

Министерство образования и науки РК

КГКП «Геологоразведочный колледж» г. Семей



Зам.директора по УиПР Бурмистров А.Б. «Утверждаю»

*Базовые (опорные) конспекты 2,3 курс
по предмету: Профессиональный английский язык
для специальности*

**1514000 «Экология и рациональное использование природных
ресурсов »**

Подготовлены преподавателями
английского языка

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Рассмотрены на заседании
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Омарбекова А.Т.

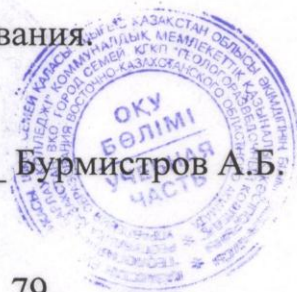
г. Семей

Базовые (опорные) конспекты составлены в соответствии с рабочим учебным планом, утвержденном в 2010 году, и рабочими учебными программами, утвержденными в 2010 году.

Рекомендованы учебной частью для использования.

Зам.директора по УПР _____

Бурмистров А.Б.



Общее количество часов на предмет: _____ 79 _____

В том числе

I семестр ____ - _____

II семестр ____ - _____

III семестр __ 11 __

IV семестр __ 26 _

V семестр __ 16 __

VI семестр __ 26 __

VII семестр _____

VIII семестр _____

Количество обязательных контрольных работ 2 в 4, 6 семестрах

Итоговый контроль - экзамен

**Тематический план дисциплины «Профессиональный английский язык»
для специалистов среднего звена**

Общее количество часов – 79 часов на курс.

На II курс – 37 час.

На III курс – 42 час.

№ п/п	Наименование тем	Количество учебного времени при очной форме обучения	
		Всего	в том числе практических
1	2	3	
2 курс III сем			
1.	Раздел 1. Mining Education (Горное образование). Введение. Структура повествовательного предложения. The first mining school in Russia	2	2
2.	Общие и специальные вопросы. Разделительный вопрос. Mining and geological education in Russia.	2	2
3.	Времена группы Simple. Higher geological education in Russia.	2	2
4.	Времена группы Perfect. Mining Education in Great Britain. (Part I)	2	2
5.	Времена группы Perfect. Mining education in Great Britain. (Part II)	2	2
2 курс IV сем			
6.	Модальные глаголы и их эквиваленты. Mining Education in the USA.	2	2
7.	Имя числительное. Mining Education in Kazakhstan.	2	2
8.	Раздел 2. Geological Sciences (Геологические науки) Словообразование. Meet the sciences. What a science.	2	2
9.	Словообразование. Geological Sciences.	2	2
10.	Времена группы Continuous. Outstanding Russian and Kazakh Scientists in Geology and Mining. А.М. Terpigorev. А.Р. Karpinsky. К.И. Satpayev.	2	2
11.	Раздел 3. Elements and Minerals (Элементы и минералы) Степени сравнения прилагательных. Elements. The Basic Characteristics of Elements. Oxygen and Hydrogen.	2	2
12.	Неопределенный и определенный артикль. Minerals and Gemstones.	2	2
13.	Неопределенный и определенный артикль. Minerals and Gemstones.	2	2
14.	Неопределенный и определенный артикль Quartz. Feldspars.	2	2
15.	Множественное число существительных. Ground Water.	2	2
16.	Страдательный залог. Geologic Hazards.	2	2
17.	Обязательная контрольная работа	2	2
18.	Прием внеаудиторного чтения.	3	3
	Всего по дисциплине за 2 курс	37	37

III курс V сем	Раздел 1. Wastes		
1.	Конструкция there is/ there are. Nature protection. Geologic problems with Waste Disposal	2	2
2.	Конструкция there is/ there are. Nature protection. Geologic problems with Waste Disposal	2	2
3.	Количественные местоимения many/ much, a few/ a little. Solid wastes	2	2
4.	Количественные местоимения many/ much, a few/ a little. Solid wastes	2	2
5.	Функции Participle II. Liquid wastes	2	2
6.	Функции Participle II. Liquid wastes	2	2
7.	Напечие. Gaseous wastes	2	2
8.	Напечие. Gaseous wastes	2	2
III курс VI сем			
9.	Герундий. Air pollution	2	2
10.	Герундий. Air pollution	2	2
11.	Функции Participle I. Acid rains. Depletion of the Ozone Layer.	2	2
12.	Функции Participle I. Acid rains. Depletion of the Ozone Layer.	2	2
13.	Функции Participle I. Depletion of the Ozone Layer.	2	2
14.	Функции инфинитива. Radioactive wastes	2	2
15.	Функции инфинитива. Radioactive wastes	2	2
16.	Сравнение функций причастия и герундия. Mining wastes	2	2
17.	Сравнение функций причастия и герундия. Mining wastes	2	2
18.	Polution Solutions	2	2
19.	Polution Solutions	2	2
20.	Обязательная контрольная работа	2	2
21.	Повторительно-обобщающий урок	2	2
	Всего по дисциплине за 3 курс	42	42
	Всего за курс обучения	79	79

Раздел 1 Mining Education (Горное образование) (14 часов)

Урок 1. Введение. Структура повествовательного предложения. The first mining school in Russia

Структура повествовательного предложения

В повествовательном предложении в английском языке существует твердый порядок слов.

0	1	2	3			4
Обстоя- тельство времени	Подлежа- щее	Сказуемое	Дополнение			Обстоя- тельство места, времени
			косвенное	прямое	предложное	
a)	The Academy	gives	students	excellent education	in general and special subjects.	
б) Today	our lectures	begin				at 10 a.m.
в)	The librarian	gave	us	books		2 days ago.
г) In 1925	the academy	had	-	well- equipped laboratories.		

The First Mining School in Russia

The Moscow Mining Academy was established in 1918. The main task of the Academy was to train mining engineers and technicians, to popularize technological achievements, to work on important problems of mining and metallurgical engineering and to direct scientific research.

There were three departments in the Academy: mining, geological prospecting and metallurgy. The Moscow Mining Academy introduced a new course in coal mining mechanization. The two scientists A. M. Terpigorev and M. M. Protodyakonov wrote the first textbook on machinery for mining bedded deposits.

In 1925 the Moscow Mining Academy was one of the best-known educational institutions in Russia. It had well-equipped laboratories, demonstration rooms and a library.

