

Южно-Уральский государственный
гуманитарно-педагогический университет

Южно-Уральский научный центр
Российской академии образования (РАО)

И. А. Гаврилова

ЛЕКСИЧЕСКИЙ МИНИМУМ ПО ТЕМЕ
“ENVIRONMENTAL PROTECTION AND ECOLOGY”

Учебное пособие
для высших учебных заведений

На английском языке

Челябинск
2021

УДК 811.111:502

ББК 81.432.1

Г12

Рецензенты:

доктор пед. наук, доцент З. В. Возгова;

канд. филол. наук, доцент Л. А. Белова

Гаврилова, Ирина Александровна

Г12 Лексический минимум по теме “Environmental Protection and Ecology” : учебное пособие для высших учебных заведений : на английском языке ; поясн. записка на русском языке / И. А. Гаврилова ; Южно-Уральский государственный гуманитарно-педагогический университет. – [Челябинск] : Южно-Уральский научный центр РАО, 2021. – 65 с.
ISBN978-5-907408-85-2

Лексический минимум по теме “Environmental Protection and Ecology” представляет собой перечень из 155 лексических единиц и коллокаций уровня В2 (Upper Intermediate) с толкованиями и аутентичными контекстами, сгруппированных в ассоциативно-тематические ряды и сопровождаемых разноуровневыми упражнениями для отработки лексических навыков. Предназначен для студентов-бакалавров, обучающихся по направлениям «Педагогическое образование (с двумя профилями подготовки). Направленность (профили): Английский язык. Иностранный язык» и «Лингвистика. Направленность (профиль): Перевод и переводоведение».

Материал пособия может быть использован для аудиторной и самостоятельной работы обучающихся по дисциплинам «Практикум по культуре речевого общения», «Практика устной и письменной речи», а также при подготовке к олимпиадам и международным экзаменам по английскому языку.

УДК 811.111:502

ББК 81.432.1

ISBN 978-5-907408-85-2 © Гаврилова И. А., 2021

© Издание на английском языке, 2021

© Оформление. Южно-Уральский
научный центр РАО, 2021

Содержание

<i>Пояснительная записка</i>	5
.....	
1 Air Pollution and Climate Change	6
.....	
1.1 Key Words	6
.....	
1.2 Tasks and Exercises	13
.....	
2 Generating Unsustainable Waste. Land and Water Pollution	20
.....	
2.1 Key Words	20
.....	
2.2 Tasks and Exercises	25
.....	
3 Loss of Biodiversity	33
.....	
3.1 Key Words	33
.....	
3.2 Tasks and Exercises	37
.....	
4 Clean Energy Sources	45
.....	
4.1 Key Words	45
.....	
4.2 Tasks and Exercises	48
.....	

5 Need for Accelerated Environmental Action.....	53
.....	
5.1 Key Words.....	53
.....	
5.2 Tasks and Exercises.....	57
.....	
<i>References</i>	64
.....	

Пояснительная записка

Настоящее учебное пособие предназначается для студентов-бакалавров, обучающихся по направлениям «Педагогическое образование (с двумя профилями подготовки). Направленность (профили): Английский язык. Иностраный язык» и «Лингвистика. Направленность (профиль): Перевод и переводоведение». Издание представляет собой сокращенную модель тезауруса для осуществления коммуникативной деятельности на уровне B2 (Upper Intermediate) владения языком в узкоспециальной предметной области «Охрана окружающей среды и экология».

Лексический минимум создавался на основе данных корпуса English Web 2020 (enTenTen20), а также лексикографических и справочных источников – толковых словарей Cambridge Dictionary, Merriam-Webster Dictionary и энциклопедии Britannica. При составлении списка лексических единиц и коллокаций учитывались общеметодические критерии: семантическая ценность, стилистическая принадлежность, сочетаемость, частотность и регулярность (использование в большом количестве текстов). Словарные статьи сопровождаются аутентичными контекстами употреблений лексических единиц в экологическом дискурсе.

Языковой материал систематизирован по принципу подчинения микротематическому контексту. Каждый из пяти разделов пособия содержит комплекс языковых, условно-речевых и коммуникативных упражнений, гарантирующих высокую степень рекуррентности лексических единиц, для формирования и автоматизации лексических навыков.

1 Air Pollution and Climate Change

1.1 Key Words

~ Nouns and noun phrases ~

air quality — the degree to which the air is clean and free from pollution. *“Low levels of air quality and thus high levels of air pollution lead to an increase in public health issues.”* (environmental-conscience.com)

anthropogenic activity — human activity causing environmental degradation. *“Anthropogenic activities leading to emissions of sulfur dioxide are the combustion of fossil fuels in electric power plants and the smelting of nonferrous metals.”* (sciencedirect.com)

avalanche — a large amount of ice, snow, and rock falling quickly down the side of a mountain. *“As the global climate becomes increasingly unstable, avalanche frequency and variability are also expected to increase.”* (delltechnologies.com)

changes in ecosystems — differences in the complex of a community of organisms and its environment functioning as an ecological unit. *“There is alarming evidence that global warming causes irreversible changes in major ecosystems.”* (un.org)

climate crisis — serious problems that are being caused or likely to be caused by changes in the world's weather, in particular the world getting warmer as a result of human activity increasing the level of carbon dioxide in the atmosphere. *“The majority of the emissions driving the climate crisis are by-products from our fossil-fuel intensive economies, deforestation and farming practices.”* (undp.org)

climate refugee — someone who is forced to leave their home country or area because climate change has made it

impossible for them to continue to live or work. *“Rising sea levels, droughts, and famine would force millions to become climate refugees.”* (dictionary.cambridge.org)

combustion of fossil fuels — burning of a fuel (such as coal, oil, or natural gas) formed in the earth from plant or animal remains. *“Power and heat generation by combustion of fossil fuels are some of the largest sources of airborne metals and sulfur oxides.”* (mdpi.com)

coral bleaching — the process of corals losing their colour and becoming pale. *“Climate change has already led to sharply increased rates of coral bleaching – killing vast areas of reef – and this is predicted to increase in frequency and severity in the coming decades.”* (oceansplasticcleanup.com)

desertification — the process of becoming desert (as from land mismanagement or climate change). *“Soil erosion is a key factor in the process of land degradation and desertification.”* (teebweb.org)

drought — a prolonged period of dryness that causes extensive damage to crops or prevents their successful growth. *“Most people know the British Red Cross as an international aid organisation, supporting people across the globe affected by poverty, drought, tsunamis or hurricanes.”* (redcross.org.uk)

earthquake — a sudden shaking or trembling of the earth's surface that is volcanic or tectonic in origin. *“Bangladesh is afflicted by a multitude of natural hazards including tropical cyclones, tornadoes, tsunamis, drought, earthquakes, riverbank erosion, landslides, salinity intrusion and arsenic contamination.”* (apan-gan.net)

flood — a rising and overflowing of a body of water especially onto normally dry land. *“The October 2018 Report of the U.N. Intergovernmental Panel on Climate Change warned that the world's use of coal for generating electricity will need to be reduced dramatically by mid-century – from 40% down to 1–7% –*

to prevent catastrophic droughts, fires, floods, and storms resulting from climate change.” (acoel.org)

global warming — an increase in the earth's atmospheric and oceanic temperatures widely predicted to occur due to an increase in the greenhouse effect resulting from particular gases, especially carbon dioxide. *“The extraction of oil from the tar sands makes a catastrophic contribution to global warming.”* (earthrenewal.org)

greenhouse effect — warming of the surface and lower atmosphere caused by an increase of gases such as carbon dioxide in the air surrounding the earth, which trap the heat of the sun. *“This heating effect of air on the surface, called the atmospheric greenhouse effect, is due mainly to water vapor in the air, but also is enhanced by carbon dioxide, methane, and other infrared-absorbing trace gases.”* (nasa.gov)

heat wave — a period of days during which the weather is much hotter than usual. *“As climate change makes heat waves more intense and more frequent, we need to be cognizant of the dangers and health risks that come with it.”* (ucsusa.org)

hurricane — a tropical cyclone with winds of 74 miles (119 kilometers) per hour or greater that is usually accompanied by rain, thunder, and lightning, that occurs especially in the western part of the Atlantic Ocean. *“Maria, the most powerful hurricane to hit the island in nearly a century, unleashed floods and mudslides and knocked out the entire electrical grid and telecommunications, leaving many mainland families anxiously awaiting word on relatives in Puerto Rico.”* (news12.com)

increase in precipitation — a rise in the amount of water that falls from the clouds towards the ground, especially as rain or snow. *“Other expected effects include water scarcity in some regions and increased precipitation in others, changes in mountain snowpack, and adverse health effects from warmer temperatures.”* (dictionary.cambridge.org)

landslide — a mass of rock and earth moving suddenly and quickly down a steep slope. *“Landslides can be triggered by deforestation, mining and agricultural activities.”* (coolgyan.org)

logging — cutting trees for lumber. *“Most tributary habitat in the Columbia River has been severely degraded by logging, mining, grazing, urbanization, and agricultural development.”* (bluefish.org)

melting of polar ice caps — making a cover of perennial ice and snow become liquid as a result of heating. *“Record-breaking land and ocean temperatures, irreversible bleaching and collapse of the Great Barrier Reef, unprecedented bushfires in Tasmania's world heritage areas, and rapid melting of polar ice caps and glaciers demonstrate that the planet is already too hot.”* (actonclimate.org.au)

methane — a colorless odorless flammable gas that is used as fuel. *“Water vapor is the largest waste product from methane combustion.”* (icecap.us)

natural disaster — a sudden and terrible event in nature (such as a hurricane, tornado, or flood) that usually results in serious damage and many deaths. *“Natural disasters can wipe out or endanger a whole species. An example of an animal species affected by a natural disaster was the dinosaur.”* (ourspeeches.com)

nitrogen oxide — any of several oxides of nitrogen most of which are produced in combustion and are considered to be atmospheric pollutants. *“The entire project will ultimately reduce South Korea's yearly emissions of carbon dioxide, nitrogen oxide, and sulfur oxide by 3,447 tons – the equivalent to removing 728 cars from the road.”* (forbes.com)

ozone layer depletion — the reduction of a layer of ozone high above the earth's surface which blocks most solar ultraviolet radiation from entry into the lower atmosphere. *“«Naturally!» is a global initiative of companies committed to combat climate change*

and ozone layer depletion by substituting harmful fluorinated gases (“F-gases”, such as CFCs, HCFCs and HFCs) with natural refrigerants.” (atmo.org)

pollution-related diseases — illnesses attributed to exposure to toxins in the air, water, and soil. *“Breathing lung-damaging exhaust from vehicles on a daily basis leads to higher rates of pollution-related diseases such as cancer and heart attacks.”* (globalcommunitywebnet.com)

