBOS _____ occur where the water at the ground surface is acidic and low in nutrients.
5. Food waste is turned into hydrogen, AMETHEN _____ and carbon monoxide by the heat of the exhaust.

Exercise 4. Guess the words. The first letter of the word is given.

1. The Earth loses heat at night through outgoing i_____ r_____.
2. On cloudy nights, temperatures do not drop as low as on clear nights as the clouds act as a blanket and t_____ the heat.
3. Greenhouse gases in the atmosphere act as a b_____, as they prevent the escape from infrared radiation.
4. M_____ is released from decaying organic matter such as peat bogs, swamps, waste dumps and farms.
5. Climate change d_____ the natural habitats and lives of many plants and animals.

Reading Practice 1

Read the text and answer the questions given after the text.

Scientists have warned that the world's climate has changed a lot, and has affected many living and non-living things. Many places that were warmer are now getting colder, many colder regions are getting much colder or even warmer.

The process by which world temperatures are rising is known as global warming.

The Earth is warmed during the day by incoming radiation from the sun. The Earth loses heat at night through outgoing infrared radiation. Over a lengthy period of time, because there is a balance between incoming and outgoing radiation, the Earth's temperatures remain constant. On cloudy nights, temperatures do not drop as low as on clear nights. This is because the clouds act as a blanket and trap some of the heat. Greenhouse gases in the atmosphere also act as a blanket, as they prevent the escape from infrared radiation. Without these greenhouse gases (which include water vapour, carbon dioxide, nitrous oxide, methane, ozone), the Earth's would not be warm enough for humans to live. But if the greenhouse effect becomes stronger, it could make the Earth warmer than usual. Even a little extra warming of the Earth may cause problems for humans, plants and animals.

Recent human activity has led to a significant increase in the amount and type of greenhouse gases in the atmosphere. This is preventing heat from escaping into space, and is believed to be responsible for a rise in world temperatures. World temperatures have risen by 0,5°C this century.

The major contributors to global warming are carbon dioxide and other pollutants released into the atmosphere. Carbon dioxide is the most important factor in global warming. It is produced by road vehicles and by burning fossil fuels in power stations, in factories and in the homes. Since the economically more developed countries consume three-quarters of the world's energy, they are largely responsible for global warming. A secondary source of carbon dioxide is deforestation and the burning of the tropical rainforests. Methane is released from decaying organic matter such as peat bogs, swamps, waste dumps and farms. Nitrous oxide is emitted from the cars, power stations and agricultural fertilizers.

The major consequences of global warming are the predicted world changes in climate and sea-levels. Global warming causes thermal expansion

of land and water. It also causes ice sheets to melt in icy regions of the world and mountain tops. Large volumes of melted ice (water) then flow down into streams, rivers, lakes and seas. The result is rising sea and water levels, causing floods and massive destruction to low-lying towns and cities along water bodies.

Changing climate may also cause the weather to become more extreme, droughts or violent storms and heavy rain. The same amount of water in the water cycle will not be affected, but its timing, amounts, regularity and distribution will be impacted. Mid-latitudes and dry subtropical regions may experience a reduction in water flow, while high latitudes and humid mid-latitude regions may have increased water flow. Availability of clean water may be affected too.

Climate change also distorts the natural habitats and lives of many plants and animals. For example, the survival of polar bears and penguins in icy regions are in danger, as they cannot survive anywhere else.

Climate change is not only about warming, many regions are getting much colder. Some plants and animals in hot regions will die if temperatures suddenly become too cold for them.

Answer the following questions:

1. Why do scientists say about climate change?
2. What is the role of the greenhouse gases in the atmosphere?
3. What is global warming? What are the major contributors to global warming?
4. What are the two main sources of carbon dioxide?
5. What is methane released from?
6. What is nitrous oxide emitted from?

List the major consequences of global warming.

Listening Practice 1

Lead-in

- Does climate have any influence on plants, animals or humans?
If yes, what?
- Do you think climate has changed a lot recently?
- What is greenhouse effect? Is it the same as global warming?

- *Quiz question:* How much has the average temperature of the Earth's surface increased in the last hundred years?
Is it...
a) 0.85 C? b) 1.85 C? c) 8.5 C?

1. Listen to the BBC programme devoted to global warming — *Climate Change* (www.bbc.co.uk/learningenglish/) and find out what the situation is like.

While Listening

1. Listen to the programme and correct the factual mistakes in the following sentences:

1. Unseasonably cold means too cold.
2. The Earth has warmed up in the past and it has caused terrible problems.
3. It is not late now to stop the Earth warming up.
4. Desalination plants are important and affordable for all countries.
5. A floating city can be a solution.

2. Listen to the inserts of the programme and fill in the gaps. Translate the inserts.

Saleemul Huq, Director, International Centre for Climate Change and Development in Bangladesh:

Saleemul Huq:

The _____ countries have already pledged and _____ a hundred billion dollars a year, starting from _____, to cover all kinds of climate change activities which in climate change are either going to be called mitigation or _____.

Owen Bennett Jones:

A year? But that's an enormous sum of _____!

Saleemul Huq:

Not that enormous compared to what they gave to the banking system when it collapsed. Climate change is a much bigger problem than the _____.

Mark Maslin, Professor of Climatology at University College London:

Remember, we're going to have 9.5 _____ people by the middle of this century. Now, if you think about it, think about the _____ of building a city, floating, for say, ten _____ people. And then multiply that up to 60 per cent of 9.5 billion people. OK? So, I don't think it's really _____.

- 3. Look through the following words and word combinations. Try to recall the definitions given during the programme. In case you cannot remember all of them listen to the programme one more time or to the last episode and write down the definitions:**

unseasonably

mitigate

pledged

desalination

homegrown

cost-efficient

logistics

4. Listen to one more BBC programme discussing how eating meat can add to the problem of greenhouse gas *Is eating meat killing our planet?* (www.bbc.co.uk/learningenglish/) and find the answer to the question of the programme. Make suppositions how can our eating meat contribute to global warming.
5. According to a study in America, how many tones of beef are produced globally every year? Make your own choice. Listen to the end of the programme and find the correct answer:
- a) 59 million tonnes
 - b) 69 million tonnes
 - c) 79 million tonnes
6. Answer the following questions:
- 1. Is it eating meat or production of meat that contributes to global warming?
 - 2. How big is the percentage of greenhouse gases from food production go to the atmosphere?
 - 3. What is deforestation? Why do people do it? Is it harmful?
 - 4. Is the use of fertilisers dangerous for the environment?
 - 5. How are deforestation and the use of fertilisers connected with meat production?
7. Listen to the inserts of the programme and fill in the gaps. Translate the inserts.

BBC Environment Analyst, Roger Harrabin:

The surge in meat eating will drive more deforestation as farmers _____ increasing amounts of _____, the study says. Cutting _____ releases greenhouse gases from the _____ and the _____, and fertilisers create greenhouse gases too. The report says under current _____, agriculture alone will cause the world to bust its targets for reducing the _____ of dangerous climate _____.

BBC Environment Analyst, Roger Harrabin:

The real challenge is the public's _____. There's a _____ restaurant boom in _____ cities. People are voting with their bellies and it's not normally _____ burgers they're after!

After Listening

Discuss the following questions:

1. Do you consider climate change to be the issue of great concern? Why?
2. What are the ways to mitigate greenhouse gas emissions?
Give examples.
3. Comment on the problems raised in the inserts.
4. Do you like the idea of floating cities? Why?
5. Can cutting down on eating meat save the Earth?

Speaking Practice 1

1. Discuss the following questions:

1. Think of some radical ways of adaptation to climate change.
2. Should developed countries help developing ones?
3. How is the problem of lack of drinking water solved in different countries?
4. What is 'good value for money'? What ecological problems can be classified as a good value for money?

2. Choose one of the questions above, use the outcomes of the class discussion and make a 2-minute presentation (see Appendix).

Writing Practice 1

1. **Brainstorm the topic of global warming. What causes greenhouse gases? What problems have global warming already caused and what problems might it cause? What are the possible solutions? Make a list of reasons on the topic: *What climatic changes are the most dangerous?***

2. Fill in the chart with arguments and supporting sentences: your own ones and those mentioned and described in the programmes you listened to and watched.

Arguments	Supporting sentences

3. Choose the ideas that seem to be the most convincing. Write an opinion essay, use 200–250 words.

4. Peer checking
Read the essay of one of your groupmates. Complete the table given below. Discuss the results.

Praise	Criticise
Feedback	

Video and Note-taking Practice 1

Go to https://www.youtube.com/watch?v=G4H1N_yXBiA and watch the video *Causes and Effects of Climate Change by National Geographic*. Complete the chart using the Cornell note taking method (see Appendix).



Main ideas	Notes
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
Summary:	

Section 2 Ozone depletion

Vocabulary Practice 2

1. ageing — старение
2. chlorine — хлор
3. (to) claim — требовать, заявлять права, претендовать
4. (to) consider — рассматривать, считать
5. (to) contain — содержать
6. (to) contribute — содействовать, вносить вклад

7. dangerous — опасный
8. immunity to diseases — иммунитет к болезням
9. issue — проблема, вопрос
10. (to) observe — наблюдать, замечать
11. (to) replenish — пополнять, дозаправлять
12. shield — щит, экран
13. skin cancer — рак кожи
14. survey — обзор, отчет об исследовании
15. (to) tend (to) — иметь склонность к чему-либо, стремиться к

Exercise 1. Fill in the gaps with the words from the box.

immunity, skin cancer, contains, considered, observed

1. Ozone depletion is _____ to be a major environmental issue.
2. Ultraviolet radiation can cause sunburn and _____, cataracts and eye damage.
3. Ultraviolet radiation can reduce _____ to diseases.
4. A depletion of ozone above the Antarctic was first _____ in 1977.
5. Every living organism on Earth _____ a substantial proportion of water.

Exercise 2. Fill in the blank with an Active Vocabulary unit that means the same as the phrase in brackets.

1. Scientists believe that _____ (*the process of growing old*) is a biological process in which cells simply stop dividing.
2. The flood could have _____ (*likely to cause harm or injury*) consequences for those who live in the surrounding area.
3. The _____ (*problem*) of water pollution is an urgent matter.

4. Some householders then _____ (*request or demand*) compensation from the council, and the council demands the builder repays that compensation.
5. Very obese people _____ (*have a certain characteristic*) not to exercise.

Exercise 3. Correct the spelling of the jumbled words underlined.

1. The rays from the sun NATCONI _____ ultra violet rays.
2. Volcanoes contribute about 20% of IRCHELON _____ entering the atmosphere.
3. Humans cannot do much to NIREHPLES _____ the depleted ozone, as it tends to recover slowly by itself.
4. If the EVSURY _____ reports any problems you will need to estimate how much it will cost to put it right.
5. The elderly find it SORDANUGE _____ to cross the road at a pelican crossing or a zebra crossing because of speeding vehicles.

Exercise 4. Guess the words. The first letter of the word is given.

1. Scientists claim that a 1 % depletion in ozone causes a 5 % increase in s_____ c_____.
2. Ozone acts as a s_____, protecting the earth from the damaging effects of ultraviolet radiation from the sun.
3. Genetic manipulations transform the process of human a_____.
4. Recharge is the amount of water from precipitation that r_____(es).
5. The government was ready to c_____ to the project.

Reading Practice 2

Read the text and answer the questions given after the text.

Like other environmental issues, ozone depletion is one that is very important, and considered as a major environmental issue by many environmental scientists all over the world.