The Academy established close contacts with the coal and ore mining industries.

The rapid growth of the mining industry called for the training of highly-qualified specialists.

The Academy alone could not cope with the problem of training specialists. In 1930 the Moscow Mining Academy was transformed into six independent institutes.

Ответьте на вопросы:

1. What was the main task of the Academy?
2. What new course did the Academy introduce?
3. Were there three or four departments at the Academy?
4. What industries did the Academy establish contacts with?
5. Who wrote the first textbook on machinery for mining bedded deposits?
6. Why was the Academy transformed into six independent institutes?

Урок 2. Общие и специальные вопросы. Разделительный вопрос. Mining Education in Russia.

Общие и специальные вопросы. Разделительный вопрос.

В английском языке существуют несколько видов вопросов: общие, специальные, разделительные и альтернативные.

Общий вопрос не содержит вопросительного слова, всегда требует ответа «да» или «нет» и начинается со вспомогательного (модального) глагола.

Ex.: - **Is** Russia rich in mineral resources?

- **Yes, it is.**

- **Can** you speak English?

- **No, I cannot.**

Порядок слов в общем вопросе следующий: на первом месте всегда находится вспомогательный (модальный) глагол, на втором всегда подлежащее, на третьем смысловой глагол (если есть), на четвертом дополнение и остальные второстепенные члены предложения.

Специальные вопросы начинаются с вопросительного слова и требуют полного ответа.

Вопросительные слова: Where, when, who, what, which, how и т.д.

Ex.: - **What** do you study at the college?

- I study ecology.

Порядок слов в специальном вопросе следующий: на первом месте всегда находится вопросительное слово, на втором всегда вспомогательный (модальный) глагол, на третьем подлежащее на четвертом смысловой глагол (если есть), затем дополнение и остальные второстепенные члены предложения.

Разделительный вопрос состоит из утвердительного и отрицательного предложений и краткого вопроса, имеющего то же подлежащее (всегда местоимение), и вспомогательный глагол. Если предложение отрицательное, то краткий вопрос утвердительный, и наоборот – если предложение утвердительное, то краткий вопрос содержит отрицание. Краткий вопрос переводится обычно как «не так ли», «не правда ли».

Ex.: - This **is** a good idea, **isn't it**?

They don't understand us, **do they**?

Mining and Geological Higher Education in Russia

In Russia young people get mining education at special institutes which train geologists and mining engineers for coal and ore mining. The total number of students of an institute includes full-time students, part-time students and postgraduate students.

At the geological institutes the students specialize in geology, the science which deals with different problems connected with the Earth, its history, the study of rocks, their physical and chemical properties. One of the main tasks of geology is to prospect, discover and study the deposits of useful minerals.

Geology is both a theoretical and an applied science.

The outstanding Russian geologist V. A. Obruchev says that geology is the science of the Earth which reveals to us how the earth took shape, its composition and its changes. Geology helps prospect for ores, coal oil, salt and other useful minerals.

Higher mining schools offer courses in mining technology, machinery and transport, hydraulic engineering, electrical engineering, industrial electronics, surveying, geodesy, information technology, etc.

Computer science is also of great importance. The course aims at providing students with understanding how software and hardware technology helps solving problems.

Laboratory work is an important part in training specialists.

The students go through practical training at mines, plants and other industrial enterprises.

Students graduate from mining and geological higher schools as mining engineers, mining mechanical engineers, ecologists, mining electrical engineers, geologists, economists and managers for mining industry.

Ответьте на следующие вопросы:

1. Where can one get mining education in Russia?
2. What does geology study?
3. How did Obruchev define geology?
4. Does geology deal only with prospecting for useful minerals?
5. What specializations does the Mining Institute offer?
6. What subjects do the students study?
7. Where do the students go through practical training?
8. What does the computer course aim at?

Урок 3. Времена группы SIMPLE Mining Education in Russia

The Present Simple Tense (Настоящее Простое Время)

Present Simple образуется от инфинитива без частицы «to». В 3м лице единственном числе к инфинитиву добавляется окончание – s/ -es.

I read We read
He reads You read
She reads They read

Вопросительная форма Present Simple образуется при помощи вспомогательного глагола *do/does*, который ставится перед подлежащим.

Do you speak English?
Does he live in London?

Отрицательная форма образуется при помощи вспомогательного глагола *do/ does* и частицы *not*.

I don't play the piano.
He doesn't read books every evening.

Present Simple - настоящее неопределённое время, употребляется для обозначения обычных, регулярно повторяющихся или постоянных действий.

The Past Simple Tense (Прошедшее простое время)

В английском языке глаголы делятся на правильные и неправильные (Regular and Irregular verbs).

Правильные глаголы образуют Past Simple путем добавления окончания –**ed/ -d** к форме глагола.

I worked We worked
He worked You worked
She worked They worked
It worked

Вопросительная форма образуется при помощи вспомогательного глагола *did*, который ставится перед подлежащим.

Did you live in Semey last year?

Отрицательная форма образуется при помощи вспомогательного глагола **did** и частицы **not**.

I didn't live in Semey last year.

В предложениях с **Past Simple** часто употребляются такие обстоятельства времени, как

Yesterday – вчера

Last week – на прошлой недели

Two days ago – 2 дня назад

In 1998 – в 1998

I watched an interesting film yesterday.

The Future Simple Tense (Будущее простое время)

Future Simple образуется при помощи вспомогательного глагола **shall/will** и основной формы глагола.

I shall read We shall read

He will read You will read

She will read They will read

It will read

Вопросительная форма образуется путем постановки вспомогательного глагола **shall/will**, который ставится перед подлежащим.

Will you go to the cinema tomorrow?

Отрицательная форма образуется путем постановки вспомогательного глагола **shall/will** и частицы **not**.

I will not go to the cinema tomorrow

В предложениях с **Future Simple** часто употребляются такие обстоятельства времени, как

tomorrow – завтра

next week (month, year) –на следующей недели (в следующем месяце, году)

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7. Where do the students go through practical training?
8. What does the computer course aim at?

**Урок 4. Времена группы Perfect.
Mining Education in Great Britain.**

**Времена группы PERFECT
(Совершенные времена)**

**The Present Perfect Tense
(Настоящее совершенное время)**

have/has + Past Participle (причастие прошедшего времени)

The Present Perfect Tense обозначает действие, которое завершилось к настоящему моменту или завершено в период настоящего времени (в этом году, на этой неделе).