rise in sea levels — an increase in the average height of the sea, used as the basis for measuring the height of all places on land. *“A predicted rise in sea levels of between 0.5–1m by 2100 would see high impact waves overcome both natural and built defences, flooding land and waterways with seawater and silt for extended periods.”* (stuff.co.nz)

smog — a mixture of smoke, gases, and chemicals, especially in cities, that makes the atmosphere difficult to breathe and harmful for health. *“Gridlock occurs now on an almost daily basis and the city swelters under an ever present cloak of photochemical smog.”* (dictionary.cambridge.org)

soil degradation — the process of damaging firm land such as wearing it down by erosion. *“Soil degradation is posing a huge threat to global food security and every year, around 12 million hectares of cropland are lost to soil erosion.”* (labmanager.com)

soil erosion — the process by which the surface of soil is gradually destroyed through the action of wind, rain, etc. *“Cover crops are planted to minimize soil erosion, increase beneficial microbiological activity and generally improve soil tilth.”* (gardeningknowhow.com)

tipping point — the time at which a change or an effect cannot be stopped. *“The earth has already passed the tipping point in terms of global warming.”* (dictionary.cambridge.org)

vog — a type of air pollution that is a mixture of ash (= the soft grey or black powder that is left after a substance has burned)

from a volcano, sulphur dioxide, and other gases. “*Short-term reactions to vog may include difficulty in breathing, as well as itchy eyes and a sore throat.*” (dictionary.cambridge.org)

volcanic eruption — an occasion when a volcano suddenly throws out burning rocks, smoke, etc. “*Not only wild animals, but cattle and pets also suffer from the impacts of the volcanic eruption.*” (profauna.net)

water vapour — water in a vaporous form especially when below boiling temperature and diffused (as in the atmosphere). “*Greenhouse gases include ubiquitous water vapor, methane, nitrous oxide, and above all, carbon dioxide, a gas released when fossil fuels are burned to power transportation, generate electricity, and are used to manufacture amenities of modern life.*” (nationalreview.com)

wildfire — a sweeping and destructive conflagration especially in a wilderness or a rural area. “*Gusty winds, when combined with drought and dry vegetation, increase risk of a small spark igniting a wildfire.*” (sfchronicle.com)

~ Verbs and verb phrases ~

to alter weather patterns. “*Climate change has altered weather patterns so much that vegetation in some regions is transforming from abundant sagebrush, grass and forbs to a new landscape of weeds and cheat grass – fast-burning fuels that propel wildfire and destroy rangeland.*” (wildhorsepreservation.org)

to change overall weather scenario. “*Climate change is not only changing the overall weather scenario, but has larger and harmful effects. Some of these include: melting of polar regions, occurrence of new diseases and permanent inhibition in growth of certain plants essential for human survival.*” (termpaperwarehouse.com)

to contain high levels of pollutants. “According to the World Health Organization, nine out of 10 people worldwide are exposed to air containing high levels of pollutants.” (inquirer.com)

to emit carbon dioxide. “The cement production process emits carbon dioxide (CO₂) through the decomposition of limestone into carbon dioxide and lime (CaCO₃ ⇒ CO₂ + CaO), and from the burning of the fuels necessary to create the high temperature in the kiln.” (sta.ie)

to enhance the salinity of soils. “Human practices can enhance the salinity of soils by the addition of salts in irrigation water.” (howlingpixel.com)

to fall as acid rain. “Nitrogen and sulfur emissions (from human activity) enter the atmosphere, collect with water vapor and fall as acid rain.” (amyglenn.com)

to increase the ocean acidity. “Meanwhile, human activity continues to cause rising levels of carbon dioxide in the atmosphere, which in turn increase the Ocean's acidity.” (un.org)

to overload the atmosphere with carbon. “Profiting from companies that are overloading the atmosphere with carbon and changing the atmosphere is wrong.” (oilprice.com)

to prevent catastrophic climate disruption. “Even though renewable energy infrastructure – solar panels, wind turbines, energy storage and distribution systems – are already widespread, and getting cheaper and more efficient all the time, experts say we're not applying them quickly enough to prevent catastrophic climate disruption.” (dw.com)

to prevent the ozone layer from thinning. “By driving less or carpooling we are emitting less harmful CO₂ gases which will help prevent the ozone layer from thinning.” (ucsb.edu)

to promote low-carbon technologies. “Policies that promote low-carbon technologies help create jobs and build a better future. Reducing carbon pollution and switching to clean, renewable energy will help the economy grow.” (realitydrop.org)

to release harmful gases and toxins. *“If batteries are burned then they can release harmful gases and toxins.”*
(greenusesforwaste.co.uk)

to require urgent attention. *“Avoiding catastrophic temperature increases in the long run requires urgent attention now.”* (nuclearabolition.info)

~ Idioms ~

a breath of fresh air — a new and imaginative approach, a change that feels good. *“Working with the Whitney woods team has been like a breath of fresh air, they have provided us with a fast effective, professional and friendly service, which in turn has helped us to provide our clients with a hassle free service.”*
(christmasmarketing.co.uk)

add fuel to the fire — say or do something that makes a problem worse. *“Drug and alcohol misuse can often add fuel to the fire of a family conflict.”* (ysas.org.au)

rain or shine — whatever happens. *“Classes are conducted rain or shine.”* (grandcanyon.org)

ray of sunshine — someone or something that makes others feel happy, positive and relieved. *“Even now, while he's in a wheelchair most of the time and has trouble breathing, he is still a ray of sunshine for everyone who meets him.”*
(dodgecountynews.com)

the tip of the iceberg — a small part of something much bigger. *“The documentary evidence is just the tip of the iceberg, not the whole picture.”* (tarotforum.net)

1.2 Tasks and Exercises

1.2.1 Underline the stressed syllable of these words. Check your answers in the dictionary. Then use the words in sentences.

A. anthropogenic activity

F. ozone layer depletion

B. avalanche

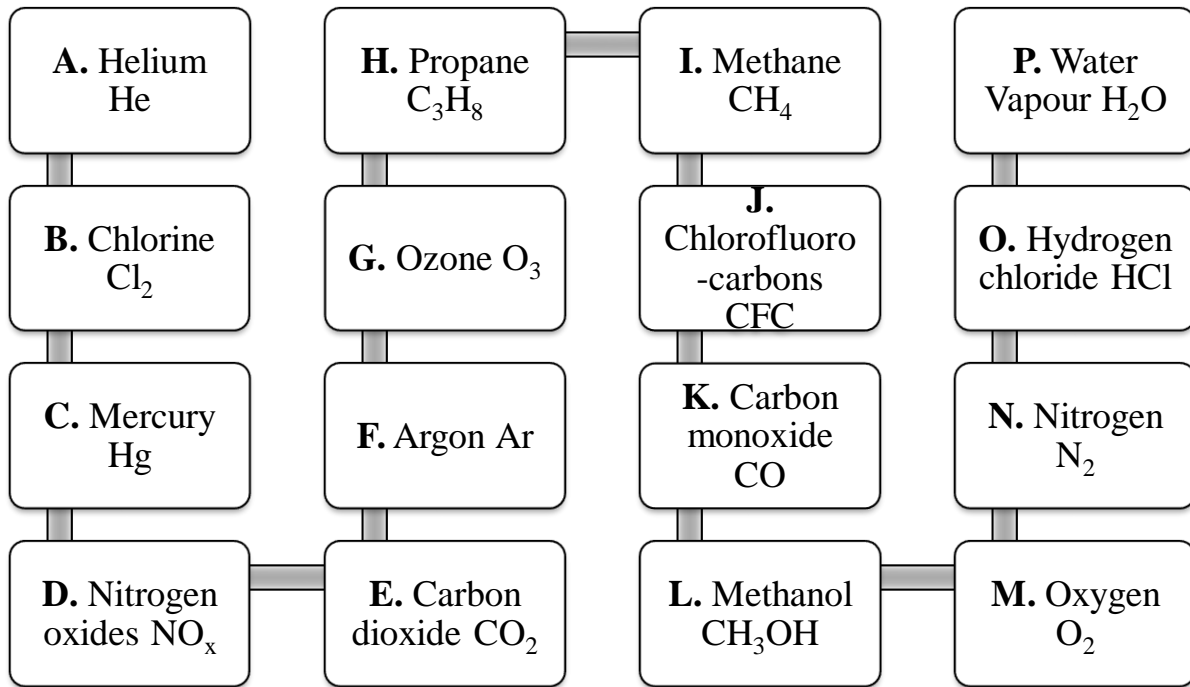
G. toxin

- C. climate refugee
- D. methane
- E. ocean acidity

- H. water vapour
- I. weather scenario

1.2.2 Test yourself.

1.2.2.1 Indicate in this list the 6 greenhouse gases.



1.2.2.2 Indicate in this list the 10 items that you think contribute the most to the increase in greenhouse gases in the atmosphere.

- | | |
|---------------------------------|--------------------------------|
| A. Waste recycling | I. Wind farm |
| B. Rice crops | J. Controlled landfill |
| C. Solar panels | K. Home and industrial heating |
| D. Refinery | L. Cement production |
| E. Nuclear power plant | M. Forest littering |
| F. Ruminant livestock digestion | N. Deforestation |
| G. Combined cycle power plant | O. Hydroelectric plant |
| H. Combustion engine transport | P. Increase of the forest mass |

1.2.2.3 Indicate in this list the 7 impacts of climate change that are already observed globally.

- A. Coastal flooding from rising sea levels
- B. Decreased agricultural productivity
- C. Extensive fossil fuel consumption
- D. Growth of atmospheric CO₂
- E. Health risks
- F. Increased emissions of greenhouse gases
- G. Increased storminess
- H. Increases in fertiliser use
- I. River flooding from more heavy rainfall events
- J. Water supply problems from droughts
- K. Altering of the ecological balance of the ocean due to ocean acidification

1.2.3 Mark the sentences (LOT) if they mean a lot of damage, and (LIT) for little damage.

1. The volcanic eruption caused considerable damage to building. It will take millions of dollars to repair them.

2. When the river floods, it causes extensive damage to the surrounding villages.

3. It was a relatively small earthquake. It caused only minor damage to buildings.

4. A slight landslide occurred in the northwest about an hour ago. Fortunately, there were no injuries, and the damage to my car was minimal.