Have you ever felt the sun's intensity ripping through your skin on a hot afternoon? But the sun is estimated to be about 150 million kilometres from our planet. Every day, as the sun rises, we begin to feel the heat. This heat is radiated through space, and yet we still feel it.

The rays from the sun contain ultra violet rays (UV Rays). UV rays are not all bad, because they help human with Vitamin D. But too much of them are very dangerous. Ultraviolet radiation is responsible for sunburn and skin cancer, cataracts and eye damage, ageing and wrinkling of skin, and reduced immunity to diseases. Scientists claim that a 1% depletion in ozone causes a 5% increase in skin cancer.

Ozone is a gas, which is concentrated in a layer 25–30 km above the Earth's surface and acts as a shield, protecting the earth from the damaging effects of ultraviolet radiation from the sun.

There is a serious concern as parts of the shield are breaking down. The scientists first noticed a depletion of ozone above the Antarctic in 1977. And the first "hole" was noted in 1985 (a 'hole' is where ozone depletion is over 50%). This "hole", which appears around September — October, develops when very low temperatures allow the ozone to be destroyed in a chemical reaction with chlorine. The main sources of chlorine are the release of chlorofluorocarbons (CFCs), especially from aerosols by humans into the atmosphere (a long-term effect) and from volcanic eruptions (a short-term effect). All in all, it is known that volcanoes contribute about 18% — 20% of chlorine entering the atmosphere, and human activities also contribute about 80% — 82%.

If the ozone layer is depleted by human action, the effects on the planet could be catastrophic. Sadly, there is not a whole lot that humans can do to replenish the depleted ozone, as it tends to recover slowly by itself (ozone is a natural gas and is naturally replenished over time but slowly). All we can do is to be more responsible for our manufacturing needs so that we do not introduce more CFCs into the air.

Answer the following questions:

1. Why are ultra violet rays dangerous for people?
2. What is the role of the ozone in the atmosphere?
3. When and where was first depletion of ozone noticed?
4. What are the main sources of chlorine?
5. Can humans replenish the depleted ozone?

Listening Practice 2

Lead-in

- With the industrial revolution human's negative influence on nature began to increase. Large cities with thousands of polluting plants and factories can be found nowadays all over the world. They pollute the air we breathe. What other polluted areas can you name? Give examples.
- Do you consider cars with their engines to be the main source of polluting cities?
- How clean is the air in the place where you live?
- Quiz question: According to research by the World Health Organisation, which country has the city with the world's worst air pollution?
Is it...
a) China? b) India? c) Iran?

1. **Listen to the BBC programme devoted to air pollution — *Air Pollution in China* (www.bbc.co.uk/learningenglish/) and find out what the situation is like.**

While Listening

1. **Listen to the programme and correct the factual mistakes in the following sentences:**
 1. Smog is polluted fog.
 2. The Earth has warmed up in the past and it has caused terrible problems.
 3. Chinese cities suffer from traffic noise and street lights.
 4. New laws cannot change the situation in the cities with air pollution.
 5. Pollution regularly goes under safety limits set by the World Health Organisation.

2. Listen to the programme one more time and describe what is a 'pea-souper', situation in London and Los Angeles. Compare it with the situation in China.
3. Look through the following words and word combinations. Try to recall the definitions given during the programme. In case you cannot remember all of them listen to the programme one more time or to the last episode and write down the definitions:

air pollution

smog

chocking

contaminated

fumes

industrialised

poisonous

asthma

greener renewable energy

4. Listen to one more programme from (www.bbc.co.uk/learningenglish/) *Pedestrianisation — is it good for cities and towns?* and find the answer to the question of the programme. Make suppositions on the issue how pedestrian zones can change a city.

5. Listen to the programme once again and answer the following questions:

1. Is banning transport and rerouting a big problem for city planners? Why?
2. What are the three problems most cities face?
3. What cars will be banned from 2040?
4. When does road congestion get better? Why?

6. Listen to the insert of the programme and fill in the gaps. Translate the insert.

Joe Urvin, Chief Executive of Living Streets:

In 1979 we had _____ million cars in this country. Now we have over _____ million cars in such a short period. So that creates _____ big problems. One is space — because we've still got the same _____ in our towns and cities, causing congestion. It causes _____, which people are concerned about more and more. And actually, it's kind of engineering _____ out of our lives. So, we're actually not getting enough _____, which is a cause of a _____ crisis. Smart cities are looking at pedestrianisation — in Glasgow, in Birmingham, in _____ for example, actually, building their _____ economy.

7. Look through the following words and word combinations. Try to recall the definitions given during the programme. In case you cannot remember all of them listen to the programme one more time or to the last episode and write down the definitions:

pedestrian

tackle

ban

reroute

congestion

After Listening

1. Discuss the following questions:

1. How congested are the roads in your city or town?
2. What are the ways to solve the problem of traffic jams? Give examples.
3. Comment on the problems raised in the inserts.
4. Are there many pedestrian zones in your city? Are they popular with the city dwellers?

Speaking Practice 2

1. Discuss the following questions:

1. What are green technologies that can help overcome polluted air problem?
2. Whose health suffers greatly from air pollution?
3. Is air pollution harmful to human beings only?

2. Choose one of the questions above, use the outcomes of the class discussion and make a 2-minute presentation (see Appendix).

Writing Practice 2

1. Brainstorm the topic of Pollution. What types of pollution can you think of? What are the possible solutions? Make a list of reasons on the topic: *Environmental problems of the 21st century*.
2. Fill in the chart with arguments and supporting sentences: your own ones and those mentioned and described in the programmes you listened to and watched.

Problems	Solutions

3. Choose the ideas that seem to be the most convincing. Write a problem solution essay, use 200–250 words.

4. Peer checking

Read the essay of one of your groupmates. Complete the table given below. Discuss the results.

Praise	Criticise

Feedback

Video and Note-taking Practice 2

1. Go to <https://www.youtube.com/watch?v=e6rglsLy1Ys> and watch the video *Air Pollution 101 by National Geographic*.
2. Complete the chart using the Cornell note taking method (see Appendix).



Main ideas	Notes
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
Summary:	

Section 3 Water pollution

Vocabulary Practice 3

1. (to) contaminate — загрязнять
2. (to) convert — превращать
3. (to) deposit — отложиться
4. (to) disrupt — разрушать
5. dumping — затопление отходов, сброс отходов в море
6. frontier — граница, рубеж

7. garbage — мусор, отбросы
8. harmful — вредный
9. lead — свинец
10. outbreak of cholera — вспышка холеры
11. (to) poison — отравлять
12. routine — рутинный, текущий
13. thermal power station — теплоэлектростанция
14. water treatment — очистка воды
15. waterways — водные пути

Exercise 1. Fill in the gaps with the words from the box.

poison, deposits, disrupts, thermal, outbreak

1. Sulphur dioxide and nitrogen oxide are emitted by _____ power stations, industry and motor vehicles.
2. Pollution _____ the natural food chain.
3. A/An _____ of cholera occurred in November 1972 among passengers on an aircraft that had flown from London to Sydney.
4. When no more silver _____ on the copper, the operation is completed.
5. He tried to _____ us.

Exercise 2. Fill in the blank with an Active Vocabulary unit that means the same as the phrase in brackets.

1. Many types of viral and bacterial pathogens may _____ (*make impure by addition of a poisonous or polluting substance*) water and food.
2. The owner plans to _____ (*change function*) the building into apartment.
3. Most customers don't know that these big boats dump raw sewage and _____ (*rubbish or waste, especially domestic refuse*) at sea.

4. Boats that travel on the _____ (*a river, canal, or other route for travel by water*) and canals within the community access houses in the settlement.
5. The management said it was a _____ (*performed as part of a regular procedure*) warning.

Exercise 3. Correct the spelling of the jumbled words underlined.

1. Be careful not to allow bacteria to TAETIMCONNA _____ the wound.
2. The gases are carried by prevailing winds across seas and national RETIFRSON _____.
3. Pollution is the result of BAGAREG _____ dumped by individuals and dangerous chemicals dumped by manufacturing industries.
4. ITEROUN _____ shipping and dumping of oils on the ocean surface happen every day.
5. Too much sun is MUFHLAR _____ to the skin.

Exercise 4. Guess the words. The first letter of the word is given.

1. W_____ t_____ is any process that improves the quality of water to make it more acceptable for a specific end-use.
2. Different organisations are working hard to protect w_____ and encourage practices that help keep waters from contamination.
3. They lightened the ship by d_____ the corn in the sea.
4. L_____ is a heavy metal that is denser than common materials.
5. Water pollution is very h_____ to humans, animals and water life.

Reading Practice 3

Read the text and answer the questions given after the text.

Water covers over 70% of the Earth's surface. It is a very important resource for people and the environment. Water is crucial to human health. As long as humans live, water will be needed and consumed. While consuming, we are polluting water.

Water pollution affects drinking water, rivers, lakes and oceans all over the world. In many developing countries, it is usually a leading cause of death for people drinking from polluted water sources. Besides, more than 2 billion people in the world lack access to safe drinking water and more than double that number lack access to safe sanitation.

Pollutants get into water mainly by human causes or human factors. Sulphur dioxide and nitrogen oxide which are emitted by thermal power stations, industry and motor vehicles are carried by rain and the acid is formed from them in the air. These gases are either carried by prevailing winds across seas and national frontiers to be deposited directly on to the Earth's surface, or are converted into acids which then fall to the ground in the rain.

Many water bodies near urban areas (cities and towns) are highly polluted. This is the result of both garbage dumped by individuals and dangerous chemicals legally or illegally dumped by manufacturing industries, health centers, schools and market places.

Another problem caused by water pollution is that it kills organisms that depend on these water bodies. Dead fish, crabs, birds and sea gulls, dolphins, and many other animals often are on beaches, killed by pollutants in their habitat. One of the causes can be oil industry. Routine shipping and dumping of oils on the ocean surface happen every day. Oil spills make up about 12% of the oil that enters the ocean. Oil spills cause major problems, and can be extremely harmful to local marine wildlife because oil does not dissolve and stays on the water surface. Oil also gets caught in the feathers of seabirds, making it difficult for them to fly. Some animals die as a result.

Pollution disrupts the natural food chain as well. Pollutants such as lead and cadmium are eaten by tiny animals. Later, these animals are consumed by fish and shellfish, and the food chain continues to be disrupted at all higher levels. The whole ecosystems can be severely changed or destroyed by water pollution. Many areas are now being affected by careless human pollution, and this pollution is coming back to hurt humans in many ways.

Humans are affected by this process as well. People can get diseases such as hepatitis by eating seafood that has been poisoned. In many poor nations, there is always outbreak of cholera and diseases as a result of poor drinking water treatment from contaminated waters.

Water pollution is very harmful to humans, animals and water life. The effects can be catastrophic, depending on the kind of chemicals, concentrations of the pollutants and where there are polluted. Humans have now realised the importance of clean water as a foundation for life. More and more organisations and councils are working hard to educate, protect, restore waterways and encourage practices that help keep waters from contamination, and also to preserve water ecosystems from destruction.

Answer the following questions:

1. What are the main water pollutants?
2. Which two chemicals cause acid rain? What are their sources?
3. How does oil industry pollute water and life organisms?
4. How does pollution disrupt the natural food chain and destroy ecosystems?
5. How are humans affected by poor drinking water treatment from contaminated waters?

Listening Practice 3

Lead-in

- What is acid rain? Do you know the causes of acid rain?
- Are there many forests in the area where you live?
- Why are forests cut out?
- Where are forests usually cut out?