We have bought a new TV set. Мы купили новый телевизор.

В вопросах **have/has** ставится перед подлежащим, в отрицательных предложениях **not** ставится после **have/has**.

Have you seen her today? – No, I **haven't seen** her yet.

**The Past Perfect Tense
(Прошедшее совершенное время)**

Past Perfect употребляется для выражения действия, которое закончилось до какого-то момента времени в прошлом, а также действия, которое имело место ранее другого действия в прошлом.

had + Past Participle (причастие прошедшего времени)

I didn't go to see the film last night because I **had seen** it before.—

Я не пошла вчера в кино, потому что я видела его раньше.

В **вопросительной форме** вспомогательный глагол ставится перед подлежащим:

Had he finished his work before they arrived?

В **отрицательной форме** отрицание **not** ставится после вспомогательного глагола:

He had *not* (hadn't) finished his work before they arrived.

Mining Education in Great Britain (Part 1)

In Great Britain the students get mining education at special colleges and mining departments of universities.

For example, the Mining Department at the University of Nottingham is one of the foremost teaching and researching schools in Great Britain.

The aim of training at the University is to give the student an understanding of applied science based on lectures, tutorial system, laboratory work and design classes. The laboratory work trains the student in accurate recording of observations, drawing of logical conclusions and presentation of scientific reports.

At Nottingham there are two types of laboratories, general and specialized.
During the final two years of the course the student gets a comprehensive training in surveying.
The students have practical work in survey camps during two weeks.
British educational system is fee-paying.

Ответьте на следующие вопросы:

1. Where can one get mining education in Great Britain?
2. Is the Mining Department at the University of Nottingham one of the foremost research mining schools in Great Britain?
3. Will the students have practical work in survey camps or in the laboratories?

**Урок 5. Времена группы Perfect.
Mining Education in Great Britain**

The Future Perfect Tense

Future Perfect употребляется для выражения действия, которое совершится до определенного момента в будущем.

shall/ will have + Past Participle (причастие прошедшего времени)

- I will (shall) have finished my work by 5 o'clock. — Я закончу работу к 5 часам.

В вопросительной форме вспомогательный глагол будущего времени ставится перед подлежащим:

- Will he have finished his work by 5 o'clock? — Он закончит работу к 5 часам?

В отрицательной форме отрицание **not** ставится после вспомогательного глагола будущего времени:

- He will not have finished his work by 5 o'clock. — Он не закончит работу к 5 часам.

Mining Education in Great Britain (Part 2)

At present in Great Britain there are universities and colleges which give instruction in mechanical engineering, mining, metallurgy, etc. these institutions provide full-time and part-time education. Technical colleges confer diplomas on college graduates.

A university graduate leaves with the degree of Bachelor of Arts or Bachelor of Science.

The University in Cardiff is one of the largest in Wales. There is the Mining Engineering Department in the University of Wales. The Department deals with the extractive industries such as coal and metalliferous mining, quarrying and oil technology.

After graduating from the college a student can enter the University.

At the Mining Department students may take several courses such as geology, mining engineering, mine surveying, quarrying, management studies and other.

The courses are based on an intensive tutorial system. It means that students are allotted to members of teaching staff for individual tuition.

There is also the Department of Mining Engineering in the Newcastle University. The Department trains industrially experienced engineers through various advanced courses in rock mechanics and surface excavation.

At the University a student studies for three or four years.

Some students can live in colleges, halls of residence, or other accommodation provided by their university.

Ответьте на следующие вопросы:

1. Are there many technical institutions in Great Britain?
2. Is the Mining Engineering Department the only one in the University of Wales?
3. Does the Mining Engineering Department deal only with metalliferous mining?
4. Can a student enter the university after he has graduated from the college?
5. What courses are of special importance for mining engineers?

Урок 6. Модальные глаголы и их эквиваленты. Mining Education in the USA

Модальные глаголы и их эквиваленты

Модальные глаголы выражают не действия, а отношение говорящего к действиям или состояниям. В английском языке существуют следующие модальные глаголы: can, may, must и т.д.

Глагол **can** (мочь, уметь)

Present	Past	Future
can	could	will be able to

Глагол **can** выражает физическую или умственную способность совершения действия.
I can swim.

Глагол **may**(можно)

Present	Past	Future
may	might	will be allowed to

Глагол **may** имеет значение возможности совершения действия в зависимости от разрешения или вероятности его совершения.

May I come in?

Глагол **must** (должен)

Present	Past	Future
must	had to	will have to

Глагол **must** употребляется для выражения необходимости совершения действия, а также для выражения приказа или совета.

He must do this work.

Mining Education in the USA

In the USA the basic aim of technical higher education is the training of qualified specialists in a selected field of technology.

The students can get mining education at special colleges and at mining departments of universities. One of the oldest mining schools in the USA is the Colorado School of Mines.

The Colorado School of Mines is situated in the mineral-producing area of the Rocky Mountains. The area is rich in non-ferrous metals such as molybdenum, vanadium, zinc and other deposits

Students study earth sciences (geology, geochemistry, geophysics and other) and engineering. Field work is an important part of training. All students take part in a summer field course during their undergraduate programme.

The Department operates the experimental mine. It is large and well-equipped laboratory for teaching and research in mining operations.

During the course of training the students may visit surface and underground mines, oil fields, dressing plants and regions of geological interest.

The education is fee-paying.

Ответьте на следующие вопросы:

1. What is the basic aim of technical higher education in the USA?
2. What is one of the oldest mining schools in the USA?
3. Where is The Colorado School of Mines situated?
4. What sciences do the mining engineering students study at the Colorado School of Mines?
5. Is the education fee-paying?