5. The oil spill has killed fish and caused incalculable damage to the coastline.

6. The house only suffered superficial damage from the high winds. Only a few slates were missing from the roof.

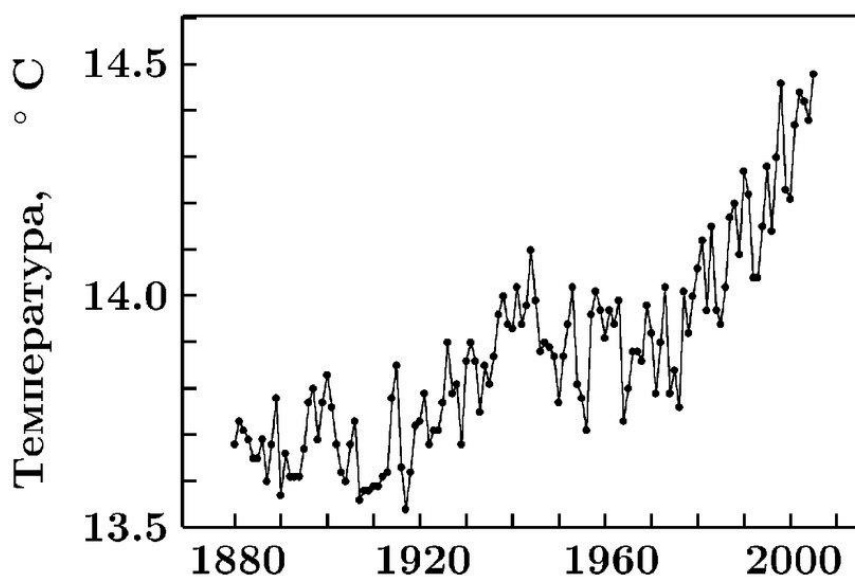
7. If we don't reduce pollution, we will cause serious damage to the environment.

1.2.4 Describe the line graph of change in annual global temperatures, compared to the average of global annual temperatures from 1880. Use the suggested words.

Изменение среднегодовой температуры Земли

(NASA GISS Surface Temperature analysis (GISTEMP), 2005)

Тренд 13.7 (1880 г.) → 14.5 (2005 г.)



the graph presents data relating to
the x (horizontal) axis indicates
the y (vertical) axis shows
to rise, jump, grow, go up, increase, soar
to fall, drop, decline, decrease, go down, plunge
slowly, slightly
steadily, gradually, moderately
considerably, sharply, significantly
to stay, remain + constant, stable
the decline (rise) can be perhaps explained by

1.2.5 Solve the following rebus puzzles. What natural disasters are represented in the riddles? Surf the Internet and give a few examples of their devastating effects.

~ 1 ~



~ 2 ~



~ 3 ~



~ 4 ~



1.2.6 Translate into English.

1. Сейчас в климатической системе Земли происходят видимые изменения, которые фиксируются измерительными приборами. Например, растёт среднегодовая температура планеты, тают ледники, повышается уровень моря, изменяется режим осадков. Наиболее серьёзные изменения происходят с

арктическим морским льдом. Согласно данным спутниковых измерений, которые ведутся с 1979 года, в сентябре 2019 года площадь морского льда была на 33% ниже среднего уровня 1981–2010 годов. Толщина морского льда также уменьшилась. (greanpeace.ru)

2. Города вносят наибольший вклад в изменение климата. По данным ООН-Хабитат, города потребляют 78% мировой энергии и производят более 60% выбросов парниковых газов. При этом они занимают менее 2% поверхности Земли. (un.org)

В городских районах большая часть загрязнения воздуха происходит из антропогенных источников. Такие источники можно классифицировать как передвижные (автомобили, грузовики, самолеты, морские двигатели и т.д.) или стационарные источники (заводы, электростанции и т.д.). Существует также аварийные загрязнения, когда происходят крупные выбросы токсичных веществ. (ecoproverka.ru)

3. К рискам глобального потепления ученые относят окисление океана; увеличение частоты экстремальных погодных явлений, включая как засухи, так и ливневые дожди; возможное вымирание отдельных биологических видов из-за изменения температурного режима. Всё это может снизить урожайность и привести к продовольственным проблемам, особенно в неблагополучных регионах Африки и Азии. Мало того, из-за возможного повышения уровня моря некоторые места обитания станут просто недоступны для людей. (delta-eco.ru)

1.2.7 Fill in the gaps with the correct idiom from the box.

- A.** add(ed) fuel to the fire
- B.** a breath of fresh air
- C.** a ray of sunshine
- D.** rain or shine
- E.** the tip of the iceberg

1. Angela's so cheerful and lively – she's like _____ when she visits.
2. Come _____, I'll see you on Thursday.
3. The discovery that the government was aware of the cover-up has really _____.
4. These small local protests are just _____.
5. We love looking after our grandchild. He's _____!

1.2.8 Complete the sentences with these nouns.

- | |
|---|
| <ol style="list-style-type: none">A. bulletsB. changeC. complaintsD. informationE. time |
|---|

1. I did some research into it on the Web, but I ended up buried beneath **an avalanche of** _____.
2. The origins of the dance have been lost in **the mists of** _____, but it is still performed in some rural areas.
3. It's been a one-party state for years, but it looks like **the winds of** _____ have started blowing.
4. The riots were basically sparked by the police killing this guy in **a hail of** _____ in broad daylight.
5. The TV company received **a flood of** _____ because of the explicit sex and violence in the programme.

2 Generating Unsustainable Waste. Land and Water Pollution

2.1 Key Words

~ Nouns and noun phrases ~

abandoned vehicle — a car or lorry left by the owner. “*Community Wardens also deal with littering, dog-fouling, abandoned vehicles and recycling matters.*” (dabbersnantwich.me.uk)

chemical fertilizer — a chemical substance that is spread on the land or given to plants, to make plants grow well. “*As land passes into private hands and becomes consolidated for large-scale production, the agricultural base may suffer through erosion, overgrazing, reduced fallows or increased pollution levels from the use of pesticides and chemical fertilizers.*” (rrojasdatabank.info)

entanglement — the state of being caught or twisted in something. “*It is estimated that over 300,000 small whales, dolphins, and porpoises die from entanglement in fishing nets each year, making this the single largest cause of mortality for small cetaceans.*” (worldwildlife.org)

garbage — food waste. “*America has enough coal and natural gas to power 100% of our energy needs while reducing greenhouse emissions and threats to ground water and air emissions as we transition toward renewable energy sources like solar, wind, and garbage.*” (respectmyplanet.org)

greenwashing — behaviour or activities that make people believe that a company is doing more to protect the environment than it really is. “*Greenwashing involves taking an existing product and spinning its environmentally-friendly virtues even if there are none.*” (dictionary.cambridge.org)

hyperconsumption — the consumption of goods for non-functional purposes. *“The ecological ravages of capitalist hyperconsumption and communist mismanagement can only worsen as developing nations – desperately trying to bridge the ancient divide between rich and poor – achieve 'progress' at the expense of environmental degradation.”* (hachette.com.au)

industrial leakage — an amount of liquid or gas escaping through a hole in some industrial enterprise. *“Whether resulting from industrial leakage, disaster or weapons, or from years of over-fertilization: once soil is contaminated, fixing the damage is costly and time-consuming.”* (dw.com)

ingestion — swallowing, taking in as food. *“Not only can plastic ingestion cause direct effects such as blockages and lacerations, plastic can also absorb harmful chemicals such as PCBs and heavy metal which have the potential to be transferred into the animals who ingest them.”* (hastingsonlinetimes.co.uk)

irreparable damage — damage that can't be repaired. *“If we can't stop the oil leaking from the tanker, irreparable damage will be done to the coastline.”* (dictionary.cambridge.org)

landfill — a place where discarded materials (such as trash and garbage) are dumped and buried under earth. *“The city estimates the program will divert more than 5,100 tons of residential recyclables from the landfill each year.”* (jsonline.com)

litter — small pieces of rubbish such as paper, cans and bottles, that people have left scattered about in a public place. *“Littering is a scourge on our environment.”* (bbc.com)

litterbug — someone who drops rubbish on the ground in public places. *“Why do we still have so many litterbugs? They are ruining the environment.”* (urbandictionary.com)

microplastics — extremely small pieces of plastic in the environment that come from consumer products and industrial waste. *“Every day, tonnes of plastic 'dust' resulting from the use of personal care products (i.e. microplastics with an exfoliating function for shower gels and various “rinse-off” cleansing*

products) are poured into the world's seas, together with microplastics having specific technical properties used in face and body creams, sunscreens and make-up (non-rinsing, or “leave-on” products).” (packagingnews.co.uk)

non-biodegradable (nonbiodegradable) (materials) — discarded substances or chemicals that cannot be changed to a harmless natural state by the action of bacteria, and may therefore damage the environment. *“There are no nationwide restrictions on the use of plastic bags in the United States, though states like California and Hawaii ban nonbiodegradable bags.”* (nytimes.com)

plastic packaging — containers or covering made of plastic or nonwoven fabric used to wrap or protect goods and products. *“With food waste and plastic packaging on everyone's lips, with health and wellness becoming more important, with consumers seeking transparency and an understanding of where their food comes from, a fresh perspective on how we buy, sell and consume food is in order.”* (perishablepundit.com)

pollutant — a substance that contaminates. *“Environmental regulations stipulate that certain pollutants in the exhaust gas of waste incineration plants, as well as the reference values, must be continuously monitored.”* (sick.com)

radioactive contamination — the process or fact of making an object or place no longer pure by adding a radioactive substance that is dangerous and carries disease. *“Whole oceans are threatened with radioactive contamination by ships transporting weapons-grade plutonium, and by oceanic testing of nuclear weapons.”* (cagreens.org)

reclamation — the attempt to make land suitable for building or farming; the treatment of waste materials to get useful materials from them. *“The ongoing and historic damage caused to biodiversity by peat extraction makes a strong argument for all after use reclamation to prioritise nature, to make steps to*

compensate for the ecological deficit accrued through extraction.”
(somersetconsults.org.uk)

recycling of waste materials — the process of obtaining materials from waste products (such as paper, glass, plastic, or cans) so that they can be used again. *“Europe is world leader in renewable energy and recycling of waste materials.”*
(softpanorama.info)

spillage of oil and chemicals — the release of a liquid petroleum hydrocarbon and substances obtained by a chemical process into the environment, especially the marine ecosystem, due to human activity. *“Due to the pollution and spillage of oil and chemicals, the river Rouge caught fire in 1969 around the area of Detroit sending billows of thick smoke into the air.”*
(worldatlas.com)

suffocation — choking; strangulation; the process of dying because there is no air to breathe. *“Fish, seabirds, sea turtles, and marine mammals can become entangled in or ingest plastic debris, causing suffocation, starvation, and drowning.”* (pewtrusts.org)

urban runoff — surface runoff of rainwater, landscape irrigation, and car washing created by urbanization. *“Stormwater and urban runoff from impervious (hard) surfaces like streets, sidewalks, parking lots, roofs, and driveways are major sources of creek and ocean water quality pollution.”* (santabarbaraca.gov)

use of fertilisers — applying natural or chemical substances to make plants grow well. *“When the earth is plundered and destroyed over use of fertilisers, food chain is contaminated and since we take such contaminated food, drink unclean water and top that with soft and hard drinks and drugs, prescription and non-prescription, we have what is known as polluted inner environment.”* (globalcommunitywebnet.com)