Video 1

<https://www.youtube.com/watch?v=1PDjVDIrFec>

While Listening/Watching

1. Listen to or watch the programme by National Geographic devoted to global acid rains *What is acid rain* and find out how dangerous it is. Answer the following questions:
 1. What is the definition of acid rain?
 2. What forms can acid rain take?

3. What is acid rain caused by?
 4. When can acid rain make toxic?
 5. How does it harm forests?
- 2. Look through the following words and word combinations. Try to recall the definitions given during the programme. In case you cannot remember all of them listen to the programme one more time and write down the definitions:**

acid

precipitate

sulphur dioxide

nitrogen oxides

release into the atmosphere

toxic



Video 2

<https://www.youtube.com/watch?v=Nc7f5563azs>

While Watching

- 1. Watch one more programme on deforestation *Deforestation: effects on climate*. Answer the following questions:**
 1. What is the definition of deforestation?
 2. Why do people cut down forests? (min 2 reasons)
 3. Is it a long-standing problem?
 4. Is it a global problem?
 5. Why should we care about the problem?
 6. How much of the Earth do forests cover?

- 2. Look through the following words and word combinations. Try to recall the definitions given during the programme. In case you cannot remember all of them listen to the programme one more time and write down the definitions:**

remove

cut down

albedo

absorb

reflect

evaporate

After Listening

Discuss the following:

1. Describe the importance of trees (forests).
2. Give different examples from the two videos.

Speaking Practice 3

1. Discuss the following questions:

1. How can the problems of acid rain and deforestation affect the climate?
2. What can we do? Can we make a difference?

- 2. Choose one of the questions above, use the outcomes of the class discussion and make a 2-minute presentation (see Appendix).**

Writing Practice 3

1. Chose the presentation you liked most of all. Fill in the chart with arguments and supporting sentences: from the presentations, your own ones and those mentioned and described in the programmes you listened to and watched.

Arguments <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>	Supporting sentences <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>
Problems <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>	Solutions <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>

2. Choose the ideas that seem to be the most convincing. Write an opinion essay or a problem solution essay (your choice) 200–250 words.
3. Peer checking
Read the essay of one of your groupmates. Complete the table given below. Discuss the results.

Praise	Criticise

Feedback

Video and Note-taking Practice 3

1. Go to https://www.youtube.com/watch?v=4xls7K_xFBQ&t=90s and watch the video *Why is Africa building a Great Green Wall (BBC News)*. Why can planting trees no longer save out atmosphere and Amazon reforestation?
2. Complete the chart using the Cornell note taking method (see Appendix). Compare the three videos of section 3.



Main ideas	Notes

Summary:

Section 4 Desertification

Vocabulary Practice 4

1. (to) accept — принимать, признавать
2. arid — пустынный
3. (to) bind (bound, bound) — связывать
4. fuelwood — дрова
5. humus — гумус, перегной, чернозем
6. irrigation — орошение
7. mismanagement — неправильное управление
8. overcultivation — нерациональное использование сельхозземель
9. overgrazing — перевыпас
10. (to be) prone (to) — иметь склонность к чему-либо
11. (to) rely (on/upon) — полагаться на что-либо
12. semi-arid — полупустынный
13. traditional way of life — традиционный образ жизни
14. vegetation cover — растительный покров
15. widespread — распространенный

Exercise 1. Fill in the gaps with the words from the box.

semi-arid, bound, vegetation cover, fuelwood, prone

1. Human pressure on the land through overgrazing, overcultivation, and gathering of _____ may reduce the ability of the natural system to withstand drought.

2. Religion and art are tightly _____ together, interpenetrating each other.
3. There are different kinds of _____ climates.
4. Many children are _____ to believe in miracles.
5. _____ acts as a thermal insulator between the atmosphere and the ground and can play a substantial role in the redistribution of snow cover.

Exercise 2. Fill in the blank with an Active Vocabulary unit that means the same as the phrase in brackets.

1. _____ (*the supply of water to land or crops to help growth*) is important for farming.
2. Soil rich in organic _____ (*the component of soil, formed by the decomposition of plant material*) will hold more water longer and be more drought-resistant.
3. A fillet _____ (*fastens tightly together*) her hair.
4. The _____ (*too dry to support vegetation*) climate would easily sap the nutrients and moisture out of them.
5. _____ (*the practice of excessive farming on a piece of land*) has brought about a lot of devastating effects on the globe.

Exercise 3. Correct the spelling of the jumbled words underlined.

1. The river supplies water for RINAGIRTIO _____ of agricultural crops.
2. Please, CTEPAC _____ a small gift that was brought from Germany.
3. Human MANGEMITSANEM _____ spoils a lot of potentially promising technology on a regular basis.
4. Low rainfall in the region led to GONRAVEZIGR _____.
5. What all these countries have in common is DEDWISAPER _____ unemployment and illiteracy.

Exercise 4. Guess the words. The first letter of the word is given.

1. The end of decomposition is a largely inert organic material called h_____.
2. The current policy is to encourage farmers to plant trees to meet their needs for f_____ and timber.
3. I am happy that I can always r_____ on my friends.
4. Sorry, I cannot a_____ your invitation as I am leaving for Prague.
5. The a_____ climate makes the desert the best outdoor setting to keep planes free of corrosion.

Reading Practice 4

Read the text and answer the questions given after the text.

Desertification happens where land is gradually turned into a desert. It is a process of land degradation, mainly in arid and semi-arid lands where the rainfall is unreliable, caused by human mismanagement of a fragile environment. The causes of desertification are complex, but it is now widely accepted that it results from a combination of physical processes and human activity.

Desertification can be caused by natural events, such as droughts. The areas close to deserts are ecologically very fragile. Slight changes in temperature and rainfall associated with climate change can have serious impacts. This makes these semi-desert areas even more prone to overgrazing or over-cultivation.

Overgrazing as the main human activity in these areas takes place due to population growth. There are too many animals to be supported by the limited vegetation. When the vegetation has been destroyed the land will turn to desert. Over-cultivation resulting from the need to produce more food can lead to the soil becoming exhausted. It will turn to dust and become infertile. Population growth is also increasing the demand for fuelwood.

An estimated one billion people are affected by desertification. They live in countries that are amongst the world's poorest and have to rely upon the sustainable use of the land for their food, income and employment. Most of areas at risk from desertification are on the borders of existing deserts, for

example the Sahara Desert in Africa. The most attention has received the Sahel region of Africa where the problem of desertification is more widespread.

Desertification also affects rich countries. It is a significant problem in parts of the USA, Europe (especially Spain). Another country is Australia where over 40% of the 5 million square km of desert and semi-desert land has been affected by desertification. This is caused mainly by the pressure of grazing on fragile land affected by drought.

Whether it is climatic change, overgrazing or population growth, in all cases the soil loses its protective vegetation cover, contains less humus and less moisture. As it becomes exposed to the wind and heavy rain, it becomes increasingly at risk from erosion. These events in turn increase the vulnerability of local people to drought, food shortages and the longer-term risk to their traditional way of life.

Landing at risk of desertification needs to be managed sustainably so that people can live without damaging the environment. Commercial farming in hot deserts often involves irrigation. Water from underground sources or from rivers and canals can be sprayed onto crops. Tree planting is an important way of reducing erosion. Tree roots bind the soil together and the leaves and branches provide shade, grazing for animals and fuelwood. In some parts of the world, hot desert areas at risk of desertification have been protected by making them into national parks, for example the Desert National park in the Thar Desert (India) and the Zion National park (the USA).

Answer the following questions:

1. What does the term desertification mean?
2. What physical and human factors can lead to desertification?
3. What areas suffer from desertification? Give examples of some countries.
4. What are the impacts of desertification on nature and humans?
5. How to reduce desertification?

Listening Practice 4

Lead-in

- Can noise be disturbing?
- How noisy is the place where you live?
- Do you drink water from the tap?

- How often do you have headaches?
- What do you think might be the cause of headaches, coughs and sleepless night?
- *Quiz question:* According to an EU publication, what percentage of people in Europe are exposed to road traffic noise levels which are higher than 55 decibels (dB)?

Is it...

- a) 40%? b) 50%? c) 60%?

Listening 1

1. Listen to the BBC programme devoted to noise — *How noisy is too noisy?* (www.bbc.co.uk/learningenglish/) and find out how harmful noise can be.

While Listening

1. Listen to the programme and answer the questions:

1. What noises can irritate?
2. Can noises cause headaches?
3. What is the story of a British actress Dame Helen Mirren?
4. What was her reaction?
5. Can her reaction be justified?
6. Why was the situation funny?

2. Listen to the inserts of the programme and fill in the gaps.

BBC correspondent Sarah Harris:

It was all filmed on a resident's _____: Dame Helen Mirren, still dressed as the _____, can be seen giving the drummers a piece of her mind during the interval of Saturday's _____ of 'The Audience' at the Gielgud Theatre. The drummers were promoting a gay _____ and some who saw their conductor being given a lecture in less than royal language weren't happy.

People in London:

“I _____ her gutsiness, actually. Good on her for going out there and saying something.”

“I think it’s hilarious that she _____ and made the peace for a lot of other people.” “I think it’s good on her; maybe a little too far, but I don’t know. I _____ she did what she had to do.”

Dame Helen Mirren:

I was, like, steaming. I literally walked straight off _____, straight up the stairs, straight out that stage door and they were right here, they were so _____. The irony is I love drumming and I love drummers and in another _____ I would’ve been out here just enjoying it with all the punters. Unfortunately, I was having _____ at the same time.

3. Look through the following words and word combinations. Try to recall the definitions given during the programme. In case you cannot remember all of them listen to the programme one more time or to the last episode and write down the definitions:

tolerate

disturbing

interrupted

scolded

give smb a piece of mind

gusty

hilarious

steaming with rage

punters

Listening 2

1. Listen to another BBC programme *Why pay for bottled water?* (www.bbc.co.uk/learningenglish/) and answer the question: **Why people prefer bottled water to the one from the tap? Give arguments.**
2. Look through the following words and word combinations. Try to recall the definitions given during the programme. In case you cannot remember all of them listen to the programme one more time or to the last episode and write down the definitions:

refreshing

enriched

manufacture

scare smb off

After Listening

Discuss the following questions:

1. What noise do you consider disrupting?
2. Should we stand/tolerate noise?
3. Are there any rules or laws that can protect us from noise pollution?
4. How much water do you buy?
5. Do you drink tap water?

Speaking Practice 4

1. Discuss the following questions:

1. Is the problem of drinking water the same in different cities?
What does it depend on?
2. What is sick-building syndrome?
3. What are ways of tackling noise pollution?
4. How to “cure” or protect the building?

2. Give different examples of noise pollution.

3. Choose one of the issues above, use the outcomes of the class discussion and make a 2-minute presentation (see Appendix).

Writing Practice 4

1. **Brainstorm the topic of ecology of cities. What environmental problems are typical for cities only? What are the possible solutions? Make a list of reasons on the topic: *Urban environmental problems*.**
2. **Fill in the chart with arguments and supporting sentences: your own ones and those mentioned and described in the programmes you listened to and watched.**

Arguments	Supporting sentences

3. Choose the ideas that seem to be the most convincing. Write an opinion essay, use 200–250 words.
4. Peer checking
- Read the essay of one of your groupmates. Complete the table given below. Discuss the results.

Video and Note-taking Practice 4



WASTE

Lead-in

Look at the pictures. What waste do people produce in their everyday life? Why do people produce so much waste? What are these boxes for? Do you recycle?