Урок 7. Имя числительное. Mining Education in Kazakhstan

Количественные числительные (Cardinal Numerals)

1. Числительные от 1 до 12:

1 - one [wan]

2 - two [tu:]

3 - three [(ɒ)ri]

4 - four [fo:]

5 - five [faiv]

6 - six [siks]

7 - seven ['sevn]

8 - eight [eit]

9 - nine [nain]

10 - ten [ten]

11 - eleven [i'levn]

12 - twelve [twelv]

2. Количественные числительные от 13 до 19 образуются при помощи прибавления суффикса **-teen** к соответствующим числительным первого десятка:

fourteen четырнадцать

sixteen шестнадцать

3. Количественные числительные, обозначающие десятки, образуются при помощи прибавления суффикса **-ty** к соответствующим числительным первого десятка:

sixty seventy

шестьдесят семьдесят

4. Составные числительные образуются так же, как и в русском языке, но десятки и единицы при написании числительного разделяются дефисом (-):

25-twenty-five 73-seventy-three

При чтении и произношении составных числительных между сотнями и десятками, а при отсутствии десятков между сотнями и единицами употребляется союз **and**:

265 -two hundred and sixty-five

4,603 - four thousand six hundred and three

Порядковые числительные (Ordinal Numerals)

Порядковые числительные образуются путем прибавления суффикса **-th** к соответствующим количественным числительным:

four -(the) **fourth** четвертый

seven -(the) **seventh** седьмой

eighteen -(the) **eighteenth** восемнадцатый

Исключение составляют числительные one, two, three:

one -(the) **first** [fe:st] первый

two -(the) **second** ['sekond] второй

three -(the) **third** третий

При образовании порядковых числительных от количественных числительных, оканчивающихся на **-ty**, конечное **-y** меняется на **-ie**:

twenty -(the) **twentieth** двадцатый

forty -(the) **fortieth** сороковой



Mining Education in Kazakhstan. The Geological Prospecting College

In Kazakhstan students get mining education at special colleges and at mining departments of universities. For example, one of the oldest mining schools in Kazakhstan is the Semey Geological Prospecting college. It is situated in Semey City, Eastern Kazakhstan. It was established in 1931. The aim of education is the training of qualified specialists in a selected field of technology and giving definite knowledge in different spheres of mining. This college provides full – time and part-time education. The students come to the College from all parts of the country.

The students may specialize in boring, geology, hydrology, programming, ecology and geophysics. The students study the following courses: geodesy, electrical engineering, hydraulic engineering, structural geology, physical metallurgy, mineralogy, drawing and others. Practical training is held at training ground and mining enterprises.

After graduating from the college students can get higher geological education at different universities. The Kazakh National Technical University and Eastern Kazakhstan State Technical University are famous universities in Kazakhstan where students can enter.

The education is fee-paying and free.

There is a comfortable hostel where students from different parts of our country live. It is situated near the college. The rooms are provided with all the necessary things.

The students of our college have many opportunities to become the best specialists in chosen profession.

Ответьте на следующие вопросы:

1. What is the aim of education in Kazakhstan?
2. What is one of the oldest mining schools in Kazakhstan?
3. What do the mining engineering students study at the Semey Geological Prospecting College?
4. Where can students get higher education after graduating from the college?
5. Is education free or fee-paying?

Раздел 2. Geological Sciences (Геологические науки) (6 часов)

Урок 8. Словообразование. Meet the Sciences. What is Science?

Словообразование.

В английском языке процесс словообразования происходит в основном путем прибавления суффиксов и приставок к основе слова.

1. Суффиксы имен существительных:

- ician – academician
- er, -or – engineer, doctor
- tion – solution
- ology – ecology
- ity – uniformity
- ment – experiment
- ance – significance
- ing – weathering

2. Суффиксы имен прилагательных:

- able – valuable
- ent – dependent
- ible – visible
- ate – separate

- ic – academic
- ish – English
- ive – active
- ful – useful
- less – useless
- ous – advantageous

3. Суффикс наречия:

- ly – easily

4. Суффиксы имен числительных:

- teen – fourteen
- ty – forty
- th – fourth

Приставки:

- dis – disagree
- in – indefinite
- re – rewrite

Meet the sciences. Geological Sciences

Science is a creative and dynamic activity. It is an expression of human experience. Science involves observation and measurement, imagination and hypothesis, communication and criticism.

A scientist

- 1) observes and measures objects of physical world;
- 2) analyses behavior of matter and energy;
- 3) generalizes observations and measurements;
- 4) develops theories.

Thus, 1) a scientist identifies and classifies multiple facts and data;

- 2) generalizes facts of specific character;
- 3) deduces conclusions;

4) illustrates conclusions with different facts of reality.

5) communicates with his colleagues through the scientific literature, in scientific meetings, and in informal person-to-person seminars and discussions.

Thus, modern science is communication.

Ответьте на следующие вопросы:

1. What is science?
2. What does science involve?
3. What does a scientist do?

Урок 9. Словообразование. Geological Sciences

Geology And The Importance Of Being A Geologist

Geology is the study of the planet Earth, and is concerned with the origin and development of the Earth, and with the structure of both the surface and the interior of the planet.

To geological sciences we refer the following sciences: geophysics, petrology, mineralogy, oil and gas geology, hydrogeology, ecology, etc.

Geologists study the processes which act both on and within the Earth, and try to interpret the processes and conditions. The evolution of the planet has involved a wide range of physical, chemical and biological processes, and thus the geologist must have a broad scientific training.

Many of the Earth's major resources are found in the rocks on or within the Earth. These include mineral resources, such as metals and building materials; energy resources, such as coal, petroleum and the Earth's heat; and water resources. Applications of geology include the prediction and mitigation of geological hazards, such as earthquakes, volcanic eruption and landslides. The science of geology and its many applications play a major part in the economy of the nations of the world.

Ответьте на следующие вопросы:

1. What is geology?
2. What do geologists study?
3. Where are the Earth's major resources found?
4. What types of resources do you know?
5. What do applications of geology include?

Урок 10. Времена группы Continuous. Outstanding Russian and Kazakh Scientists in Geology and Mining

Времена группы Continuous

Времена этой группы выражают незаконченное действие или процесс, длящиеся в определенный момент в настоящем, прошедшем или будущем.

Общей формулой образования является to be + Ving, где изменяется только глагол to be в соответствии с необходимым временем.

Утвердительная форма **настоящего времени** образуется из вспомогательного глагола "to be" в соответствующем лице настоящего времени (am, is, are) и смыслового глагола с окончанием -ing.

He is reading a book. Он читает книгу.

Чтобы задать вопрос в настоящем продолженном времени, нужно поставить глагол "to be" перед подлежащим, смысловой глагол в форме "-ing" следует за подлежащим.

Is he reading a new book? Он читает новую книгу?

Отрицательная форма образуется путём постановки отрицания "not" после вспомогательного глагола.