~ Verbs and verb phrases ~

to affect flora and fauna. *“The artificial channel has brought about an ecological disaster beyond Senegal's coast, as*

salt water from the Atlantic has flooded into coastal wetlands, killing mangroves, driving away birds and affecting flora and fauna.” (biologydir.com)

to dump rubbish. *“A few blocks are in a poor condition and this is often due to residents (or their visitors) dropping litter or dumping rubbish in communal areas.”* (stalbands.gov.uk)

to have irreversible effects on the environment. *“The ultimate results of releasing genetically modified organisms are not predictable and may have unexpected and irreversible effects on the environment.”* (kids.net.au)

to have tremendous health hazards. *“I think the court's decision to ban lead, mercury, antimony, arsenic and lithium is perfectly sound because they have tremendous health hazards.”* (indiatimes.com)

to pose risks to someone/something. *“Pollutants in our water resources can impact water quality standards, pose risks to human health, threaten aquatic life and its habitat, and impair the use and enjoyment of waterways.”* (realestaterama.com)

to reuse carrier bags. *“Staff and guests are encouraged to avoid waste wherever possible, by refusing packaging not needed, reusing carrier bags, and only buying what is necessary.”* (kellingheath.co.uk)

to take hundreds of years to decompose. *“A small but significant proportion of used plastic is not properly disposed of and ends up in the surface or marine environment, where it takes hundreds of years to decompose and can harm wildlife.”* (americangeosciences.org)

~ Idioms ~

a barrel of laughs — a lot of fun; often used in an ironic way to describe someone or something that is not really enjoyable or entertaining. *“I never expected a barrel of laughs but this*

production of Dr Faustus was beyond what I could have imagined.” (londonboxoffice.co.uk)

a drop in the ocean — a very small portion of the amount that is needed. *“You might think that anything you do is just a drop in the ocean, but every action counts.” (speakerscorner.co.uk)*

garbage in, garbage out (GIGO) — expressing the idea that if wrong or poor quality data, material or effort is put into something, wrong or poor quality results will come out of it. *“The meals are pretty poor but then they never use fresh ingredients – garbage in, garbage out.” (dictionary.cambridge.org)*

in deep water(s) — in trouble or difficulty. *“Johnson & Johnson has found itself in deep water again over the potentially harmful effects of its products.” (pharmafile.com)*

oceans of something — a large amount of something. *“While urban design has focused on the engineering of movement, it has ignored the issues of beauty, social engagement and livability that inspire emotional connections to the city. Who could be in love with the oceans of asphalt and the concrete canyons of Pembina Highway?” (numberten.com)*

2.2 Tasks and Exercises

2.2.1 Find the “trash” words in the grid. They are placed there diagonally. Explain the meaning.

bin	dump	junk	litter	trash
debris	garbage	landfill	rubbish	waste

TRASH vs RUBBISH

H	U	S	H	T	A	S	T	R	S	R	A	F	U	M	G	T	U	W	T	I	B	E	B	I
E	L	S	I	E	R	G	P	L	R	A	G	B	S	E	T	I	K	R	F	M	T	P	N	T
S	S	M	E	N	T	B	M	B	B	N	L	F	A	I	G	R	A	N	L	E	E	T	E	T
L	P	U	E	A	R	S	L	G	T	K	L	W	B	S	N	K	L	R	U	B	H	D	G	E
B	T	A	A	B	I	S	U	R	T	S	P	G	J	I	N	U	S	S	T	J	I	R	B	B
L	I	A	H	L	I	L	M	B	P	B	S	T	I	J	T	P	N	E	L	T	D	B	N	B
B	W	D	N	G	R	N	H	A	M	B	E	J	N	I	L	S	D	S	D	R	E	R	R	S
U	L	T	R	H	N	G	A	J	T	K	S	L	S	A	I	R	N	L	T	W	E	R	U	B
D	U	I	S	R	G	G	E	R	T	A	U	I	R	D	U	L	P	E	D	N	N	N	L	T
B	E	A	T	I	H	R	E	R	I	L	E	G	S	S	D	W	H	E	D	L	B	B	T	A
S	R	B	N	T	S	I	K	L	S	I	D	U	J	T	S	A	R	A	A	B	H	A	D	B
T	S	U	R	P	E	M	R	N	I	P	B	N	D	G	L	T	E	R	R	N	L	L	E	I
T	E	S	U	I	T	R	E	K	L	D	L	K	N	H	P	P	B	P	L	I	R	M	T	N
A	N	A	G	S	S	K	A	L	T	A	N	B	I	M	S	E	I	S	T	N	G	I	H	S
U	T	S	R	U	G	D	L	W	N	R	T	D	T	H	R	I	T	S	E	T	H	J	T	U
E	B	B	L	B	N	N	A	D	R	L	P	D	L	B	B	A	B	B	L	J	A	B	U	B
J	E	E	U	G	G	S	F	T	A	J	U	I	N	S	L	L	N	B	N	F	L	E	G	T
P	B	B	B	J	T	I	I	A	E	U	D	R	J	F	U	A	L	L	U	D	R	A	R	B
S	B	R	S	E	L	I	D	R	A	S	A	R	D	W	D	N	L	I	L	R	R	A	E	R
T	G	D	D	L	L	S	S	A	E	G	K	J	D	I	E	E	A	T	A	B	N	F	D	A
G	S	R	T	E	A	U	T	I	G	T	B	S	H	G	D	B	F	I	A	S	B	A	I	I
J	E	T	E	I	A	D	J	E	I	E	R	G	D	U	B	F	F	G	S	N	G	D	S	D
S	B	T	S	B	T	S	A	T	A	L	N	H	M	I	A	W	E	D	H	R	G	B	H	M
A	E	N	R	I	I	B	I	T	B	N	L	P	N	I	A	H	A	G	B	W	B	S	F	L
N	E	D	J	R	L	I	U	M	S	E	D	L	L	N	T	R	I	I	I	E	E	B	R	G

2.2.2 Fill in the gaps with the correct form of the verb.

- A. create waste
- B. dispose of waste
- C. dump waste
- D. recycle waste

1. We have a compost bin which we use to _____ our household waste.

2. The company was fined for _____ untreated industrial waste into the river.

3. We use too much packaging on food. It _____ a lot of unnecessary waste.

4. Is there a safe way to _____ of nuclear waste?

2.2.3 Quiz yourself.

1. Why is plastic dangerous for marine life?

A. Sea creatures may eat plastic by mistake and cannot digest it.

B. Marine animals can get tangled in it which hinders their ability to swim.

C. Both A and B.

D. It's not risky as sea animals use plastic waste for their habitats.

2. Where does the majority of plastic waste end up?

A. It is burned for energy.

B. It is disposed in landfills.

C. It is dumped in the oceans.

D. It is recycled.

3. By what year do scientists predict plastic will outweigh fish in the ocean, pound for pound?

A. 2020.

B. 2050.

C. 2250.

D. 3000.

Answer Key

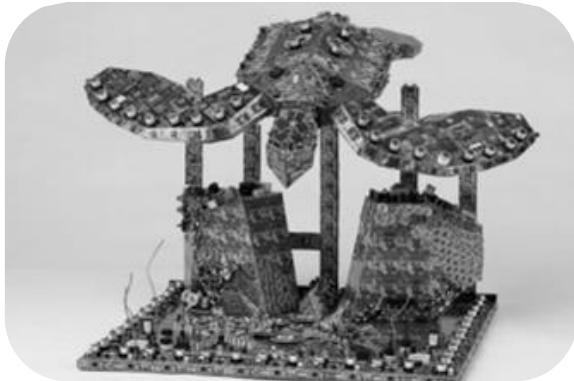
1. Plastic waste tends to float and bobbing on the surface can lead it to be mistaken for other marine life. Plastic bags are often mistaken for jellyfish by leatherback turtles and consumed. A 2019 study found that out of 408 leatherback sea turtle autopsy reports, plastic was found in a third of those cases. Marine life can also get tangled in nets, cords, and other plastic debris, which hinders their ability to swim and in some cases, can be a severe choking hazard.

2. Taking hundreds of years to break up, plastic is not going anywhere soon. While some of it does make it to landfills and recycling centers, a majority of it ends up in the ocean through deliberate dumping of garbage into waterways, inefficient waste infrastructure, and simple littering. Once in the water, the plastic waste is gathered up into enormous stretches of “plastic soup”.

3. A report done by the Ellen MacArthur Foundation found that there are over 150 million tons of plastic in the oceans today. That is about 1 ton of plastic for every 3 tons of fish. Keeping up a business-as-usual trend will have plastic outweighing fish in the ocean by 2050. (earthday.org)

2.2.4 Fill in the gaps with suitable words. Ask all types of questions to the text.

- | | |
|------------------------|------------------------|
| A. discarded | D. epic |
| B. driftwood | E. recycled |
| C. eco-friendly | F. jaw-dropping |



Recycled art is created using common things from junk material which makes it not just (1) _____ but (2) _____ as well.

Heather Jansch's passion lies within drawing and horses. She came out with (3) _____ horses which look like they are living things with feeling!

Ever imagined that boring floppy disks can be very great too? Nick Gentry has changed our mind with his sensational floppy disk paintings. The most (4) _____ part of his painting is perhaps the shiny circular part of the disk which mostly represents the eyes of the painted character.

If you have love for circuit board, you should remember Steven Rodrig. He's an innovative artist who restructures (5) _____ circuit boards and electronic parts to form extraordinary arts which are organic and mechanical at the same time. Without a doubt, he's a professional geek.

Yong Ho Ji is a Korean artist who utilizes used tires into (6) _____ masterpieces. His productions are mostly in the form of animals, but he also creates cool mutants which are either combined by two animals or an animal and a human. (hongkiat.com)

1 A Yes/No Question

2 A Wh-Question

3 A Tag Question

4 A Question to the Subject

5 A Choice Question

2.2.5 Pair the words that have similar meaning. Use them in the sentences of your own.

- | | | |
|------------------------|-------------------------|-----------------------|
| A. hazard | E. pollutant | I. recycling |
| B. irreparable | F. reclamation | J. suffocation |
| C. leakage | G. spillage | K. dander |
| D. irreversible | H. strangulation | L. contaminant |

2.2.6 Translate into English.

Уже несколько лет научное экологическое сообщество ищет технологии для решения такой проблемы, как загрязнение Мирового океана пластиковыми отходами. В настоящее время обнаружено пять огромных мусорных островов и неподсчитанное число маленьких, которые дрейфуют в водах Тихого, Атлантического и Индийского океанов и создают огромные риски для всех их обитателей. Некоторые животные и рыбы принимают микрочастицы пластика за фитопланктон и ошибочно поедают их. Птенцов морских птиц привлекают более крупные пластиковые кусочки ярких оттенков, молодые птицы проглатывают их, обрекая себя на мучительную смерть.