Photos 5.1, 5.2

Section 1

What waste do we produce?

Vocabulary Practice 1

1. authorities — органы власти
2. (to) deal (with) — иметь дело с кем-либо
3. (to) discard — сбрасывать
4. electrical stuff — электроприборы, электрооборудование
5. (to) end up — окончиться
6. food debris — остатки пищи
7. home appliances — бытовая техника
8. household — домашнее хозяйство, домочадцы
9. landfill — свалка, мусорный полигон

10. out of date — вышедший из моды
11. packaging — упаковка
12. (to) pull down — сносить
13. removable — заменяемый, съемный
14. (to) rust — ржаветь
15. trash — отбросы

Exercise 1. Fill in the gaps with the words from the box.

rust, pulled, food debris, end, deal

1. Old houses are regularly _____ down in the district.
2. He had a difficult situation to _____ with, and there was no perfect resolution.
3. Many people leave old automobiles to _____ in the fields when they don't need them anymore.
4. Waste include everyday items like _____, used plastic bags, cans and plastic water bottles.
5. Humans rely so much on material things and they all (almost) _____ up as waste.

Exercise 2. Fill in the blank with an Active Vocabulary unit that means the same as the phrase in brackets.

1. The new trucks are fitted with _____ (*able to be taken off*) containers.
2. The council proposed to hit people who _____ (*get rid of something as no longer useful or desirable*) gum on the city streets with £50 on-the-spot fines.
3. The threat of a flu epidemic is one of many problems facing scientists and public health _____ (*organisation(s) having political or administrative power and control*).
4. Is it difficult to run _____ (*a house and its occupants regarded as a unit*)?

5. An effort to create a new _____ (*the disposal of waste material*) in a remote area of Ontario was blocked by environmentalists.

Exercise 3. Correct the spelling of the jumbled words underlined.

1. Effective recycling starts with HOHUSODEL _____.
2. Choose goods wrapped in recyclable GANPACIKG _____.
3. The company launched new versions of its AREBMOVEL _____ flash memory.
4. To maintain public order, the TORAUTIHISE _____ instituted a regular, salaried police force.
5. Learn the correct way to clean your home SAPAPLINEC _____.

Exercise 4. Guess the words. The first letter of the word is given.

1. The local Council is trying to clamp down on people who d_____ litter around in the countryside.
2. The current system is o_____ and needs reforms.
3. Where do old cars e_____ u_____?
4. Municipal sources of waste include t_____ or garbage from households, schools, offices and other public places.
5. DVD and music players, TV, telephones, computer and all the other e_____ s_____ in your home are electronic sources of waste.

Reading Practice 1

Read the text and answer the questions given after the text.

Waste has been a major environmental issue everywhere since the industrial revolution. Besides the waste we create at home, school and other public places, there are also those from hospitals, industries, farms and other sources. Humans rely so much on material things and they all (almost) end up as waste.

Wastes are items we don't need and discard. Waste comes in infinite sizes — some can be as small as an old toothbrush, or as large as the body of a school bus.

There are different sources of waste.

Municipal sources of waste

This includes trash or garbage from households, schools, offices, market places, restaurants and other public places. They include everyday items like food debris, used plastic bags, cans and plastic water bottles, broken furniture, product packaging, broken home appliances and clothing.

Medical sources of waste

Medical waste normally refers to waste produced from health care facilities, such as hospitals, clinics, veterinary hospitals and labs. They tend to be classified as hazard waste rather than general waste.

Agricultural sources of waste

Typically, this is waste generated by agricultural activities. These include horticulture, fruit growing, seed growing, livestock breeding, market gardens. Waste items in this group include empty pesticide containers, out of date medicines, used tires, surplus milk.

End-of-life automobiles

When cars are all old and not working again, where do they end up? Many people just leave them to rust in the fields, but there is a better way to deal with them. In many cities, these vehicles are sent to the plant, where all the removable parts are taken out for recycling. The rest is flattened up and shredded into pieces for recycling. The last bits that cannot be used again are sent to a landfill.

Industrial sources of waste

Since the industrial revolution, the rise in the number of industries manufacturing glass, leather, textile, food, electronics, plastic and metal products has significantly contributed to waste production. Take a look at the things in your home, every item there was probably manufactured and possibly, waste was produced as a result.

Construction sources of waste

Construction waste is that resulting from the construction of roads and building. Sometimes old buildings and structures are pulled down to make space for new ones. This is particularly common in old cities that are

modernizing. Waste items include concrete debris, wood, earth, huge package boxes and plastics from the building materials and the like.

Electronic sources of waste

This is waste from electronic and electrical devices. Think of DVD and music players, TV, telephones, computer and all the other electrical stuff in your home. These are also called e-waste, e-scrap, or waste of electrical and electronic equipment. Some e-waste (like TV) contains lead, mercury, cadmium. These are harmful to humans and the environment. It is therefore important that the right authorities ensure the proper disposal of such waste.

Everyone creates waste, although some people are very environmentally conscious and create very little. Likewise, some countries do a very good job creating less waste and managing the rest. Others are pretty horrible and have created huge environmental problems for the people and animals living there.

Answer the following questions:

1. Why is waste a major environmental issue everywhere?
2. What are the sources of waste?
3. What does municipal waste include?
4. What can be done with the end-of-life cars?
5. Why is electronic waste harmful to humans and environment?

Listening Practice 1

Lead-in

How much food do you think people throw away? Think about the question and describe the situation the way you see it.

- Do people buy too much food?
- Could food waste feed people who starve?
- Do supermarkets make us buy more food that we need? What might be the solutions to the problem?
- What is the percentage of food is actually wasted? We're dealing with approximates here.

Is it...

- a) 25%? b) 33%? c) 50%?

1. **Listen to 2 BBC programmes devoted to food waste: *Food waste and How much food do we waste* (www.bbc.co.uk/learningenglish/) and find out what the situation is like.**

While Listening

1. Listen to the programme *Food waste* and correct the factual mistakes in the following sentences:

1. Some of the food we don't need ends up in landfill sites.
2. In America 20% of food goes uneaten.
3. Many vegetables and fruit are thrown away because of bad quality.
4. Getting a bogof means we buy something at a low price.
5. Food banks lend people money for food.
6. 50% of all food produced is being thrown away.

2. Listen to the programme *How much food do we waste* and answer the following questions:

1. Where does food waste come from?
2. Are restaurants and supermarkets the main sources of food waste?
3. How much food waste comes from households in Europe?
4. What ecological problems does food waste cause? Why?
5. Is it possible to reduce food waste?
6. How does Denmark manage the problem of food waste?
7. Who is Selina Juul?
8. What is she famous for?
9. Where does she come from?
10. What are Selina's ideas?

3. Look through the following words and word combinations. Try to recall the definitions given during the programme. In case you cannot remember all of them listen to the programmes one more time or to the last episodes and write down the definitions:

stock up on

consume

convenience

edible

discarded

gone off

bog of

distribute

waste

leftovers

landfill

dump

household name

infrastructure

abundance

After Listening

1. Discuss the following questions:

1. Why is food waste an important subject?
2. Selina's ideas are important, aren't they? Can you think of any others?
3. Should the growth of food waste be stopped? Why?
4. How similar are the two programmes? What are the main differences?

Speaking Practice 1

1. Discuss the following questions:

1. Why do people produce so much waste?
2. Can people buy only what they need?
3. How gone off food can be used? Give examples.

2. Choose one of the questions above, use the outcomes of the class discussion and make a 2-minute presentation (see Appendix).

Writing Practice 1

1. Brainstorm the topic of *The Food We Waste*. The following questions might help. What makes people buy more food that they need? How global is the problem? What might be the consequences? What can be done? Make a list of reasons on the topic: *Food waste leads to more problems we can think of*.
2. Fill in the chart with problems and solutions: your own ones and those mentioned and described in the programmes you listened to and watched.

Problems	Solutions

3. Choose the ideas that seem to be the most convincing. Write a problem solution essay, use 200–250 words.
4. Peer checking
Read the essay of one of your groupmates. Complete the table given below. Discuss the results.

Praise	Criticise
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Feedback

Video and Note-taking Practice 1

1. Watch the video: *Waste disposal and Segregation of garbage — Waste management* <https://www.youtube.com/watch?v=JlbbVGpATgA>
2. Complete the chart using the Cornell note taking method (see Appendix).



Main ideas	Notes
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Summary:

Section 2

Waste management

Vocabulary Practice 2

1. adverse effects — неблагоприятные последствия
2. (to) compost — готовить компост
3. for domestic use — для домашнего использования
4. incineration — сжигание
5. leakage — утечка
6. limited — ограниченный
7. (to) miss out — упускать возможность
8. respiratory diseases — респираторные заболевания
9. revenue — доход, выручка
10. (to) sort out — отбирать
11. space — пространство
12. toxin — токсин, яд, токсическое вещество
13. waste separation — разделение отходов
14. water table — уровень грунтовых вод
15. wellbeing — благополучие

Exercise 1. Fill in the gaps with the words from the box.

respiratory diseases, limited, adverse effects, compost, miss out

1. Using a medical intervention, which is contraindicated, may increase the risk of _____.
2. Bad waste management practices can cause _____.

3. Cities that do not invest in recycling and proper waste control _____ on job opportunities that come from recycling.
4. It is important to regularly remove dead flowers and leaves from plants and then _____ this material for later return of the nutrients to the beds.
5. She needs time and space to _____ the wastes.

Exercise 2. Fill in the blank with an Active Vocabulary unit that means the same as the phrase in brackets.

1. It is essential for health and _____ (*the state of being comfortable, healthy, or happy*) to maintain a positive attitude to life.
2. Drought resulted in a dramatic drop in the _____ (*the level below which the ground is saturated with water*).
3. Modern _____ (*burning waste*) processes are more efficient and release less dioxin than home fireplaces.
4. A lot of water is wasted through _____ (*escape of liquid or gas through a hole or crack*).
5. Proper landfill management involves _____ (*sorting out all the waste*).

Exercise 3. Correct the spelling of the jumbled words underlined.

1. ONETINICIRAN _____ is common in countries with limited landfill space.
2. Proper landfills, are also lined at the bottom to minimize the ALEGAEK _____ of soil pollutants and other toxins from getting into the water table.
3. It is in the agencies' interest to ensure the safety and NEWBELIGL _____ of their clients.
4. The moor is a vast ESCPA _____ of land with lots of tracks and paths.
5. The water has been tainted with a deadly ITONX _____.

Exercise 4. Guess the words. The first letter of the word is given.

1. New r_____ sources will include sponsorship, competitions, selling expertise and online offerings.
2. Some types of bacteria release poisons called t_____ while they are multiplying in food.
3. Many of those who are against the proposal say this area should be turned into an open s_____.
4. Incineration chambers for d_____ use are small in comparison with large ones for municipal use.
5. Due to the l_____ amount of space available, a selection process will decide who will be allowed to exhibit at the Chamber stand.

Reading Practice 2

Read the text and answer the questions given after the text.

Waste management simply means the collection, transport, processing or disposal, managing and monitoring of waste materials to minimize its consequences on humans and environment.

There are several methods of managing all the various types of waste. Let us see below two common ways of managing waste:

Incineration method of waste management

This simply means burning waste. This method is common in countries with limited landfill space. Incineration chambers can be small for domestic use, but there are large ones for municipal use as well. It is great for treating waste with contamination (like those from hospitals) and hazardous waste from factories, but the method produces too much carbon dioxide. Modern incineration processes are more efficient and release less dioxin than home fireplaces and backyard barbecues. This method is very common in Denmark, Germany and the Netherlands. This method is effective, but expensive.