He is not reading a book. Он не читает книгу

Прошедшее продолженное время образуется при помощи глагола "to be" и смыслового глагола в инговой форме. При этом глагол "to be" употребляется в форме прошедшего времени (was, were).

was (I, he, she)

+ V (ing)

were (we, you, they)

I was reading a book. Я читал книгу.

Чтобы задать вопрос в Past Continuous нужно поставить глагол "to be"(в нужной форме: was/ were) перед подлежащим. А чтобы образовать отрицательную форму, нужно поставить отрицание "not" после глагола "to be":

+ He was playing at 3 o'clock.

- He was not playing at 3 o'clock.

? Was he playing at 3 o'clock?

Yes, he was. No, he was not. (No, he wasn't.)

Будущее продолженное время образуется при помощи глагола "to be" и смыслового глагола в инфинитивной форме. При этом глагол "to be" употребляется в форме будущего времени (will be, shall be).

shall

+ be + V-ing

will

We shall be expecting you at 5. Мы будем ждать вас в 5 часов.

This time on Sunday I'll be bathing in the sea. В это время в воскресенье я буду купаться в море.

Чтобы задать вопрос в Future Continuous нужно поставить will/shall перед подлежащим. А чтобы образовать отрицательную форму, нужно поставить отрицание "not" после глагола will/shall:

+ **She will be sleeping.**

- **She will not be sleeping.**

? **Will she be sleeping?**

Yes, she will. No, she will not.

(No, she won't.)

Outstanding Russian and Kazakh Scientists in Geology and Mining

V.A. Obruchev, I.M. Gubkin, A.Y.Fersman, V.I.Vernadsky and A.P.Karpinsky were the prominent Russian scientists. They laid the foundation of the Russian school of geology and mining.

Karpinsky's contribution to geology was a new geological map of the European part of Russia and the Urals. He created the new stratigraphy of Russia. He studied the geological systems in various regions of the country. He gave a classification of volcanic rocks. He studied some ore and platinum deposits and others.

Academician A.M. Terpigorev is a well-known mining engineer who successfully combined his practical experience with scientific research. He took a particular interest in mine safety. He worked on problems of fire damp. He wrote the first textbook on machinery for mining bedded deposits. A.M. Terpigorev is one of the pioneers in scientific methods of coal gasification.

Kanysh Imantayevich Satpayev was one of the greatest scientists in geology of Kazakhstan. His research work led to a discovery of the richest natural resources in Kazakhstan. For many years he was the President of the Kazakh SSR Academy of Sciences, a member of the USSR Academy of Sciences Presidium. He was also involved in the exploration of iron ores in Atasu and Karsakpay, iron and manganese ores in Naizatatas and Zhezdy, coal in Baikonur and many other ore bearing and non-ore deposits.

1. What did Terpigorev take a particular interest in?
2. Who was A.M. Terpigorev?
3. What was Karpinsky's contribution to geology?

Раздел 3. Elements and Minerals (Элементы и минералы) (17 часов)

Урок 11. Степени сравнения прилагательных. Elements. The Basic Characteristics of Elements. Oxygen and Hydrogen

Степени сравнения имени прилагательных

Имена прилагательные в английском языке образуют две степени сравнения: сравнительную (The Comparative Degree) и превосходную (The Superlative Degree).

Односложные и некоторые двусложные прилагательные образуют сравнительную степень прибавлением к своей основе суффикса –er, а превосходную степень – прибавлением суффикса –est. Многосложные и большинство двусложных прилагательных образуют сравнительную степень при помощи слова more более, а превосходную – при помощи слова most самый, наиболее.

Перед прилагательными в превосходной степени употребляется определенный артикль.

The Positive Degree	The Comparative Degree (than)	The Superlative Degree
1. односложные прил	-er	-est
cold	colder	the coldest
big	bigger	the biggest
dirty	dirtier	the dirtiest
2. многосложные прил	more	the most
beautiful	More beautiful	the most beautiful

Особые случаи образования степеней сравнения прилагательных.

1. Исключения:		
good	better	the best
bad	worse	the worst
little	less	the least
Many/much	more	the most
far	farther/further	the farthest/the furthest
old	older/elder	the oldest/the eldest
2. as...as	as long as	
	as soon as	
Not so...as	not so tall as	

Oxygen and Hydrogen

OXYGEN is colorless, odorless, tasteless gas, slightly soluble in water, and slightly heavier than air. Oxygen is the most chemically active substance known.

HYDROGEN is the lightest of the elements, an odorless, colorless, flammable gas, occurring chiefly in combination with oxygen as water and uniting chemically with many elements to form hydrocarbons, carbohydrates, and other important compounds.

1. Is oxygen a chemical element?
2. Name the basic characteristics of oxygen.
3. Is oxygen lighter than air?
4. What element is the lightest one?
5. Name the basic characteristics of hydrogen.
6. What combination does hydrogen chiefly occur in?

Урок 12. Неопределенный и определенный артикль. Minerals and Gemstones

Неопределенный и определенный артикль.

В английском языке существует два артикля: неопределенный **a (an)** и определенный **the**.

Неопределенный артикль **a(an)** произошел от числительного *one* — «один» и поэтому употребляется только с исчисляемыми существительными в единственном числе.

Неопределенный артикль имеет две формы: 1) **a**, стоящую перед существительными, начинающимися с согласного звука, начинающееся с согласного звука, например: *a book* - книга, *a big apple* - большое яблоко; 2) **an**, стоящую перед существительными, начинающимися с гласного звука, например: *an egg* - яйцо, *an old man* - старик.

Определенный артикль употребляется, когда нужно выделить какой-либо предмет, лицо или явление из класса ему подобных, например: *Give me **the book***. Дайте мне эту книгу (*ту, которая лежит на столе*).

Minerals

Minerals are the basic naturally occurring inorganic units having definite physical and chemical properties. They are combined in various ways and under different conditions to form rocks. Most minerals consist of elements combined as chemical compounds. Some minerals may occur as native elements, — for example, gold, silver, copper, and carbon (diamond and graphite). Eight elements make up about 98% of the earth's crust. Oxygen is the most abundant and seven other elements unite with oxygen. Combination of these elements with oxygen forms oxides. The six other elements unite with oxygen and water to form bases. The acids and bases combine to form silicates, which are the most abundant compounds in the earth's crust.

Урок 13. Неопределенный и определенный артикль. Minerals and Gemstones

Неопределенный и определенный артикль.