Экологическая проблема состоит еще и в изменении видового состава. Под грудой пластикового хлама невозможен нормальный теплообмен. Лучи солнца не достают воды, сокращается объем воздуха на загрязненном участке. Вымирает планктон. В поисках пищи мигрируют оставшиеся в живых рыбы. Это может привести к вымиранию одного вида птиц или рыб со всеми вытекающими последствиями для экосистемы и пищевой цепи. (gupecosistem.ru)

2.2.7 You work for 'The Bridgeton Herald' and have been asked to write a news report about Pepco Tanker oil spill. Follow the clues and include the following details.

News reports are formal and impersonal in style and they present facts accurately, objectively and unemotionally. Therefore, they do not include feelings or chatty descriptions unless these are part of someone's comments quoted in direct speech. A news report should consist of:

A. a short, eye-catching headline;

B. an introduction which summarises the event, giving information about the time, place and people involved;

C. a main body consisting of two or more paragraphs in which the event is described in detail; and

D. a conclusion which includes people's comments on the event, actions to be taken and future developments.

Date:	Tuesday night
Place:	Island of St Finn
Main events:	oil tanker hit the rocks chemicals leaked into the sea seabirds, marine life harmed approximately seventy miles of coastline damaged
Comments and action to be taken:	beach now closed residents angry one of the worst situations ever faced

2.2.8 Match each sentence 1–5 with the sentence A–E that logically follows it.

1. Nuclear materials are often used for medical treatment and diagnosis, as well as producing energy.

2. Nuclear waste disposal is extremely hazardous.

3. To make sure that it doesn't produce harmful radiations, practically all wastes are contained and managed in a carefully regimented way.

4. Humans are significantly impacted by exposure to levels of radiation.

5. One of the most recent goals with nuclear waste is to try and reduce the overall amount produced.

A. It is often an argument against the use of nuclear power.

B. Mostly, these recommendations take the form of using the least amount of nuclear materials possible to do the job needed.

C. Oftentimes, it leads to a number of birth and developmental disabilities.

D. Some types of radioactive waste clearly need deep and permanent burial.

E. The waste that comes out is dangerously radioactive and remains so for thousands of years. (conserve-energy-future.com)

2.2.9 Make complete idioms by matching the beginnings with the endings. Discuss what context you could use each of these idioms in.

1. a barrel of

2. a drop in the

3. garbage in,

4. in deep

5. oceans of

A. garbage out

B. laughs

C. ocean

D. something

E. waters

3 Loss of Biodiversity

3.1 Key Words

~ Nouns and noun phrases ~

biopiracy — the act of taking living things, especially plants, from an area or taking the knowledge of local people about these living things, and using them or it to make money for a particular company or organization. *“Pharmaceutical companies are accused of pillaging the natural world for new lucrative treatments, a trend known as biopiracy.”* (dictionary.cambridge.org)

bycatch — fish or other sea creatures that are caught unintentionally by people who are trying to catch other types of fish. *“My final point is about the growing problem of bycatches from fishing, which include porpoises, dolphins, birds, sharks and turtles.”* (dictionary.cambridge.org)

derelict land — abandoned territory. *“This links into Bristol's 2015 European Green Capital project to involve every primary school child in planting a tree: fruit trees and others to be planted in schools, parks, streets, cyclepaths, other transport routes, derelict land and more and to provide a long term legacy of not only more trees but also a “tree connection” for a whole new generation of Bristolians.”* (bishopstonsociety.org.uk)

dwindling forests — tracts of wooded land that steadily become smaller in size or amount. *“Shipments of lumber, furniture and other wood products sourced from the Asia-Pacific's protected but dwindling forests are worth hundreds of billions of dollars annually and on the increase.”* (apec.org)

endangered species — any species that is at risk of extinction because of a sudden rapid decrease in its population or a loss of its critical habitat. *“Habitat loss is among the biggest threats to*

conservation worldwide, so habitat restoration plays an increasing role in endangered species management.” (ucf.edu)

illegal wildlife trade — unauthorized by law commerce and trafficking of non-domestic animals or plants extracted from their natural environment and products made from them. *“Illegal wildlife trade is estimated to be a multibillion-dollar business involving the unlawful harvest of and trade in live animals and plants or parts and products derived from them.”* (fws.gov)

invasive species (also called introduced species, alien species, or exotic species) — any nonnative species that significantly modifies or disrupts the ecosystems it colonizes. *“Invasive species can cause great economic and environmental harm to the new area.”* (nationalgeographic.org)

manmade causes (man-made causes) — artificial, created by human beings reasons. *“The battle to understand the factors involved in the decline in Steller's sea lion numbers may provide better understanding of the complex marine ecosystem and the effects of fish stock changes (by both natural and man-made causes) on other marine mammals and sea birds.”* (eopugetsound.org)

overfishing — catching too many fish in an area of the sea, so that there are not many fish left there. *“Overfishing and bycatch are killing mass amounts of fish, and depleting fish species all over the world.”* (worldatlas.com)

poaching — trespassing and taking (game or fish) by illegal methods. *“Elephants, rhinos and many other species are facing unprecedented poaching levels that are driving them towards extinction.”* (talkinpets.com)

rare and vanishing plants and animals — elements of our natural heritage that are declining rapidly or are on the verge of disappearing. *“In the Bikin Valley, the Ussuriyskaya taiga shelters a number of vanishing and rare plant and animal species, the Amur tiger being the main one, the local population of which consists of about 40 animals.”* (nhpfund.ru)

taxidermy — the activity of cleaning, preserving, and filling the skins of dead animals with special material to make them look as if they are still alive. *“Taxidermy can be done on all vertebrate species of animals, including mammals, birds, fish, reptiles, and amphibians.”* (dictionary.cambridge.org)

threatened species — any species (including animals, plants, fungi, etc.) which are vulnerable to endangerment in the near future. *“More than 30 endangered and threatened species, including red-cockaded woodpeckers and indigo snakes, rely on longleaf pines for their habitat.”* (nwf.org)

urban sprawl — the spread of a city into the area surrounding it, often without planning. *“The fundamental aim of green belt policy is to prevent urban sprawl.”* (dictionary.cambridge.org)

vivisection — the use of living animals in tests that are intended to increase human knowledge of human diseases and the effects of using particular drugs. *“Animal Aid has long campaigned against vivisection and the involvement of medical research charities in this shocking practice.”* (victimsofcharity.org)

wildlife reservation (also a nature reserve, natural reserve, wildlife refuge, wildlife sanctuary, natural or nature preserve, or nature conservation area) — a protected area of importance for flora, fauna, or features of geological or other special interest, which is reserved and managed for purposes of conservation and to provide special opportunities for study or research. *“Melbourne will be a real discovery for open air recreation fans. The city features countless numbers of parks and gardens and its suburbs host famous wildlife reservations.”* (orangesmile.com)

~ Verbs and verb phrases ~

to be on the brink of extinction. *“Mankind's closest living relatives – apes, monkeys, lemurs, and other primates – are on the*

brink of extinction and in need of urgent conservation measures.”
(bushdrums.com)

to destroy animal habitats. *“Human-animal conflicts are common in the vast Southeast Asian archipelago, especially in areas where the clearing of rainforest to make way for palm oil plantations is destroying animals' habitats and bringing them into closer contact with people.”* (tmb.ie)

to establish national parks. *“The single most important method to protect biological diversity is to establish national parks, nature reserves, and other protected areas. Such efforts to protect biological diversity in their natural habitats are referred to as in situ or on-site conservation.”* (biologyreference.com)

to have a devastating impact on. *“Since the Democratic Republic of the Congo is home to some of the rarest endemic species of primates on Earth, there is a large underground market for poachers that has had a devastating impact on the wildlife and habitat.”* (internationalwildlifelaw.org)

to have a low survival rate. *“For good reason, it is against the law to release captive desert tortoises back into the wild. Released captives have a low survival rate and may pass diseases into the wild population with devastating consequences.”*
(tortoise.org)

to have an adverse effect on. *“The U.N. Convention on Biological Diversity (CBD) adopted the biosafety protocol in 2000 to address the safe transfer, handling, and use of living genetically modified organisms (GMOs) that could have an adverse effect on biodiversity.”* (saynotogmos.org)

to smuggle exotic animals. *“The «infamous reptile dealer» that led Tiger King producers to film Joe Exotic was arrested for smuggling exotic animals.”* (worldanimalprotection.us)

~ Idioms ~

beat around the bush — talk about something for a long time without coming to the main point. *“Too many people beat*

around the bush or sound too wishy-washy when it comes time to actually ask for the money.” (jobbound.com)

bed of roses — a pleasant or easy situation. *“This world is not going to be a bed of roses but we can have adult thinking about it; we do not need to sugar coat reality to make us seem happy.” (chatafrik.com)*

grow like a weed — grow very quickly. *“Unlike the U.S. where retail sales are shrinking, retail sales in China are growing like a weed.” (marketoracle.co.uk)*

make a mountain out of a molehill — make a small problem seem much bigger. *“You blow the importance of the decision way out of proportion, making a mountain out of a molehill.” (peaceofmindorganizing.com)*

root and branch — completely. *“Racism must be eliminated, root and branch.” (dictionary.cambridge.org)*