Sanitary landfills as waste disposal

Generally, this term means a large piece of land away from living places where all the waste from a town is deposited. But there is more to landfills. Proper landfill management involves sorting out all the waste (waste separation), and sending only the waste that cannot be recycled and composted to the site. Proper landfills are also lined at the bottom to minimize

the leakage of soil pollutants and other toxins from getting into the water table. This method is effective, but expensive and difficult. In many towns, sorting is not done, and all the waste (paper, food, diapers, glass) is mixed up and deposited. That is a problem because, glass, and plastics take thousands of years to decompose. Additionally, the landfills soon become full, smelly and unsafe for the environment.

Proper waste management is not cheap, but it is something we all have to get involved and discuss it. The effect of not getting involved can be catastrophic to our health and environment. Environmental effects of poor waste management include surface water, soil, land, and air pollution.

Wastes that end up in water bodies negatively change the chemical composition of the water. This will affect all ecosystems existing in the water. It can also cause harm to animals that drink from such polluted water.

Hazardous chemicals that get into the soil (contaminants) can harm plants when they take up the contamination through their roots. If humans eat plants and animals that have been in contact with such polluted soils, there can be negative impact on their health.

Bad waste management practices can result in land and air pollution and can cause respiratory diseases and other adverse health effects as contaminants are absorbed from the lungs into other parts of the body.

There are some economic effects of bad waste management on municipal wellbeing and recycling revenue. Everyone wants to live and visit places that are clean, fresh and healthy. Cities with poor sanitation and with waste matter all over the place do not attract dwellers, investors and tourists. Such cities tend to have poor living standards. Cities that do not invest in recycling and proper waste control miss out on revenue from recycling. They also miss out on job opportunities that come from recycling, composting and businesses that work with them.

Answer the following questions:

1. What does waste management mean? What are the two common ways of managing waste?
2. What are the advantages of the incineration method of waste management?
3. Why are sanitary landfills not always effective as waste disposal?
4. How does poor waste management lead to water, soil, land, and air pollution?
5. What are economic effects of poor waste management?

Listening Practice 2

Lead-in

- Do you use plastic bags or paper bags when you go shopping?
- Do people use a lot of plastic? Give examples.
- Why do people use plastic? Who or what makes their choice?
- Quiz question: How many tonnes of plastic rubbish from the UK is being sent to China each year for recycling?

Is it...

- a) 20,000? b) 200,000? c) 2,000,000?

Listening

1. Listen to the BBC programme devoted to waste: *The impact of plastic* (www.bbc.co.uk/learningenglish/) and find out what the situation is like.

While Listening

1. Listen to the programme and correct the mistakes in the following sentences:

1. It's a government initiative to change plastic bags for paper ones.
2. UK among other countries banned plastic bags at all.
3. Biodegradable means made of natural materials.
4. The technology was only discovered in the 21st century.
5. Zooplankton eats plastic because it is tasty.
6. Humans eat zooplankton.

2. Listen to the inserts of the programme and fill in the gaps. Translate the inserts.

John Maguire, BBC reporter:

At this company _____ in North London they're _____ how bags made with a special additive break down when exposed to _____, oxygen and heat...

The _____ was discovered by a British _____ in the 1970s and is now sold to around half the world's countries.

In some, _____ bags are backed by law.

Biologist Dr Pennie Lindeque from Plymouth Marine Laboratory:

We are already _____ that there are a lot of microplastics in the _____ and that some of these microplastics are actually being ingested by the zooplankton that live there. We're also concerned this could _____ being passed up through the _____ to food which is destined from human _____ so it could end up on your own _____.

- 3. Look through the following words and word combinations. Try to recall the definitions given during the programme. In case you cannot remember all of them listen to the programme one more time or to the last episode and write down the definitions:**

initiative

boarder

discompose

clog

biodegradable

addictive

landfill

micro plastics

ingested

zooplankton

After Listening

1. Discuss the following questions:

1. Do we eat plastic? Why?
2. What are the problems raised in the inserts? Can any solutions be found?

Speaking Practice 2

1. Discuss the following questions:

1. Is using biodegradable bags is the only way to reduce the use of plastic? Can you think of any other ways?
2. Are biodegradable bags less harmful? Dig deeper.
3. What environmental problems do plastic bags cause?

2. Choose one of the questions above, use the outcomes of the class discussion and make a 2-minute presentation (see Appendix).

Writing Practice 2

1. Brainstorm the topic of the environmental impact of plastic.

Answering the following questions might help: What makes people produce so much waste? How global is the problem? What might be the consequences?

2. Fill in the chart with arguments and supporting sentences: your own ones and those mentioned and described in the programmes you listened to and watched.

Arguments	Supporting sentences

Summary:

Section 3

Importance and benefits of waste recycling

Vocabulary Practice 3

1. (to) add — добавлять
2. benefit — преимущество
3. can — жестяная банка
4. cardboard — картон
5. (to) combine — сочетать, комбинировать
6. common-sense task — разумная задача (то, что очевидно)
7. (to) cut (cut, cut) back (on) — урезать, сокращать
8. extraction costs — затраты на добычу
9. label — этикетка
10. litter — мусор
11. (to) moderate — сдерживать, смягчать
12. (to) process — обрабатывать
13. smelly — неприятно пахнущий
14. suburban — пригородный
15. virgin resources — нетронутые ресурсы

Exercise 1. Fill in the gaps with the words from the box.

cutting back, common-sense task, added, benefits, processed

1. Recycling is believed to be a _____.
2. When you recycle, it helps reduce pollution by _____
on the pollutants released into the air by factories.

3. When waste items are collected, they are sent to the recycling unit to be _____ into new materials.
4. There are a lot of _____ from recycling.
5. Chlorine is _____ to the water to kill bacteria.

Exercise 2. Fill in the blank with an Active Vocabulary unit that means the same as the phrase in brackets.

1. The new council administration will clean the town and get tough on the public who drop _____ (*rubbish such as paper, cans, and bottles*) in our streets.
2. The company sells coffee in retro metal _____s (*cylindrical metal containers*).
3. Think about the glass, plastic and _____ (*stiff paper*) packaging that goes in the bin and could be recycled.
4. The oxides are minerals that contain an element _____ (*joined to form a single unit*) with oxygen.
5. Even though it contains virtually nothing organic, our dustbin is _____ (*having a strong or unpleasant smell*) in summer, even after a week.

Exercise 3. Correct the spelling of the jumbled words underlined.

1. Recycled steel reduces 97% of the mining waste produced through manufacture of INVIRG _____ SERURESOC _____.
2. Most people will be aware that there is little demand for paper, DOBRCARAD _____, plastic and glass.
3. It is significant to improve the way people move around with ASUBNUBR _____ trains and a central ring road.
4. The TACENXTIRO _____ SCOTS _____ are supposed to be high.

5. They SEPSROC _____ milk, cottage cheese, sour cream, juice and drinks.

Exercise 4. Guess the words. The first letter of the word is given.

1. Recycling c_____ b_____ on energy consumption.
2. Recycling helps to m_____ the greenhouse gases that add to global warming.
3. The l_____ says to take one pill before meals.
4. Do you really think she is doing it for your b_____?
5. How many calories are in a c_____ of Cola?

Reading Practice 3

Read the text and answer the questions given after the text.

Recycling is a common-sense task. The Earth does it. Once plants or animals die, their bodies eventually return to the earth to become soil and compost that supports the next group of plants, trees and forests that grow. When you recycle, it helps reduce pollution by saving on the costs to manufacture new materials and by cutting back on the pollutants released into the air by factories.

Effective recycling starts with household (or the place where the waste was created). In many serious countries, the authorities help households with bin bags with labels on them. Households then sort out the waste themselves and place them in the right bags for collection. This makes the work less difficult.

Waste items that are usually recycled include: paper waste (books, newspapers, magazines, cardboard boxes), plastic waste (plastic bags, water bottles, rubber bags), glass waste (broken bottles), aluminum waste (cans from fruit, beer and other drinks).

When these are collected, they are sent to the recycling unit, where all the waste from each type are combined, crushed, melted and processed into new materials.

There are a lot of benefits from recycling. Most people may not realize that recycling saves Earth's natural resources. By recycling plastic goods, for example, factories don't expend as much money to manufacture new

plastic products from petroleum, saving on mining and extraction costs and preserving fossil fuels and other natural resources. Recycling cuts back on energy consumption. For example, by recycling plastic bottles alone, companies save up to 60% of the costs to make new bottles. If the whole world recycled aluminum twice as much as it already does, more than a million tons of pollutants would be kept out of the atmosphere.

Recycling reduces pollution. According to the University of Central Oklahoma, when manufacturers use recycled paper, they cut air pollution by 73% and water pollution by 35%. Recycled steel reduces 97% of the mining waste produced through manufacture of virgin resources, and cuts back 86% of air pollution and 76% on water pollution. Using recycled glass decreases mining wastes by 80% and air pollution by 20%.

Recycling does more than just cut back on air and water pollution. It also helps to moderate the greenhouse gases that add to global warming. Reducing the need for power and for processing raw materials also reduces greenhouse gas emissions. The reduction happens because recycling reduces the need to burn fossil fuels such as gasoline, diesel and coal. Recycling also lowers emissions from incinerators and slows the falling of trees, and living trees can absorb carbon dioxide.

Recycling reduces landfill needs. Landfills take up a lot of space, and they are noisy, smelly and ugly. About 80% of the material in landfills consists of solid waste, some of which could be recycled. If more people recycled, it could reduce about 50% of the volume of waste in landfills. Recycling also reduces the amount of litter on urban, suburban and rural roadways and reduces the costs of having to pay someone to pick up the trash.

So, recycling protects the environment from pollution, conserves natural resources and saves energy.

Answer the following questions:

1. Why is recycling a common-sense task?
2. What waste items can be recycled?
3. What are the benefits from recycling? How does recycling conserve natural resources and save energy?
4. How does recycling reduce air and water pollution? Give your own examples.
5. How does recycling reduce the landfills needs?

Listening Practice 3

Lead-in

- Can there be plastic addiction?
- What does 'psychological' mean?
- What is more effective in solving ecological problems: volunteering or political changes?
- *Quiz question:* The first synthetic plastic — that's plastic made entirely from man-made materials — was created over...
a) 30 years ago? b) 50 years ago? c) 100 years ago?

1. Listen to the BBC programme devoted to curbing plastic addiction *Curbing out plastic addiction* (www.bbc.co.uk/learningenglish/) and find out what the situation is like.

While Listening

1. Listen to the programme and say whether the sentences are true or false. Correct the false sentences:
 1. Plastic does not decay.
 2. Plastic is now everywhere.
 3. The only solution is to stop using plastic at all.
 4. Whales are dying because of plastic.
 5. Supermarket culture is one step to solving the problem.
2. Listen to the inserts of the programme and fill in the gaps. Translate the inserts.

Lucy Siegle, BBC reporter and author:

We have this weird _____ attachment to this material that's been around and it's like a push and pull. At the one time, we're so horrified by what we're seeing — the _____ dying, the oceans vomiting plastic, beaming in from all over the world, and at the same time we're being told we can't live without it, so that _____ a psychological _____ — which I think is the barrier to behavioural _____ but I'm finding now awareness has peaked and it's going over into _____.

Lucy Siegle, BBC reporter and author:

I really think that to _____ on stopping the _____ of plastic into your life is easier and more _____ in the long term, than trying to go plastic-_____ from the outset. We are in the UK, a _____, so a lot of the tips and tricks to decreasing the flow of plastic are getting round supermarket culture.