Неопределенный артикль употребляется:

1. с существительным — именным членом составного сказуемого:
Mike is a student. Миша студент
2. с существительным-подлежащим после оборота *there is (there was, there will be)*:
There's a good library in our school. В нашей школе есть хорошая библиотека.
3. с дополнением после глагола *have*:
I have a sister. У меня есть сестра.

Определенный артикль обычно употребляется:

- a) когда перед существительными стоит порядковое числительное:
the fourth of October
- b) когда перед существительными стоит прилагательное в превосходной степени:
He is the best student in the group.
- c) с существительными, обозначающими предметы, единственные в своем роде: *the sun, the moon, the earth, the ground, the world, the sky*.
- d) перед названиями морей, океанов, рек, каналов, проливов, горных цепей, пустынь, групп островов: *the Black Sea, the Atlantic Ocean, the Volga, the Thames, the English Channel, the Urals, the Sahara*.

Gemstones

Diamond and Zircon. A diamond is composed of nothing but carbon. It has a regular and isometric crystal form and is usually colourless and transparent. It is the hardest known natural substance. Zircon is among the brightest of gems because of its high reflectivity. It is a chemical compound of metal zirconium. The pale-blue zircon is the most popular.

Rubies, Sapphires. Mineralogically rubies and sapphires are the same mineral corundum, which is the hardest mineral next to diamond. When this corundum includes chromium, which gives it a redness, it becomes ruby; when it contains titanium and iron instead, and so is blue, it becomes sapphire.

Emeralds, Berils and Aquamarine. Mineralogically emerald is beryl, which contains a metal called beryllium. The green colour of beryl is due to an extremely small amount of chromium; green transparent beryl is called emerald; beryl which is transparent, pale water-blue is called aquamarine.

Ответьте на следующие вопросы:

1. What are minerals?
2. What do minerals consist of?
3. What do elements with the combination of oxygen form?
4. What is a diamond composed of?
5. What gemstone is the brightest one?
6. What is the difference between rubies and sapphires?
7. What colour is aquamarine?

Урок 14. Неопределенный и определенный артикль. Quartz. Feldspars

Неопределенный и определенный артикли

Артикль является самым распространенным определителем существительного, но он не является самостоятельной частью речи. В английском языке имеется два артикля: неопределенный (a/an) и определенный (the).

Неопределенный артикль a употребляется перед словами, начинающимися с согласных звуков a pen, a table; в форме an – перед словами, начинающимися с гласных – an apple, an umbrella.

Употребление артиклей.

a/an	The	Нулевой артикль
1. для обозначения принадлежности к какому-либо классу предметов (с глаголами to have, to see, there is) There is a man in the street. I have a cat.	1. перед сущ, обозначающим конкретный предмет: Close the window!!!	1. Перед абстрактными сущ., перед сущ во мн.ч, What lovely flowers!
2. Перед абстрактными сущ при наличии описательного определения: They lived a quiet life.	2. перед сущ единственными в своем роде: the sun, the moon, the door, the floor	2. перед именами собственными: города: (London) страны континенты отдельные острова, горные вершины улицы

3. В значении один перед исчисл.сущ, обозначающими время: How many times a month do you go there?	3. с порядковыми числительными: the first	3. Перед next, last
4. В восклицаниях с What: What a lovely day!	4. с превосходной степенью прил-х	4. перед названиями наук
5. В сочетаниях a little, a few	5. перед названиями: отдельных стран (republic, union, kingdom, states); регионов – The Middle East, The north of England морей, океанов, рек, озер, горных цепей, островов названия судов, гостиниц, ресторанов, музеев, галерей, англ газет, кинотеатров и театров, названия мест и зданий	5. Перед словами-родственные отношения

Quartz

Quartz — one of the commonest minerals which is present in many rocks and solids in a wide variety of forms. It consists of silica — a compound of silicon and oxygen. It forms the major proportion of most sands.

Quartz is crystalline, lustrous, sometimes greasy, brittle. Streak white. It can be of different colours.

Quartz occurs in igneous, sedimentary and metamorphic rocks. It is an important constituent of the acid igneous rocks, such as granites, and may occur in gneisses, and is the predominant constituent in quartzites. It is common in sedimentary rocks, forming the principle mineral in sandstones. It is associated in rocks chiefly with feldspar.

Feldspars

The feldspars are rock-forming group of minerals. They occur in most of the igneous rocks such as granites and lavas; in certain sandstones and conglomerates among sedimentary ones; and in gneisses of the metamorphic rocks. Nearly 60% of the earth's crust is composed of feldspar.

It is lustrous, colourful, sometimes transparent and glassy, brittle. It possesses good cleavage in two directions.

Ответьте на следующие вопросы:

1. Where do feldspars occur?
2. How many per cent of the Earth's crust is composed of feldspar?
3. What are the characteristic features of feldspar?
4. What is quartz?
5. What are characteristic features of quartz?
6. Where does quartz occur?

Урок 15. Множественное число существительных. Ground Water.

Множественное число существительных.

Множественное число существительных образуется при помощи окончания –s: a sea – seas.

- При этом сущ-е, оканчивающиеся на –o, –ss, –sh, –ch, –x, –z образуют мн.ч. при помощи окончания –es: box – boxes, hero – heroes

- в сущ-х, оканчивающихся на –у с согласной перед ней, –у меняется во мн.ч. на i: baby – babies;

- в тех сущ-х, где перед –у стоит гласная, –у не меняется на –i: a day – days

- сущ-е, оканчивающиеся на –f –fe во мн.ч. имеют –ves: a wife – wives

Особые случаи образования мн.ч.:

Man – men

Woman – women

Child – children

Tooth – teeth

Mouse – mice

Goose – geese

Fish – fish

Deer – deer

Sheep – sheep

Ground water

Ground water is the water contained underground in the pores of soil and rock. When rain falls on the earth some evaporates, some is absorbed by plants, some runs off in streams and the remainder sinks into the earth to become ground water. The amount that sinks into the ground depends on various factors; rain falling on clay either lies on the surface and evaporates or runs off; on steep slopes runoff will exceed absorption.

It is much to the point to inquire how much of the rainfall soaks into the ground, how much evaporates, how much is used by plant life, and how much runs off into the streams. It is certain that there is water in the ground in some places and there are good reasons to suppose that water may penetrate the rocks to a depth of a dozen miles.