3.2 Tasks and Exercises

3.2.1 Use these words and expressions to complete the text.

A. natural habitats

E. on the brink of extinction

B. long-term

F. natural resources

C. way of life

G. indigenous people

D. destruction

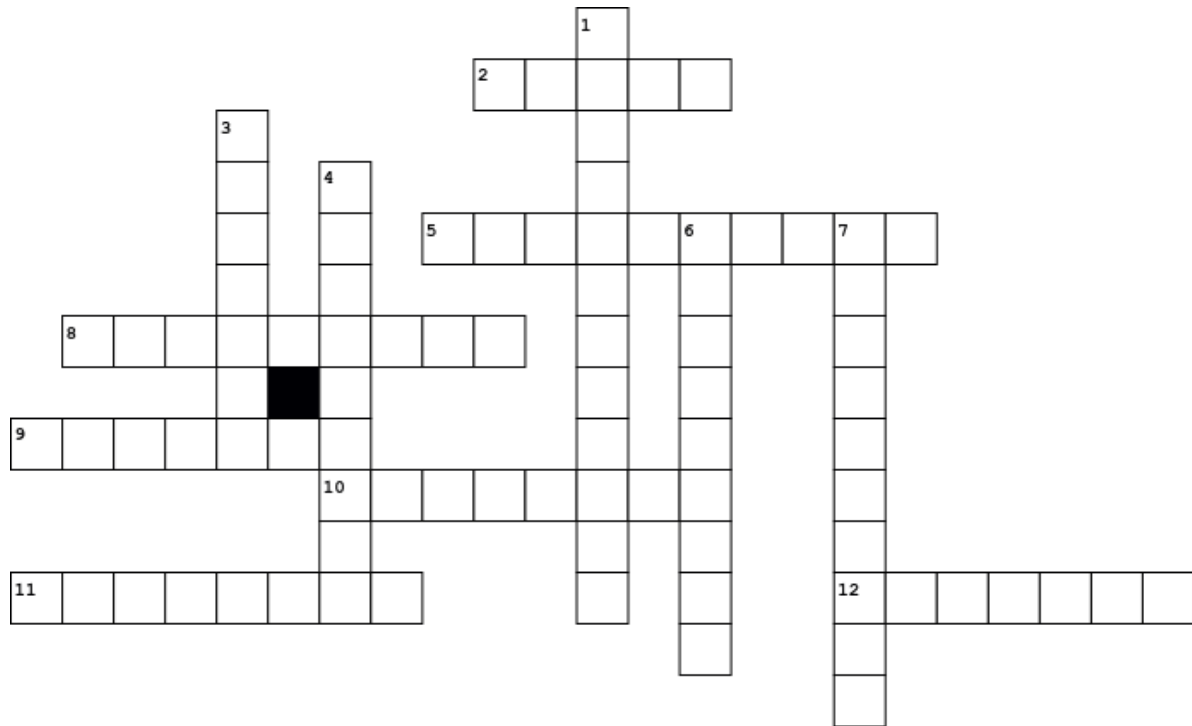
H. future generations

The (1) _____ of rainforest is very worrying. Thousands of acres of forest are being cut down every year and the (2) _____ of many animals are being destroyed. As a result, many species are (3) _____. This, in turn, threatens the traditional (4) _____ of many of the (5) _____ who live in some of the most remote areas of our planet. As with most environmental issues, we need to think more (6) _____ and realise that everything we do has implications for (7) _____. If we want to hand on our world to our children and grandchildren,

we simply can't continue to misuse the world's (8) _____ as we are at the moment.

3.2.2 Complete the crossword.

ANIMALS IN DANGER



Across

2. This is the reason thousands of elephants are slaughtered every year, a valuable thing used for making carved ornaments.

5. This term refers to a species that is likely to become endangered within the foreseeable future throughout all or a significant portion of its range.

8. This term relates to a species rapidly growing less in number.

9. It is where an animal lives, finds food, raises its young and allows the next generation to take over.

10. This adjective denotes exotic species often having a predatory or competitive advantage over native species.

11. The word is applied to name the illegal practice of trespassing on another's property to hunt or steal game without the landowner's permission.

12. It is an area of land where the animals, birds, and plants are officially protected.

Down

1. The word refers to protecting the environment and careful management of natural resources.

3. This term nominates a species when individuals of that species no longer exist.

4. This is a human activity that contaminates natural landscape with petroleum products, pesticides, and other chemicals, which destroys food sources and viable shelters for the creatures and plants of that area.

6. The term designates the art of stuffing and mounting animal skins with a lifelike effect.

7. This term defines a species that is in danger of extinction throughout all or a significant portion of its range.

3.2.3 Continue the lists given below. Create an interactive presentation on one of the nature reserves from your list.

The UK	The USA	?	The RF
Shotover Country Park	Yellowstone National Park	Wood Buffalo National Park	?
?	?	?	?
?	?	?	?

3.2.4 Make the sentences formal by using the suggested phrases. Make any other necessary changes to produce a correct sentence.

- A.** carbon dioxide emissions
- B.** endangered species
- C.** fossil fuels
- D.** pristine environment
- E.** shrinking habitats

1. A lot of wild animals have to survive in **smaller and smaller areas where they can live.**

2. Most of Patagonia is a **completely spotless area that's never been touched.**

3. **All that carbon-what's-it called gas put out by cars and factories** is a major problem.

4. These flowers here are **a type there's not many left of**, so it's illegal to pick them.

5. Burning **coal and oil and stuff like that** causes a lot of pollution.

3.2.5 Look at the example. Make sentences of your own on the topics below. Surf the Internet to find photos and illustrations.

Some animals are in danger of becoming extinct.

1. Dragon trees – disappear because of severe drought
2. Monkey puzzle trees – collect as a popular yard ornament
3. Polar bears – lose their natural habitat
4. Sago palm trees – dwindle for wide-spread logging and illegal harvesting
5. The world's rainforests – cut down
6. Vaquitas – catch by giant fishing nets

3.2.6 Work with a partner. Which ideas do you agree with most or least? Why?

1. “If everyone became a vegetarian, we would all be healthier and happier – and it'd be much better for the long-term future of the world.”

2. “Wearing fur is indefensible!”

3. “Time spent with cats is never wasted.”

4. “Vivisection is morally wrong. It may be true that it helps advance our knowledge, but it also damages the soul, the human spirit.”

3.2.7 Translate into English.

Что такое Красная книга? — Красная книга – список редких и находящихся под угрозой исчезновения или исчезнувших животных, растений и грибов. В этом документе постоянного действия содержится актуальная информация об их состоянии и численности, на основе которой задается вектор практических мер по охране и воспроизводству редких видов.

Когда появилась? — В середине XX века был основан Международный союз охраны природы. Эта организация занимается освещением проблем сохранения природы, и одним из фундаментальных результатов ее деятельности стало составление и публикация в 1963 году пилотного реестра редких и исчезающих видов диких растений и животных – Красной книги фактов (Red Data Book). В дальнейшем ее название упростилось до “Красной книги”. Обновленное второе издание вышло в 1966 году. С тех пор ведется постоянная работа по мониторингу и актуализации информации.

Почему не зеленая? Ведь речь о природе. — Выдвинул идею названия английский исследователь и один из

основателей фонда охраны дикой природы Питер Скотт. Страницы первого издания действительно были окрашены в красный цвет. Красный здесь – попытка привлечь внимание общественности к проблеме исчезновения видов, о которой мало задумывались. Позднее аналогичные Красные книги стали появляться во многих странах мира.

Из чего состоит? — Виды, занесенные в книгу, печатаются на листах разного цвета в соответствии с классификацией:

А. Находящиеся под угрозой исчезновения, спасение которых уже невозможно без специальных мер (красный цвет).

Б. Сокращающиеся, численность которых неуклонно уменьшается, но еще достаточна для выживания (желтый цвет).

В. Редкие, встречающиеся в небольшом количестве и на ограниченных территориях (белый цвет).

Г. Неопределенные, малоизвестные и не имеющие достоверной оценки (серый цвет).

Д. Восстановленные, спасенные от вымирания (зеленый цвет). (mgpu.ru)

3.2.8 Match the highlighted terms (1–3) with their definitions. Explain the meaning of the other two (4–5).

A. a close connection

B. the business of organizing holidays to places of natural beauty for tourists wishing to experience the natural environment without damaging it or disturbing its habitats

C. a place where birds and animals can live and be protected, especially from being hunted or dangerous conditions

(1) Ecotourism is growing three times faster than any other kind of tourism. A big trend for young people is “ecoteering”: a

combination of voluntary work and an environmentally-friendly holiday. Choices include **(4) replanting tropical forests** in India, working as a **(5) jungle tourist guide** in remote parts of Cambodia, or working with endangered wild animals. According to student Laurence Ford, who spent two months working at a wolf **(2) sanctuary** in New Mexico, USA, “The whole experience was awesome. I formed a real **(3) bond** with the wolves and I loved waking up to the sound of their howling!” What is your idea of “green” holiday?

3.2.9 Complete each sentence with an idiom.

- A. bed of roses
- B. beat around the bush
- C. grow like a weed
- D. make a mountain out of a molehill
- E. root and branch

1. Canadians rarely _____, they tend to get straight to the point while other cultures feel that it is more sophisticated to be less blunt.

2. Do not _____. You wrote one bad essay – it doesn't mean you're going to fail.

3. He supported _____ reform of the church.

4. It's no _____ teaching in a secondary school.

5. The city's generous Tax Abatement program has really helped this area _____.

3.2.10 Explain the meaning of the highlighted words in the sentences A–F. Discuss the questions that follow (1–3).

A. There is an insect that attacks the **roots** of the tree, causing it to die.

B. There are many problems affecting the country, but the **root** cause is the poor education system.

C. She worked as an actress for years without much success, but since winning the Oscar her career is **blossoming**.

D. The best time to go is in spring because of all the **blossom** on the trees.

E. Most people agree that the economic crisis **stemmed** from mistakes made by banks and the high level of private debt.