- 3. Look through the following words and word combinations. Try to recall the definitions given during the programme. In case you cannot remember all of them listen to the programme one more time or to the last episode and write down the definitions:**

addiction

concern

decay

tackle

psychological

dissonance

After Listening

Discuss the following questions:

1. What is culture?
2. Why is culture important in terms of environment protection?

Speaking Practice 3

1. Discuss the following questions:

1. What is Green Peace?
2. What is the role of the organisation?
3. Why do some people dislike green-peace actions?

2. Choose one of the questions above, use the outcomes of the class discussion and make a 2-minute presentation (see Appendix).

Writing Practice 3

1. Brainstorm the topic of waste disposal. What are the different ways waste can be used? Think of or surf the Net for different global practices? Make a list of reasons on the topic: *How can a community solve the problem waste disposal?*

2. Fill in the chart with ideas and supporting sentences: your own ones and those mentioned and described in the programmes you listened to and watched.

Ideas	Supporting sentences

3. Choose the ideas that seem to be the most convincing. Write an opinion essay, use 200–250 words.

4. Peer checking

Read the essay of one of your groupmates. Complete the table given below. Discuss the results.

Praise	Criticise
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Feedback

Video and Note-taking Practice 3

1. Go to <https://www.youtube.com/watch?v=HQTUWK7CM-Y> and watch the video *How can we keep plastics out of our ocean by National Geographic*.
2. Complete the chart using the Cornell note taking method (see Appendix).



Main ideas	Notes
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Summary:

Section 4

What is being eco-friendly?

Vocabulary Practice 4

1. (to) combat — сражаться
2. (to) commute — ездить ежедневно на работу из пригорода в город и обратно
3. (to) conduct oneself — вести себя
4. (to) define — определять
5. demolition — разрушение, уничтожение
6. environmentally friendly — не оказывающий отрицательного воздействия на окружающую среду
7. environmental group (=conservation group) — природоохранная организация
8. (to) go (went, gone) far beyond — выходить далеко за рамки
9. harm to environment — вред окружающей среде
10. (to) install — установить
11. intent — намерение
12. (to) purchase — покупать
13. purpose — цель
14. (to) seep — просачиваться
15. (to) separate — разделять

Exercise 1. Fill in the gaps with the words from the box.

goes far beyond, harm to environment, separate, environmental groups, environmentally friendly

1. Human activity does _____ but many people pretend not to understand it.
2. Being _____ means living with intent not to spoil the nature.
3. You'd better _____ the students into three groups to achieve better results.
4. Being eco-friendly _____ just turning off lights when you leave the room or separating your garbage for recycling.
5. We need to work with _____ to educate more people and to make this planet clean and eco-friendly.

Exercise 2. Fill in the blank with an Active Vocabulary unit that means the same as the phrase in brackets.

1. The charity is working to _____ (*take action to reduce or prevent something bad or undesirable*) poverty, reduce isolation, defeat ageism and to promote quality in care.
2. Hundreds _____ (*travel some distance between home and place of work*) on a daily basis from the constituency to the capital.
3. He acts and _____ (*behaves in a specified way*) himself like a real actor.
4. The purpose was to produce a dictionary that would _____ (*give the meaning of a word*) all significant words of the French language.
5. The company is ready to _____ (*place or fix machinery*) equipment manufactured by Germany's Schuster Engineering.

Exercise 3. Correct the spelling of the jumbled words underlined.

1. The new survey has been ordered and notices will be issued before any ILODEMOTIN _____ is carried out.
2. A simple way to live VIRYTENOLNAMELNT _____ — YFDRILEN _____ life is to either take public transportation for your daily commuting needs to save fuel and reduce your carbon footprint.
3. Where did he EHPURCAS _____ his new suit?
4. They EMUCTOM _____ to work every day by train.
5. When are they going to TALSINL _____ a new cooker?

Exercise 4. Guess the words. The first letter of the word is given.

1. You can only c_____ social problems with reforms.
2. Join different e_____ g_____ in your city and provide helping hand to make this planet environmentally friendly.
3. Hazardous waste materials like paint, oil and other strong chemical solutions should never be disposed on the ground, as they will s_____ into the groundwater.
4. I didn't manage to understand what the writer's i_____ was.
5. Maybe the training workshop has a secondary p_____, which is to give some of us the space to let off steam.

Reading Practice 4

**Read the text and comment on every step how to become eco-friendly.
Are you eco-friendly?**

Being eco-friendly or environmentally friendly is becoming more and more important. You can see the term used in everything from job ads to listings houses and vacation homes. So, what is being eco-friendly?

The simplest way to define what being eco friendly means is to say that it is living with intent not creating harm to environment. It goes beyond an idea and extends to actual practices that influence how communities, businesses

and individuals conduct themselves. Being eco-friendly goes far beyond just turning off lights when you leave the room or separating your garbage for recycling — it is about changing the purpose of how you live.

Here are 10 Steps to Become Eco-friendly:

1. 3 R's of Waste Hierarchy: The 3 R's of waste hierarchy can reduce the amount of waste generated and improve the waste management processes. Reducing what is produced and what is consumed can reduce the amount of waste that is generated. Reuse items for different purposes instead of disposing them off. Recycle items like aluminum cans, plastic, paper, glass that can be shaped into a new item.

2. Conserve Water and Electricity: It takes energy to produce fresh water and electricity. Few simple ways like turning off lights when not in use, fixing leakages, proper insulation, using maximum daylight, installing energy efficient windows, purchasing energy efficient gadgets can reduce your daily energy consumption.

3. Plant More Trees: We all know why we need more trees on this planet. They give us oxygen, fruits, timber, prevent soil erosion, control floods, provide shelter to wildlife. Massive scale deforestation in last decades has reduced forest area by significant percentage. We need to work with environmental groups to educate more people and plant more trees to make this planet clean and eco-friendly.

4. Protect Local Water Sources: Hazardous waste materials like paint, oil and other strong chemical solutions should never be disposed on the ground, as they'll seep into the groundwater. Join local water conservation groups and fight against water polluters who dump their industrial waste in rivers.

5. Drive Less, Walk More: A simple and yet more effective way to live eco-friendly life is to either take public transportation for your daily commuting needs to save fuel and reduce your carbon footprint. If your school or office is couple of miles away from home, you can either start half an hour early and walk on foot or ride a bicycle.

6. Buy Energy Efficient Products: Energy efficient products with 5-star energy rating consume less energy and prove to be eco-friendly. For instance, CFL bulbs consume 40% less energy and last 10 times longer than traditional bulbs.

7. Buy locally Grown Products: When you buy or produce locally grown products, you are actually reducing your carbon footprint in the form of using less plastic bags, saving fuel to get vegetables from the market, using

less packaged material. Apart from this, you can also sell surplus to your friends or relatives.

8. Prevent Littering: Litter can originate from construction and demolition sites, households, industries, moving vehicles. Littering can have big impact on environment, wildlife and local tourism industry. Being a responsible citizen, it's our responsibility to make our cities clean.

9. Buy Recycled Products: Always look out for recycling symbol when you visit grocery shop to buy items for your home. That will make you environmentally responsible and eco-friendly. Also, try to carry grocery bag with you to avoid buying items in plastic bags that will later end up in landfills.

10. Join Environmental Groups to Combat Pollution: Protecting mother Earth is everyone's responsibility including you. The best you can do is to join different environmental groups in your city and provide helping hand to make this planet environmentally friendly.

Listening Practice 4

Lead-in

- What does RRR mean? Give examples.
- Do you reuse or recycle or both? Is it difficult? If yes, why?
- Do many people in your town or city recycle?
- Do you think you have too much stuff?
- *Quiz question:* Which word means that physical possessions are the most important thing in life?
Is it...
a) metaphysics? b) materialism? c) existentialism?

1. Listen to the BBC programme devoted to having too much stuff *Have you got too much stuff* (www.bbc.co.uk/learningenglish/) and find out what the situation is like with overconsuming.

While Listening

1. Listen to the programme and correct the factual mistakes in the following sentences:
 1. Spring-cleaning means cleaning a flat in spring.
 2. Shoes and clothes can't be recycled.
 3. Maybe bucket is for future purchases.
 4. Labelled goods and products are those that have labels on them.
 5. Things of sentimental value can't be sold.

2. Listen to the inserts of the programme and fill in the gaps. Translate the inserts.

Bea Johnson, minimalist and author of Zero Waste Home:

We've really asked ourselves 'what is it that we really _____?'

We've asked really _____ questions, and evaluated every single thing that we have. There is nothing that we _____.

I even came to one day look at my _____ for example and asked myself, 'Do I really need that _____?'

James Wallman, writer and journalist:

This thing about need in such a _____ term because what do you need? And I'm not anti-stuff — stuff is good. I'm anti _____ stuff and I'm anti the _____ stuff. Don't go out and buy that _____ good that you think is going to make people think something more of you. That's not going to make you _____.

3. Look through the following words and word combinations. Try to recall the definitions given during the programme. In case you cannot remember all of them listen to the programme one more time or to the last episode and write down the definitions:

spring-cleaning

out of hand

clutter

get rid of

materialism

minimalist

overlook

labelled

sentimental value

After Listening

Discuss the following questions:

1. Do you do spring-cleaning? Why?
2. Do you have things of sentimental value?
3. Are you a minimalist? Why?

Speaking Practice 4

1. Discuss the following questions:

1. Do people have too many things nowadays?
2. What makes people buy more than they really need?
3. Are people too stuff-addicted?
4. What things can you recycle in your home?

2. Choose one of the questions above, use the outcomes of the class discussion and make a 2-minute presentation (see Appendix).

Writing Practice 4

1. **Brainstorm the topic of overconsumerism. The following questions might help: What is the reason of the rise of consumerism? How global is the problem? What are the consequences of buying too much stuff and too many services might be / are for the environment? Make a list of reasons on the topic: *Consumerism: How it Controls our Society.***

Video and Note-taking Practice 4

1. Watch the videos *Reduce, Reuse and Recycle* and *SMDC Reduce, Reuse Recycle* https://www.youtube.com/watch?v=OasbYWF4_S8, <https://www.youtube.com/watch?v=r2zBk5-Eoro>
2. Complete the chart using the Cornell note taking method (see Appendix). Compare the two videos.



Main ideas	Notes
Summary:	



Appendix 1

Useful Language for Presentations

Over 30 million presentations are given every day. Many of them are given in English by non-native speakers. If 30 million presentations are given around the world, there are 30 million different ways to give these presentations. Presentations count. An effective presentation can be the difference between winning or losing a pitch, getting or not getting a job or simply being successful or unsuccessful. The ability to speak English is no guarantee that you can present in English. There basic presentation phrases, techniques and rules that should be learnt. But, presenters also need to be able to select just the right vocabulary and techniques in order to present to particular types of audience or achieve specific objectives. Sometimes it is important to recognize when and how to bend or even break the rules. Other factors such as country or corporate culture may come into play too. Most importantly, presenters need to be able to adapt presentation structure and style according to individual personality and language skills. Good preparation is the crucial factor for a successful presentation.

First steps:

- Check the time allowed for your talk and any guidelines you have been given.
- Think about the purpose of your talk: is it to inform, to entertain or to persuade your audience?
- Think about the audience. Who are they? How much do they already know? How much do you need to tell them? What will interest them?
- Decide on the topic if you do not know this already. If you do, decide on the specific area that you will present. Be realistic about how much you can cover in the time allowed.
- Collect your ideas and gather more information if you need to.
- Make use of some useful language for presentations.