The total amount of water varies greatly from place to place, and even from time to time in the same place.

Water which sinks into the earth moves not only downward, but sideways and even back to the surface. Thus, there is a sort of circulation of underground water which is kept up fundamentally by gravity, and assisted by such agencies as capillarity and plant roots.

Урок 16. Страдательный залог. Geologic Hazards

Страдательный залог (The Passive Voice)

Когда в центре внимания говорящего находится лицо или предмет, который подвергается действию, или когда нет необходимости упоминать лицо, совершающее действие, употребляется страдательный оборот. В этом случае глагол стоит в страдательном залоге:

The coal **is mined** near here.

Present Indefinite Passive образуется при помощи вспомогательного глагола **to be** в **Present Indefinite** и третьей основной формы смыслового глагола. Оно употребляется для выражения обычного постоянного действия:

I **am always invited** to the meetings of the English club.

Вопросительная форма **Present Indefinite Passive** образуется путем постановки вспомогательного глагола перед подлежащим:

Is English **taught** in all classes in your school?

В вопросах к подлежащему порядок слов не изменяется:

Who **is invited** to this party?

В отрицательной форме частица **not** ставится после вспомогательного глагола:

This road **is not used** very often.

Geologic hazards

Geologic hazards are hazardous or harmful events. Hazards often result in injuries or loss of life and property. Hazards include earthquakes, volcanic eruptions, floods, landslides, subsidence, tsunamis, soil creep and avalanches.

In human history there are many examples of hazards which have resulted in disaster. For example, volcanic eruption of Vesuvius which covered the whole town.

Geologic hazards are divided into natural and man-induced. There is interdependence between all natural hazards. For example, there is close connection between earthquake and tsunami.

Examples of man-induced hazards include: land subsidence caused by withdrawal of ground water and petroleum resulting in damage to foundations and other structures.

In order to save people's lives and property people should investigate geologic hazards. They should take care of nature, but not get in its way. To prevent and eliminate the problem is much more important than to recreate the damaged. Men should control people's activities of nuclear testing, extraction of enormous amount of minerals, air pollution and other ecological problem.

Ответьте на следующие вопросы:

1. What are geologic hazards?
2. Give examples of geologic hazards.
3. What types of geologic hazards do you know?
4. Give examples of man-induced hazards.
5. What measurements should people take in order to prevent and eliminate ecological problems?

Урок 17. Обязательная контрольная работа

Урок 18. Прием внеаудиторного чтения

3 курс
Раздел I Wastes (42 часа)

Урок 1. Конструкция there is/ there are.
Nature protection. Geologic problems with Waste Disposal

Конструкция there is/ there are. Количественные местоимения many/ much, a few/ a little.

Оборот there is (**there are**) имеет значением «есть», «имеется», «находится».

На русский язык предложения с оборотом there is (there are) рекомендуется переводить, начиная с обстоятельства места:

There is a book on the table. На столе книга.

There are two pens on the desk. На парте две ручки.

В вопросительной форме глагол **to be** ставится перед вводным словом **there**:

Is there a pencil in your bag? В твоём портфеле есть карандаш?

Are there any cars in the street? На улице стоят машины?

Для образования отрицательной формы отрицание **not** ставится после оборота **there is (there are)**:

There isn't a book on the table. На столе нет книги.

There aren't any buses in the street. На улице нет автобусов.

Nature protection. Geologic problems with Waste Disposal

Nature Protection

Computers project that between now and the year of 2030 we are going to have an increase of the average temperature between 1,5—4,5 degrees C. Sea levels would rise by several metres. Huge areas would be infertile and become uninhabitable. Water contamination could lead to shortages of safe drinking water.

For hundreds of thousands of years the human race has thriven in Earth's environment. But now, at the beginning of the 21st century, we are at a crucial turning point. We have upset nature's sensitive equilibrium releasing harmful substances into the air, polluting rivers and oceans with industrial waste and accommodating everything with rubbish. These are the consequences of the development of civilization. We are to stop it by joint efforts of all the people of the world.

The range of environmental problems is wide. But the matters of people's great concern nowadays are atmosphere and climate changes, depletion of the ozone layer, freshwater resources, oceans and coastal areas, deforestation and desertification, biological diversity, biotechnology, health and chemical safety. United Nations Environment Programme (UNEP) concentrates its activities on these issues.

Geologic Problems with Waste Disposal

Our industrialized society produces an ever-increasing variety and toxic waste. Traditionally, people have used fresh water to remove solid and liquid wastes and have used the atmosphere to dilute the gaseous waste products of combustion. Until recently, however, people generally¹ been unaware that a local natural system of waste disposal can become rated, so that an unhealthy environment is created. We cannot take our "away," as has been suggested by some politicians. The waste products Earth's natural systems and will remain in them. The problem is made acute by such business practices as planned obsolescence, the throwaway containers, and the hard sell of new models of old product addition, high labor costs often make it uneconomical to repair, recycle used items, so the volume of waste grows unnecessarily, at a stag rate. The replacement of products, of course, greatly reduces natural sources. Unfortunately, waste is not just a by-product.

Waste disposal has many geologic ramifications. If waste is buried quality of groundwater is threatened. If it is dumped into streams and rivers accumulates on beaches and in estuaries, altering the environment oceans. Previous methods of elimination have not been "waste disposal" have been "waste dispersal." Any significant solution to the problem must consider what kinds of waste disposal and dispersal to geologic environment can accommodate without critical alterations in logic and biological conditions.

Ответьте на следующие вопросы:

1. What are the main geologic problems with waste disposal?
2. What are geologic ramifications of waste disposal?
3. What are the consequences of the development of civilization?

**Урок 2. Конструкция there is/ there are.
Nature protection. Geologic problems with Waste Disposal**

Конструкция there is/ there are. Количественные местоимения many/ much, a few/ a little.

Оборот there is (**there are**) имеет значением «есть», «имеется», «находится».

На русский язык предложения с оборотом there is (there are) рекомендуется переводить, начиная с обстоятельства места:

There is a book on the table. На столе книга.

There are two pens on the desk. На парте две ручки.

В вопросительной форме глагол **to be** ставится перед вводным словом **there**:

Is there a pencil in your bag? В твоём портфеле есть карандаш?

Are there any cars in the street? На улице стоят машины?