F. If you cut the **stems** of the flowers under water, apparently the flowers last a lot longer.

1. Public and private debt has increased in many countries. What do you think the root cause is?

2. Can you think of anyone whose career is blossoming?

3. What problem in your town, city or country annoys you most? What do you think it stems from?

4 Clean Energy Sources

4.1 Key Words

~ Nouns and noun phrases ~

bioenergy — energy made from biofuel or biomass (= any organic material which has absorbed sunlight and stored it in the form of chemical energy). *“A shift to modern bioenergy contributes to improved livelihoods and can reduce land degradation and impacts on ecosystem services.”* (researchgate.net)

biogas — naturally occurring gas that is generated by the breakdown of organic matter by anaerobic bacteria and is used in energy production. *“Germans prefer living near windmills, solar electricity installations or have biogas production to living next to coal fired or nuclear-powered plants.”* (betterfarming.com)

cleantech — technology that makes it possible to reduce or avoid harm to the environment, for example technology related to recycling, renewable energy, or methods of transport that do not cause pollution. *“Cleantech can be competitive with or even superior to its conventional equivalents.”* (dictionary.cambridge.org)

dam — a wall built across a river to stop the flow and collect the water, esp. to make a reservoir (= an artificial lake) that provides water for an area or can be used to make electricity. *“Hydropower can be a large-scale operation like the Hoover Dam, or it can be small-scale without a dam.”* (chariotenergy.com)

energy storage system — the device of converting electrical energy from power systems into a form that can be stored for converting back to electrical energy when needed. *“The Government is rightly focusing on energy security, exploration of multiple energy generation options and the updating of the energy*

storage and distribution systems to help ensure reliability of supplies.” (aoc.co.uk)

geothermal energy — thermal energy (the energy that determines the temperature of matter) generated and stored in the Earth. *“There is enough thermal nuclear energy in our Earth to fuel the engines of civilization for billions of years. Beneath our feet we have more usable geothermal energy resources than oil, coal, gas, and mineable nuclear fuels combined.” (idebate.org)*

renewable energy — energy that is produced by natural resources – such as sunlight, wind, rain, waves, tides, and geothermal heat – that are naturally replenished within a time span of a few years. *“Renewable energies are positioned as a good solution to fossil fuel depletion.” (sciencedirect.com)*

solar panel — a device that changes energy from the sun into electricity. *“With modern day living expenses increasing due to rising energy costs, having solar panels installed are a great way to save money and reduce your personal usage of non-renewable fossil fuels.” (topsolarquotes.com)*

tidal power — power that comes from the movement of the tide (= the rise and fall of the sea that happens twice every day) and that can be used especially for producing electricity. *“Wind farms and tidal power offer a good example of what can be achieved through renewable energy but they still rely on transporting electricity over long distances via the national grid.” (dictionary.cambridge.org)*

wind turbine — a large tall structure with blades that are blown around by the wind producing electrical energy. *“By the end of the 1980s, thousands of wind turbines had been installed off the coast of California. They were supported by federal and state laws that had encouraged the use of renewable sources of energy.” (historynewsnetwork.org)*

~ Verbs and verb phrases ~

to be replenished on a human timescale. *“Renewable energy is energy that is collected from renewable resources that are naturally replenished on a human timescale.”* (en.wikipedia.org)

to exploit the resource. *“Geothermal plants need to be built in places where the energy is accessible, which means that some areas are not able to exploit this resource.”* (twi-global.com)

to trap the sun's energy. *“The sun is a huge storehouse of abundant energy and with residential solar panels and commercial solar panels, we can trap the sun's energy and put it to good use, without entailing high costs or endangering our environment.”* (solar-power-advice.com)

~ Idioms ~

everything under the sun — everything one can reasonably imagine; many different things, often to the point of redundancy. *“I've tried everything under the sun on this stain, but I just can't get rid of it.”* (dictionary.cambridge.org)

go to bed with the sun — go to sleep at a particularly early hour, as around sundown. *“The locals go to bed with the sun and wake up at dawn.”* (ukrainianweek.com)

once in a blue moon — not very often. *“My sister lives in Alaska, so I only see her once in a blue moon.”* (dictionary.cambridge.org)

one's second wind — a return of strength or energy that makes it possible to continue in an activity that needs a lot of effort. *“We started to feel we couldn't walk any farther but when we saw the town in the distance we got our second wind.”* (dictionary.cambridge.org)

the salt of the earth — the most worthy of people; a very good, unpretentious, and morally sound person. *“Her family were 'salt of the earth people' and very supportive and encouraging of us as a young couple.”* (crimesagainstfathers.com)

4.2 Tasks and Exercises

4.2.1 Transcribe the following words.

1. biogas []

2. geothermal []

3. turbine []

4.2.2 Find the odd one out in each group of words. Explain why it doesn't fit.

1. natural, abundant, scarce, inexhaustible
2. oil refinery, oil slick, oil rig, oil tanker
3. sunlight, coal, air, wind

4.2.3 Test yourself.

1. Which of these is a non-renewable resource?
 - A. sun
 - B. wind
 - C. oil
2. Fossil fuels are ancient living organisms decayed by a complex anaerobic process. Which energy do they store?
 - A. solar
 - B. chemical
 - C. thermal
3. When crude oil is extracted from the soil, the environmental impact is...
 - A. low, because crude oil extraction is usually performed in harsh zones of the planet
 - B. moderate, because few contaminant gases are released to the atmosphere
 - C. high, because the ecosystem is damaged and crude oil reserves are depleted
4. When an oil tanker has an accident in the ocean, the environmental impact is...

A. high, because contamination of ocean ecosystems is high and difficult to avoid once the accident has occurred

B. moderate, because contamination of ocean ecosystems is large, but controllable

C. low, because accidental spillage of crude oil is easily controllable

5. 2% of the Sun energy the Earth receives turns into wind. Which energy do you think we can use from wind?

A. kinetic

B. luminous

C. geothermal

6. Solar energy, radiant light and heat from the sun, is harnessed using a range of ever-evolving technologies such as...

A. dams

B. photovoltaics

C. wind turbines

7. Since water is about 800 times denser than air, even a slow flowing stream of water, or moderate sea swell, can yield considerable amounts of energy. What converts the energy of falling water into electricity?

A. a hydroelectric plant

B. a windmill

C. a solar panel

8. Geysers are manifestations of the immense energy from the inner layers of our planet. Which type of energy is it?

A. chemical

B. nuclear

C. thermal

9. Which of the following is not an efficient use of energy?

A. turning the TV-set off altogether

B. using low energy light bulbs

C. boiling a full kettle for one cup of tea

10. Which of the following lowers your carbon footprint?

- A. riding a bike to University
- B. driving a car to the shops
- C. taking a plane to Spain

4.2.4 Translate into English.

ГЕЛИОЭНЕРГЕТИКА

Солнечное излучение считается перспективным направлением развития альтернативной энергетики. Среди преимуществ установки солнечных батарей указывают их минимальное влияние на окружающую среду, высокий КПД установок, отсутствие шума, возможность монтажа практически в любом регионе планеты.

Используя всего 1 кг кремния, можно получить столько энергии, сколько вырабатывает ТЭС при помощи 75 тонн нефти. Количество потребляемой электроэнергии значительно меньше числа вырабатываемой панелями, поэтому их окупаемость в ряде случаев происходит уже через год.

Однако солнечное излучение, как и любые альтернативные источники энергии, обладает рядом недостатков. Главный среди них – неравномерная плотность падения солнечного света на различных территориях в течение года, являющаяся причиной снижения эффективности солнечных батарей.

Прочими недостатками применения панелей являются необходимость периодической очистки поверхности от загрязнений, использование значительных земельных территорий для монтажа конструкций в промышленных масштабах, применение при производстве блоков опасных веществ, оказывающих влияние на окружающую среду. Кроме того, производители солнечных панелей не всегда предлагают готовые программы утилизации, оставляя открытым вопрос их хранения/переработки. (dvaelektrika.ru)

4.2.5 Complete the gaps (1–5) with five phrases (A–E).

- A. many people do not agree to build windmills in their near surroundings
- B. wind cannot be depleted
- C. wind is used to propel wind turbines
- D. wind speed is also not uniform every time
- E. they can produce significant amounts of clean energy

Wind Energy

Wind energy has become quite popular over the past few decades. Through mechanical power, (1) _____ which turn electric generators in order to produce energy.

The first windmill for electric power generation was built in 1887 in Glasgow, Scotland. Since then, extensive research has been done on the topic of wind energy, making it much more efficient over time. Windmills are regarded as a main pillar of energy production in the future since (2) _____. Moreover, they are relatively quiet and easy to operate, with low levels of emissions and dangers for accidents. Wind energy is renewable since (3) _____.

Some people, however, complain that windmills lead to visual pollution in the environment. This makes it hard to expand the use of wind power because (4) _____. Besides, it requires high investment, and (5) _____, which affects the generation of power. (environmental-conscience.com)

4.2.6 Complete each sentence with an idiom in the correct form.

- A. everything under the sun
- B. get one's second wind
- C. go to bed with the sun

D. once in a blue moon

E. the salt of the earth

1. _____, I buy a fashion magazine, just to see what people are wearing.

2. Don't worry, even with all his success, Robert is still _____. He donates most of his salary to charity and volunteers weekly at the hospital.

3. I planned to stop working at 9, but then I _____ and just kept going.

4. Mom _____, so we can definitely sneak out and go to the party.

5. We were only going to be camping for two nights, but she still insisted on bringing _____ along with us.

5 Need for Accelerated Environmental Action

5.1 Key Words

~ Nouns and noun phrases ~

carbon-neutral (carbon-zero) (business) — doing things such as planting trees to reduce carbon dioxide by the same amount as it produces it. *“Norway plans to become totally carbon-neutral by 2050.”* (dictionary.cambridge.org)

circular economy — an economic system aimed at minimizing pollution, eliminating waste and the continual use of resources. *“The fundamental pillar of the circular economy is to ensure the sustainability of our planet.”* (ambientech.org)

conservationist — someone who works to protect the environment from the damaging effects of human activity. *“While politicians and oil magnates argued the case for exploitation, conservationists fought to keep the region pristine.”* (dictionary.cambridge.org)

eco-label /'i:kəʊ.leɪ.bəl/ — an official symbol that shows that a product has been designed to do less harm to the environment than similar products. *“The public can be guided towards more responsible ways of being consumers, and eco-label is one way in which this can be done.”* (dictionary.cambridge.org)

education resource — a freely accessible text, media, or digital asset that is useful for teaching, learning, and assessing as well as for research purposes. *“DOEE has established an environmental education resources center to act as a 'one-stop-shop' for teachers and other environmental educators seeking high quality environmental education materials.”* (doee.dc.gov)

environmentalist — a person who is interested in or studies the environment and who tries to protect it from being damaged by human activities. *“The common interests of environmentalists and*

animal rights activists are more important than their ideological differences concerning the value of species versus individual animals.” (dictionary.cambridge.org)

freeganism — the practice of taking and using food or other items that other people, shops, or organizations have thrown away, so that they are not wasted. *“Freeganism is not only a protest at mass consumerism but a challenge to the way vital resources are wasted on a daily basis.”* (dictionary.cambridge.org)

government funding — money provided by the government to pay for something. *“One step is to lay the foundation for innovation by drastically increasing government funding for research on clean energy solutions.”* (earthyb.com)

green audit — an official examination of the effects a company or other organization has on the environment, especially the damage that it causes. *“All new projects will be subject to a green audit to ensure they are environmentally friendly.”* (dictionary.cambridge.org)

international environmental organizations — organizations that operate around the world in an effort to analyze, monitor, and conserve the global environment against misuse or degradation or lobby for these goals. *“Marine ecologists and international environmental organizations such as Greenpeace continue to sound the alarm bells that over-fishing and the dumping of industrial toxic waste are the biggest threats facing the marine ecosystems today.”* (worldpress.org)

low emission zone — an area of a city that vehicles that produce more than a low level of harmful emissions (= waste gases) must pay to enter. *“Some British cities are looking into setting up low emission zones that could ban older vehicles.”* (dictionary.cambridge.org)