Greeting the audience

Good morning/afternoon, ladies and gentlemen.

Good morning/afternoon, everyone.

Expressing the purpose

My purpose/objective/aim today is...

What I want to do this morning/afternoon/today is...

I'm here today to...

Giving the structure

This talk is divided into four main parts.

To start with/Firstly, I'd like to look at...

Then/Secondly, I'll be talking about...

Thirdly...

My fourth point will be about...

Finally, I'll be looking at...

Transitions

Let's now move on to/turn to...

I now want to go on to...

This leads/brings me to my next point, which is...

I'd now like to move on to/turn to...

So far we have looked at... Now I'd like to...

Giving examples

Let me give you an example...

such as...

for instance...

A good example of this is...

Summing up

Summing up...

To summarise...

So, to sum up...

To recap...

Let me now sum up.

Concluding

Let me end by saying...

I'd like to finish by emphasising...

In conclusion I'd like to say...

Finally, may I say...

Closing

Thank you for your attention/time.

Thank you (for listening/very much).

Appendix 2

Writing Skills for Opinion and Solution Essay

A **descriptive essay** is an essay that explains a topic in a logical way and is based on facts, not feelings or opinions. It consists of:

- an **introduction** that catches the reader's interest and gives the thesis statement that defines the main idea of the essay. It should include the main points that will be addressed in the essay, but it should not include a personal opinion.
- three **main body paragraphs**, each starting with a topic sentence based on one of the main points in the introduction, and supporting sentences that further explain the topic sentence.
- a **conclusion** that summarises the main points and restates the thesis of the essay. The conclusion should not introduce any new ideas, however it can leave a reader with something to consider.

An **expository essay** might:

- explain the meaning of a word or concept, or explain what an unusual object is.
- explain the similarities and/or differences between two people or things.
- explain cause and effect — why something happens and what happens as a result.
- or explain how to do something or get somewhere or how something works.

An **essay providing solutions to a problem** is a piece of discursive writing in which we discuss a problem and its causes as well as the expected results or consequences of our suggestions. An essay providing solutions to a problem consists of:

- an **introduction** in which we state the problem and reason(s) it arose.
- a **main body** which consists of three paragraphs, presenting our suggestions and their expected results/consequences. We should start a new paragraphs, presenting our suggestions and their expected results/consequences.
- a **conclusion** in which we summarise our opinion.

We start each main body paragraph with an appropriate topic sentence which states the main idea in the paragraph. Each topic sentence is followed by supporting sentences that further explain the main idea of the paragraph. We write such essays in formal style.

Formal style is characterised by:

- formal expressions, advanced vocabulary, longer sentences
- formal linking words/phrases
- no use of short forms
- impersonal tone, i.e. use of the passive.

USEFUL LANGUAGE

Making suggestions

- A useful suggestion would be to
- It would be a good idea to
- It would (also) help if
- Another solution could/would be
- The situation could be improved if

Presenting results/ consequences

- This would mean (that)
- Then,
- By doing this, we could/ would
- The effect of ... would be
- In this way,
- If ..., the result would be

An **opinion essay** is the one in which we present our personal opinion on a practical topic. They are normally written in a formal style and consist of:

- an **introduction** in which we introduce the topic.
- a **main body** which consists of three paragraphs. In the first, we give our opinion with arguments and support. In the second, we give the opposing viewpoint, with arguments and support. In the third, we give the counter argument to the opposing viewpoint.
- a **conclusion** in which give a summary of the topic and restate our opinion. We start each main-body paragraph with an appropriate topic sentence that states the main idea of the paragraph. Each topic sentence is followed by supporting sentences that further explain the main idea of the paragraph. We use present tenses in this type of essay. We also use appropriate linking words and phrases to join the ideas.

USEFUL LANGUAGE

Introducing the topic

- Some people believe that doing... To me,...
- Many people find...
- There is an opinion that...

Giving opinion

- I strongly/firmly believe/think/feel...
- In my opinion/view...
- To my mind...
- It seems/appears to me (that)...
- My opinion is that...
- I (do not) agree that/with...
- As far as I am concerned...
- I (completely) agree/disagree with/that...

Listing viewpoints

- Firstly,...
- Moreover,...
- In addition,...
- Furthermore,...
- To start with,...
- In the first place,...
- In addition,...
- Besides,...
- Likewise,...
- Along with...
- More than that...

Introducing opposing viewpoints

- However,...

- On the other hand,...
- On the contrary,...
- Yet,...

Introducing reasons/examples

- For example/instance,...
- A good/vivid/ obvious/striking/ notable example is...
- Such as...
- In this way,...
- Because/as/since...

Introducing results

- Therefore,...
- As a result,...
- Then,...
- Consequently,...
- In this way,...

Concluding

- All in all,...
- All things considered,...
- To conclude,...
- In conclusion,...
- Lastly,...
- Taking everything into account,...
- To sum up,...
- All thing considered,...

Taking Notes

THE CORNELL METHOD

The Cornell note taking method helps organise class notes into easily digestible summaries. This method is effective because the main points, details, study cues, and summary are all written in one place.

ADVANTAGES:

Notes are neatly organised, summarised, and easy to review

Allows you to pull out major ideas and concepts

WHAT DOES IT LOOK LIKE?

The paper is divided into 3 sections: a 2.5" margin to the left, a 2" summary section on the bottom, and a main 6" in-class note section.

Use the main notes section to take notes during class.

Use the cues section to review your notes. After class, write down things you'll need to remember and a prompt for each. You can also use this section for vocabulary words and study questions. In the summary segment at the bottom, write a summary of your notes. This is where you will highlight the main points.



<https://www.oxfordlearning.com/5-effective-note-taking-methods/>

Techniques and Tips for Listening Note Taking

Write phrases, not full sentences. Only record the key words that you need to get the idea of the point made. Skip words like “the” and “a” that don’t add additional meaning to the lecture content. Retain key technical or discipline-specific terms.

Take notes in your own words. Paraphrase what you hear so it makes sense to you — it helps you to understand and remember what you hear. Try to paraphrase everything except where information needs to be noted exactly.

Structure your notes with headings, subheadings and numbered lists. Use headings to indicate topic areas or to include bibliographic details of the sources of information. Use outline form and/or a numbering system and indenting to help you distinguish major from minor points and as a clear way of indicating the structure of lecture information.

Code your notes — use colour and symbols to mark structure and emphasis.

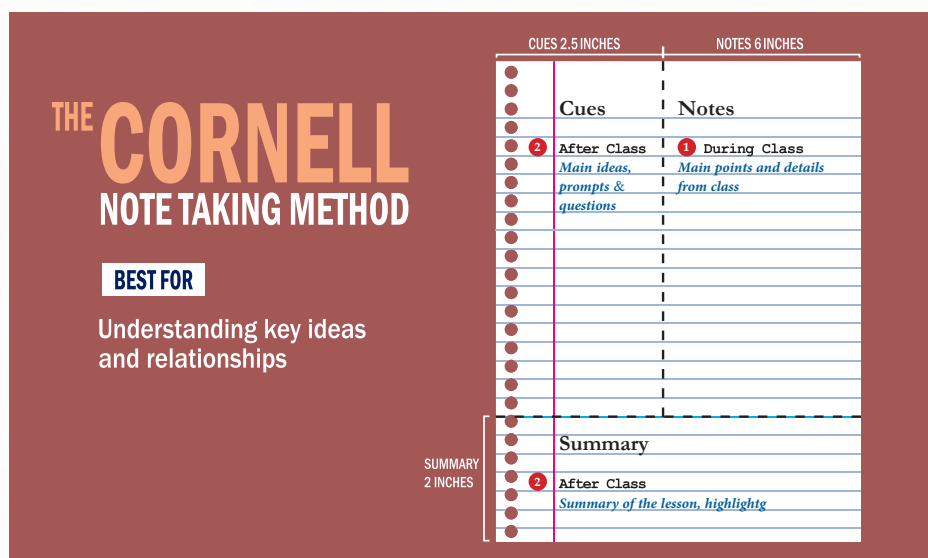
Use colour to highlight major sections, main points and diagrams. You can also use different colours to classify and link concepts or information by

topic. However, don't focus too much on colour coding when you're in the lecture. It requires time and concentration, so it's more useful to do most of the highlighting and underlining when you're revising your notes later on.

Underline, circle, star, or otherwise identify key information, examples, definitions, or other important materials. Devise your own marking code to indicate each type.

If you miss something, write key words, skip a few spaces, and get the information later. Leave a space on the page for your own notes and comments.

Symbols and abbreviations for frequently used words, phrases or names are useful for notetaking in lectures, when speed is essential. It's important to be consistent so you will remember what they represent and be able to use them easily. Keep a 'key list' of frequently used symbols and abbreviations and their meanings so that you can refer to them in the future.



Abbreviations and acronyms for note taking

1 Common	etc (etcetera) = and the rest eg = for example info = information ie = that is nb =note well, important p = page (pp = pages)	para = paragraph ch = chapter no = number diff = different C19 = nineteenth century
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2 Discipline-Specific	<p>These should be whatever is frequently used in your particular field of study.</p> <p>In chemistry: Au for gold, Mg for magnesium.</p> <p>In the case of quantities and concepts, these are represented by Greek letters in many fields.</p> <p>A or α (alpha) B or β (beta)</p>
3 Personal	<p>Develop your own set so that you don't have to write every word in full. You can shorten any word that is commonly used in your lectures.</p> <ul style="list-style-type: none"> • Gov = government • nec = necessary <p>Work out a system you'll remember and use it consistently. Introduce a few symbols and abbreviations at a time to help you remember them.</p>
4 Acronyms	<p>Some abbreviations are so well known and widely used that they have become acronyms — abbreviations pronounced as words. For example:</p> <p>Laser = Light Amplification by Stimulation Emission of Radiation</p> <p>ABC = Australian Broadcasting Corporation</p>

Symbols for notetaking

$=$ equals/is equal to/is the same as	\nearrow rises, increases by
\neq is not equal to/is not the same as	\searrow falls, decreases by
\equiv is equivalent to	\propto proportional to
\therefore therefore, thus, so	\npropto not proportional to
\because because	
$+$ and, more, plus	
$>$ more than, greater than	
$<$ less than	
$-$ less, minus	
\rightarrow gives, causes, produces, leads to, results in, is given by, is produced by, results from, comes from	



<https://student.unsw.edu.au/notetaking-tips>

Appendix 3

Vocabulary list

A

(to) absorb — поглощать
abundant — обильный, изобилующий
(to) accept — принимать, признавать
access (to) — доступ к чему-либо
in according to — в соответствии с
(to) account for — составлять (определенную часть)
accurate — точный (неточный, неверный)
acid — кислота
(to) acquire — приобретать, получать
(to) add — добавлять
(to) admit — признавать
advantage (disadvantage) — преимущество (недостаток)
adverse effects — неблагоприятные последствия
(to) affect — влиять
ageing — старение
age-sex pyramid — пирамида половозрастная
alteration — изменение
altitude — высота
angle — угол
annual — годовая
(to) apply — применять
arid — пустынный
asylum — убежище, приют
authorities — органы власти
available — доступный, имеющийся в распоряжении
average — средний, обычный

B

basis of life — основа жизни
benefit — преимущество
(to) bind (bound, bound) — связывать
biodiversity — биоразнообразие
biome — природная зона, биом
blanket — покров, защитный слой

C

can — жестяная банка
carbon dioxide — углекислый газ
cardboard — картон
(to) cause — быть причиной
chlorine — хлор
civil war — гражданская война
(to) claim — требовать, заявлять права, претендовать
(to) combat — сражаться
(to) combine — сочетать, комбинировать
common-sense task — разумная задача (то, что очевидно)
(to) commute — ездить ежедневно на работу из пригорода в город и обратно
(to) compost — готовить компост
conditions — условия
(to) conduct oneself — вести себя
coniferous forests — хвойные леса
(to) be conscious of — осознавать, понимать
consequence — следствие
conservation — сохранение
(to) consider — рассматривать, считать
constantly — постоянно
(to) consume — потреблять
(to) contain — содержать
(to) contaminate — загрязнять
contemporary — современный
(to) contribute — содействовать, вносить вклад
(to) convert — превращать
core of the earth — ядро земли
crop failure — неурожай
crowded — многолюдный, переполненный
crucial — решающий, ключевой

(to) cultivate — возделывать
 current — современный, текущий
 (to) cut (cut, cut) back (on) — урезать, сокращать
 (to) cut (cut, cut) down — вырубать

D

(to) damage — повреждать, наносить вред
 dangerous — опасный
 (to) deal (with) — иметь дело с кем-либо
 (to) decay — разлагаться
 deciduous forests — лиственные леса
 (to) decline — уменьшаться
 (to) decompose — разлагать на составные части
 (to) define — определять
 demand (for) — спрос на
 demolition — разрушение, уничтожение
 dense — плотный
 (to) deplete — истощать, исчерпывать
 (to) deposit — отложиться
 desertification — опустынивание
 (to) design — планировать, проектировать, конструировать
 (to) destroy — разрушать
 destruction — уничтожение, разрушение
 (to) determine — определять
 (to) discard — сбрасывать
 disposal — использование
 (to) disrupt — разрушать
 (to) dissolve — растворять
 (to) distort — искажать
 distribution — распределение, распространение
 for domestic use — для домашнего использования
 drought — засуха
 dumping — затопление отходов, сброс отходов в море

E

earth's crust — земная кора
 ecosystem services — экосистемные услуги
 electrical stuff — электроприборы, электрооборудование
 emissions — выбросы
 employment — занятость, работа
 (to) encourage — поощрять, поддерживать
 (to) end up — закончиться
 (to) endanger — подвергать опасности, ставить под угрозу
 energy consumption — потребление энергии
 energy deficit — дефицит электроэнергии
 energy saving — снижение потребления электроэнергии
 energy supply — энергообеспечение
 energy-efficient — энергосберегающий
 (to) enrich — обогащать
 environment — окружающая среда
 environmental concerns — экологические проблемы
 environmental group (=conservation group) — природоохранная организация
 environmentally friendly — не оказывающий отрицательного воздействия на окружающую среду
 (to) estimate — оценивать, давать оценку
 (to) evaporate — испаряться
 (un)even — равномерный (неравномерный)
 (to) exceed — превышать
 excessive — чрезмерный, избыточный
 (to) exist — существовать
 (to) exploit — эксплуатировать, использовать в своих интересах
 exposure — выставление (на солнце, под дождь), подвержение (риску)

extinct — вымерший, исчезнувший
(to) extract — извлекать
extraction costs — затраты на добычу

F

(to) face — сталкиваться
facilities — удобства
favourable — благоприятный
fertile — плодородный
(to) flood — затоплять
food debris — остатки пищи
(to) force — принуждать, заставлять
fossil fuels — полезные ископаемые
fragile — хрупкий, слабый
fresh water — пресная вода
frontier — граница, рубеж
fuelwood — дрова

G

garbage — мусор, отбросы
(to) generate — производить
glacier — ледник
(to) go (went, gone) far beyond —
выходить далеко за рамки
greenhouse gas — парниковый газ

H

habitat — среда обитания
harm to environment — вред окружа-
ющей среде
harmful — вредный
healthcare — здравоохранение
heavy rain — ливень
home appliances — бытовая техника
(to) host — принимать гостей
household — домашнее хозяйство,
домочадцы
housing — жилищные условия, обес-
печенность жильем
humidity — влажность
humus — гумус, перегной, чернозем
hunger — голод
(to) hurt (hurt, hurt) — причинять
боль, нанести повреждение

I

ice sheet — ледниковый покров
igneous rocks — вулканические породы
immunity to diseases — иммунитет
к болезням
impact — воздействие
(to) import — импортировать, ввозить
improvement — улучшение
incineration — сжигание
(to) include — включать в себя
income — доход
(to) increase — увеличивать
infrared radiation — инфракрасное
излучение
(to) install — установить
intent — намерение
(to) interact — взаимодействовать
(to) invade — вторгаться, захватывать
investment — инвестиции, вложения
(to) involve — включать в себя
irrigation — орошение
issue — проблема, вопрос

L

label — этикетка
landfill — свалка, мусорный полигон
landforms — формы рельефа
large-scale — широкомасштабный
latitude — широта
layer — слой, пласт
lead — свинец
(to) lead (led, led) — приводить к
leakage — утечка
level — уровень
life cycle — жизненный цикл
life expectancy — продолжительность
жизни
limited — ограниченный
liquid — жидкость
litter — мусор
long-term — долгосрочный, длитель-
ный, постоянный

М

- (to) maintain a balance — сохранять равновесие
(to) maintain a high standard of living — поддерживать высокий уровень жизни
(to) make (made, made) up — образовывать, составлять
malnutrition — недоедание, неправильное питание
manufacture — производить, перерабатывать
marine — морской
(to) meet (met, met) needs — удовлетворять потребности
(to) melt — таять
metamorphic rocks — метаморфические породы
methane — метан (горючий газ)
mining — горная промышленность, шахтный способ добычи полезных ископаемых
mismanagement — неправильное управление
(to) miss out — упускать возможность
(to) moderate — сдерживать, смягчать
moisture — влажность
molten magma — расплавленная магма
(to) monitor — контролировать, отслеживать
mountain range — горная цепь

N

- natural hazards — стихийные бедствия
natural increase — естественный прирост
natural phenomenon (phenomena — pl.) — природное явление
nitrous oxide — оксид азота
nuclear waste — ядерные отходы
numerous — многочисленный
nutrients — питательные вещества

О

- (to) observe — наблюдать, замечать
ocean currents — океанические течения
oil spill — разлив нефти (на поверхности воды)
on a local/global scale — в местном/глобальном масштабе
opportunity — возможность
origin — происхождение
out of date — вышедший из моды
outbreak of cholera — вспышка холеры
overconsumption — чрезмерное потребление
overcultivation — нерациональное использование сельхозземель
overgrazing — перевыпас
(to) overlap — перекрывать, частично совпадать
oxygen — кислород

Р

- packaging — упаковка
particle — частица
peat bogs — торфяные болота
per person — на человека
permafrost — вечная мерзлота
(im)permeable — водопроницаемый (водонепроницаемый)
persecution — преследование, гонение
(to) poison — отравлять
polluter — источник загрязнения, загрязнитель
pollution — загрязнение
(to) pose a problem — представлять собой проблему
(to) pour out — изливаться (о лаве)
poverty — нищета
precipitation, rainfall — осадки
(to) predict — предсказывать
(to) preserve — сохранять
pressure — давление
prevailing winds — преобладающие ветры

(to) process — обрабатывать
(to) prone (to) — иметь склонность
к чему-либо
prospect — перспектива
(to) provide — обеспечивать
(to) pull down — сносить
(to) purchase — покупать
purpose — цель

Q

quality — качество
quarrying — добыча полезных иско-
паемых открытым способом

R

rainforest — тропические леса
rate — темп
(to) reach — достигать
(to) recover — восстанавливаться
recreational resources — рекреацион-
ные ресурсы
(to) recycle — повторно использовать,
перерабатывать
(to) reduce — уменьшать, сокращать
refugee — беженец
(to) regard — рассматривать, считать
regular — регулярный, обычный
(to) release — выпускать, освобождать
reliable — надежный (ненадежный)
(to) rely (on/upon) — полагаться
на что-либо
(to) remain — оставаться
removable — заменяемый, съемный
renewable (non-renewable) — возоб-
новляемый (невозобновляемый)
(to) replace — заменять
(to) replenish — пополнять, дозапра-
вить
resistance — сопротивляемость
respiratory diseases — респираторные
заболевания
(to) be responsible (for) — нести от-
ветственность за что-либо
revenue — доход, выручка

routine — рутинный, текущий
(to) run (ran, run) out — истощиться,
закончиться
rural — сельский
(to) rust — ржаветь

S

sanitation — оздоровление, улучшение
санитарных условий
(to) satisfy — удовлетворять
sea level — уровень моря
in search of — в поисках
sedimentary rocks — осадочные
породы
(to) seek (sought, sought) — искать
(to) seep — просачиваться
semi-arid — полупустынный
(to) separate — разделять
services — услуги
settlement — поселение
sewage disposal — сброс сточных вод
shallow — мелкий
(to) share — делить, делиться, разделять
shelter — убежище
shield — щит, экран
short-term — краткосрочный, времен-
ный
skin cancer — рак кожи
slash-and-burn agriculture — подсеч-
но-огневая система земледелия
slums — трущобы
smelly — неприятно пахнущий
social unrest — общественное недо-
вольство
soil — почва
solid — твердый
(to) sort out — отбирать
source — источник
space — пространство
sparsely populated (densely
populated) — малонаселенный
(плотно населенный)
species — вид, разновидность

(to) spoil — испортить, повредить
 (to) spread (spread, spread) over — рас-
 пространяться (по поверхности)
 standard of living — уровень жизни
 steady — стабильный
 (to) store — накапливать, содержать
 suburban — пригородный
 surface — поверхность
 (to) surround — окружать
 survey — обзор, отчет об исследовании
 survival — выживание, сохранение
 жизнеспособности
 (to) sustain — поддерживать
 swamps — болота

T

(to) take (took, taken) a hit — принять
 на себя удар, понести потери
 (to) take (took, taken) for granted —
 воспринимать как должное
 (to) tend (to) — иметь склонность
 к чему-либо, стремиться к
 terrestrial — земной
 thermal expansion — термальное рас-
 ширение
 thermal power station — теплоэлектро-
 станция
 (to) threaten — угрожать, предвещать
 timber harvesting — рубка леса
 toxin — токсин, яд, токсическое
 вещество
 traditional way of life — традиционный
 образ жизни
 (to) trap — устраивать западню,
 ловушку
 trash — отбросы

U

underground and surface water — под-
 земные и поверхностные воды
 (the) United Nations — ООН (Органи-
 зация Объединенных Наций)
 urban — городской

V

value — ценность
 variety — разнообразие
 vegetation cover — растительный
 покров
 vegetation — растительность
 vehicle — транспортное средство
 virgin resources — нетронутые ресурсы
 vital — жизненно важный
 volcanic eruption — извержение
 вулкана
 voluntary — добровольный
 vulnerable — уязвимый

W

(to) wash out — вымывать (питатель-
 ные вещества)
 waste dump — свалка отходов
 waste generation — образование про-
 мышленных отходов
 waste separation — разделение отходов
 water cycle — круговорот воды
 water storage — запас воды
 water supply — водоснабжение, обес-
 печение водой
 water table — уровень грунтовых вод
 water treatment — очистка воды
 water vapour — водяной пар
 waterways — водные пути
 weathering — выветривание
 wellbeing — благополучие
 widespread — распространенный
 wildlife — живая природа
 (the) World Wildlife Fund — Всемирный
 фонд дикой природы

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