rainwater harvesting — the technique of collection and storage of rain into natural reservoirs, tanks, cisterns and other natural and artificial storage units. *“Learning methods for*

harvesting rainwater could ultimately prove to be the key to future life on earth. Frighteningly, less than 1% of the world's water can be used by humans for drinking, and the planet has been working with roughly the same amount of fresh water for millions of years.” (greenglobaltravel.com)

slow city — a town or city that tries to encourage a good environment, for example by providing a lot of parks and using food that is grown in the local area. *“Cittaslow is an international movement of 'slow cities', its symbol being a snail. The movement was first launched in Italy in 1999 and, based on a charter of 70 obligations, pushes cities and municipalities to develop actions revolving around improving quality of life, encouraging local businesses and economies, and respecting the surrounding landscape.”* (ccre.org)

volunteer — a person who does something, especially helping other people, willingly and without being forced or paid to do it. *“This environment volunteer project will take you to the iconic sandy desert landscape of the Arabian Peninsula. Working alongside scientists from the Dubai Desert Conservation Reserve, you will be part of a small international team, monitoring Arabian oryx, Gordon's wildcat and other desert species.”* (traveldragon.com)

world heritage site — a landmark or area with legal protection by an international convention administered by the United Nations Educational, Scientific and Cultural Organization (UNESCO). *“Natural heritage sites are restricted to those natural areas that (1) furnish outstanding examples of Earth's record of life or its geologic processes, (2) provide excellent examples of ongoing ecological and biological evolutionary processes, (3) contain natural phenomena that are rare, unique, superlative, or of outstanding beauty, or (4) furnish habitats for rare or endangered animals or plants or are sites of exceptional biodiversity.”* (britannica.com)

~ Verbs and verb phrases ~

to allocate funds. *“Budgetary funds for environmental purposes are allocated according to estimates for environmental measures annually approved by the city chief executive.”* (oecd.org)

to upcycle — to make new furniture, objects, etc. out of old or used things or waste material. *“The book illustrates how to upcycle by making arts and crafts from everyday items.”* (dictionary.cambridge.org)

~ Idioms ~

clear the air — to remove the bad feelings between people. *“I had a massive argument with Sue, but at least it has cleared the air.”* (dictionary.cambridge.org)

find out/see how the land lies — to wait until you have all the available information about a situation before you take any action. *“Before the Brexit vote many people had been delaying taking action until the referendum result was revealed so they could see how the land lies.”* (propertyinvestortoday.co.uk)

move heaven and earth — do everything you can to achieve something. *“He'll move heaven and earth to get it done on time.”* (dictionary.cambridge.org)

reduce, reuse, recycle — said to encourage people to waste less, by using less and using things again, in order to protect the environment. *“The collection, entitled Greenology, uses products such as bamboo, organic cotton and organic dyes to promote its 'Go Green' message, which is represented under the four ranges: Reduce Reuse Recycle, Stop Global Warming, Go Organic and Save Endangered Species.”* (bodymagazine.us)

the polluter pays principle — the idea that the person or organization that causes pollution should pay for the damage it causes. *“One of the core principles of sustainable development is the Polluter Pays Principle.”* (dictionary.cambridge.org)

2. In some countries, building is restricted or completely banned in the **area of farmland or woods and parks which surround a community.**

3. Many shops now sell fruit and vegetables which are **cultivated naturally, without using any chemical fertilizers or pesticides.**

4. More and more companies are using **boxes, cartons, and cans which can easily be decomposed by organisms such as bacteria, or by sunlight, sea, water, etc.,** for their products.

5. We should all try to **process waste material so that it can be used again.**

5.2.3 Match a word on the left with a word on the right to make common expressions and use them in the sentences below.

1. unleaded	A. bank
2. public	B. friendly
3. recycling	C. energy
4. bottle	D. point
5. environmentally	E. transport
6. renewable	F. petrol

1. Make sure your car runs on _____ and your home uses sources of _____.

2. Use _____ instead of taking your car.

3. Take glass, paper and plastic to a _____ and your empty bottles to a _____.

4. Buy _____ products whenever possible.

5.2.4 Look at these newspaper headlines, note the useful phrases and match them with their definitions. Give a short talk on one of the topics.

<p>1. GOVERNING PARTY IN BID TO IMPROVE GREEN CREDENTIALS*</p>	<p>2. SUSTAINABLE DEVELOPMENT* THE ONLY ANSWER FOR EMERGING COUNTRIES, SAYS UN COMMISSION</p>
<p>3. PIECEMEAL CONSERVATION* INEFFECTIVE – NATIONAL POLICY NEEDED, SAYS NEW REPORT</p>	<p>4. PROPHETS OF DOOM AND GLOOM* SHOULD LISTEN TO SCIENTIFIC EVIDENCE, SAYS PRIME MINISTER</p>

A. carrying out conservation one bit at a time, with no overall plan

B. people who always make the most depressing or pessimistic forecasts for the future

C. development of industry, etc. which does not threaten the environment or social and economic stability

D. reputation for positive support of the environment

5.2.5 Make conditional sentences based on the information in these situations.

1. We saw a shocking TV programme about how much water is wasted. And we changed our habits.

2. Customers should buy from companies that behave in an eco-friendly manner. Companies will have the incentive to contribute to the protection of our environmental system.

3. The students attended an educational webinar that introduced them to flora and fauna in different regions of the world. They learnt that coral bleaching is threatening reefs as climate change shifts the environments.

4. Industries should pay high fines for air pollution. They should use environmentally acceptable equipment.

5. Choose foods coming from local farms! Transporting food does not require a high amount of fuel.

6. When shopping, buy items that use minimal packaging. It reduces plastic pollution.

7. Use energy-efficient light bulbs instead of regular ones. It will be good both for the environment and your wallet!

5.2.6 Think over at least 15 different ways to take action and save our water supplies. List your ideas under these two headings.

97.5% of the world's water is locked in seas and oceans, too salty for human use. And most of the remaining 2.5% is in the ice caps. So we humans depend on the tiny bit available as fresh water – an essential natural resource for life. We should care about...

Saving water

Collecting water

5.2.7 Which international environmental organizations use these logos? Make a report on them.



5.2.8 Comment upon the following quotations.

~ 1 ~



John F. Kennedy, in full John Fitzgerald Kennedy, byname JFK, (May 29, 1917 – November 22, 1963) — 35th president of the United States (1961–63), who faced a number of foreign crises, especially in Cuba and Berlin, but managed to secure such achievements as the Nuclear Test-Ban Treaty and the Alliance for Progress. (britannica.com)

“It is our task in our time and in our generation to hand down undiminished to those who come after us, as was handed down to us by those who went before, the natural wealth and beauty which is ours.”

~ 2 ~



Franklin D. Roosevelt, in full Franklin Delano Roosevelt, byname FDR, (January 30, 1882 – April 12, 1945) — 32nd president of the United States (1933–45). (britannica.com)

“The nation that destroys its soil destroys itself.”

~ 3 ~



Derek Wall (born May 26, 1965) — a British politician and former Principal Speaker of the Green Party of England and Wales as well as an environmental and social activist, academic and writer whose work concentrates on eco-socialism. (greenpolitics.fandom.com)

“How to be green? Many people have asked us this important question. It's really very simple and requires no expert knowledge or complex skills. Here's the answer. Consume less. Share more. Enjoy life.”

5.2.9 Complete each sentence with an idiom.

- A. clear the air
- B. move heaven and earth
- C. Reduce Reuse Recycle
- D. see how the land lies
- E. the polluter pays principle

1. Ten to one he's in tortures of doubt, and would give a fortune to have five minutes' talk alone with you to _____ and get your version of the short cut incident.

2. The discussions have not solved the problem, but they have helped to _____ to a certain extent.

3. The Norwegian Parliament have decided on a goal that all new cars sold by 2027 should be zero (electric or hydrogen) or low (plug-in hybrids) emission. This is a very ambitious but feasible goal with the right policy measures. The Parliament will reach this goal with a strengthened green tax system based on _____, not a ban.

4. We promoted our _____ ethos by making pencil tins from household goods rather than buying new ones and have created posters for the dining hall to discourage children throwing away leftovers as part of our waste minimisation target.

5. When you truly love someone, you'll _____ to show them how much you care.

References

1. Cambridge Dictionary, available at: <https://dictionary.cambridge.org> (Accessed 16.11.2021).
2. Encyclopædia Britannica, available at: <https://www.britannica.com> (Accessed 16.11.2021).
3. Hamilton Clive & Macintosh Andrew & Patrizi Nicoletta & Bastianoni Simone (2019), “Environmental Protection and Ecology”, *Reference Module in Earth Systems and Environmental Sciences*, 4, 319-326. <https://doi.org/10.1016/B978-0-12-409548-9.11125-X>.
4. Law Kathy S. & Stohl Andreas (2007), “Arctic Air Pollution: Origins and Impacts”, *Science*, 315, 1537-1540. <https://doi.org/10.1126/science.1137695>.
5. Likens Gene E. & Bormann F. Herbert (1974), “Acid Rain: A Serious Regional Environmental Problem”, *Science*, 184, 1176-1179. <https://doi.org/10.1126/science.184.4142.1176>.
6. Merriam-Webster Dictionary, available at: <https://www.merriam-webster.com> (Accessed 16.11.2021).
7. Metz William D. (1977), “Ocean Thermal Energy: The Biggest Gamble in Solar Power”, *Science*, 198, 178-180. <https://doi.org/10.1126/science.198.4313.178>.
8. Soroye Peter & Newbold Tim & Kerr Jeremy (2020), “Climate change contributes to widespread declines among bumble bees across continents”, *Science*, 367, 685-688. <https://doi.org/10.1126/science.aax8591>.
9. Stubbins Aron & Law Kara & Muñoz Samuel & Bianchi Thomas & Zhu Lixin (2021), “Plastics in the Earth system”, *Science*, 373, 51-55. <https://doi.org/10.1126/science.abb0354>.

Учебное издание

Гаврилова Ирина Александровна

**ЛЕКСИЧЕСКИЙ МИНИМУМ ПО ТЕМЕ
“ENVIRONMENTAL PROTECTION AND ECOLOGY”**

На английском языке

Ответственный редактор

Е. Ю. Никитина

Компьютерная верстка

В. М. Жанко

Подписано в печать 18.11.2021. Формат 60x84 1/16. Усл. печ. л. 3,78.
Тираж 60 экз. Заказ 581.

Южно-Уральский научный центр Российской академии образования.
454080, Челябинск, проспект Ленина, 69, к. 454.

Учебная типография Федерального государственного бюджетного
образовательного учреждения высшего образования «Южно-Уральский
государственный гуманитарно-педагогический университет». 454080,
Челябинск, проспект Ленина, 69.