Для образования отрицательной формы отрицание **not** ставится после оборота **there is (there are)**:

There isn't a book on the table. На столе нет книги.

There aren't any buses in the street. На улице нет автобусов.

Geologic Problems with Waste Disposal

Our industrialized society produces an ever-increasing variety and toxic waste. Traditionally, people have used fresh water to remove solid and liquid wastes and have used the atmosphere to dilute the gaseous waste products of combustion. Until recently, however, people generally¹ been unaware that a local natural system of waste disposal can become rated, so that an unhealthy environment is created. We cannot take our "away," as has been suggested by some politicians. The waste products Earth's natural systems and will remain in them. The problem is made acute by such business practices as planned obsolescence, the throwaway containers, and the hard sell of new models of old product addition, high labor costs often make it uneconomical to repair, recycle used items, so the volume of waste grows unnecessarily, at a stag rate. The replacement of products, of course, greatly reduces natural sources. Unfortunately, waste is not just a by-product.

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Ответьте на следующие вопросы:

1. What are the main geologic problems with waste disposal?
2. What are geologic ramifications of waste disposal?
3. What are the consequences of the development of civilization?

Урок 3. Количественные местоимения many/ much, a few/ a little. Solid wastes

Количественные местоимения many/ much, a few/ a little.

В английском языке существует группа неопределенных местоимений: many, much, few, a few, little, a little.

Неопределенные местоимения many (много, многие), few (мало), a few (немного, немногие, несколько), much (много), little (мало), a little (немного, немножко), выражающие неопределенное количество, различаются в своем употреблении.

Местоимения many, few, a few определяют или заменяют исчисляемые существительные во множественном числе. Эти местоимения отвечают на вопрос: *How many?* (Сколько?)

She bought many pencils for her son. Она купила много карандашей сыну.
Few students were in the room. В комнате было мало студентов.

Местоимения much, little, a little определяют или заменяют неисчисляемые существительные (имеющие только единственное число). Эти местоимения отвечают на вопрос: *How much?* (Сколько?)

I don't like to eat much bread. Я не люблю есть много хлеба.
My brother puts little sugar in his tea. Мой брат кладет мало сахара в чай.

Solid wastes

Solid wastes are disposed of in many ways, including landfill, incineration, composting, open dumping, animal feeding, fertilizing, and disposal in oceans. The geologic consequences include changes in the surface of the land where the waste is deposited and changes in the environment (rivers, lakes, oceans, and groundwater) where the mass of waste is concentrated. The major problems with solid waste disposal involve the hydrologic characteristics of the site. These include the porosity and permeability of the rock in which the fill is located and whether or not the waste deposit intersects the water table. The altered topography associated with dumps and landfills is also critical because it can change the drainage and groundwater conditions. Perhaps the most critical contamination problem is created as water passes through a landfill, dissolves organic and inorganic compounds and incorporates them into the groundwater reservoirs.

Ответьте на следующие вопросы:

1. What are solid wastes?
2. In what ways are solid wastes disposed?
3. What do the geologic consequences include?
4. What do the major problems with solid waste disposal involve?

Урок 4. Количественные местоимения *many/ much, a few/ a little. Solid wastes*

Количественные местоимения *many/ much, a few/ a little.*

В английском языке существует группа неопределенных местоимений: *many, much, few, a few, little, a little.*

Неопределенные местоимения *many* (много, многие), *few* (мало), *a few* (немного, немногие, несколько), *much* (много), *little* (мало), *a little* (немного, немножко), выражающие неопределенное количество, различаются в своем употреблении.

Местоимения *many, few, a few* определяют или заменяют исчисляемые существительные во множественном числе. Эти местоимения отвечают на вопрос: *How many?* (Сколько?)

She bought many pencils for her son. Она купила много карандашей сыну.
Few students were in the room. В комнате было мало студентов.

Местоимения *much, little, a little* определяют или заменяют неисчисляемые существительные (имеющие только единственное число). Эти местоимения отвечают на вопрос: *How much?* (Сколько?)

I don't like to eat much bread. Я не люблю есть много хлеба.
My brother puts little sugar in his tea. Мой брат кладет мало сахара в чай.

Solid wastes

Solid wastes are disposed of in many ways, including landfill, incineration, composting, open dumping, animal feeding, fertilizing, and disposal in oceans. The geologic consequences include changes in the surface of the land where the waste is deposited and changes in the environment (rivers, lakes, oceans, and groundwater) where the mass of waste is concentrated. The major problems with solid waste disposal involve the hydrologic characteristics of the site. These include the porosity and permeability of the rock in which the fill is located and whether or not the waste deposit intersects the water table. The altered topography associated with dumps and landfills is also critical because it can change the drainage and groundwater conditions. Perhaps the most critical contamination problem is created as water passes through a landfill, dissolves organic and inorganic compounds and incorporates them into the groundwater reservoirs.

Ответьте на следующие вопросы:

1. What are solid wastes?
2. In what ways are solid wastes disposed?
3. What do the geologic consequences include?
4. What do the major problems with solid waste disposal involve?

Урок 5. Функции Participle II. Liquid wastes

Функции Participle II

Это неличная форма глагола, имеющая свойства как глагола, так и прилагательного.

1. Внешне определяется по Ved, V3
2. Отражает законченный процесс.
3. Может быть в предложении:
А) определением – соответствует русскому деепричастию
Lost time never comes again.
He has found a broken umbrella.
The faded flower lies on the table.
В) обстоятельством (в этом случае перед ним часто стоят союзы *when, if, unless*)
When asked he answered at once.

Вместо **Participle II** легче употребить форму страдательного залога, помня, что существительное или местоимение в обеих частях предложения одно и то же. На русский язык переводится в Passive: Когда его спрашивали, он тот час же отвечал. Перед причастием не ставится предлог, что отличает его от герундия!!!

Liquid wastes

Traditionally, liquid wastes have been discharged into surface drainage systems and diluted. They accumulate ultimately in lakes and oceans, where they are stored. As the volume of liquid waste increases, the capacity of the natural water system to dilute it is overwhelmed, and the drainage system becomes a system of moving waste.

One very subtle type of liquid pollutant is the hot water created by cooling systems in power plants and factories. Although the water itself is not contaminated, the temperature alone is enough to alter the biological conditions in the streams and lakes into which it flows. Such pollution is called thermal pollution.

Liquid wastes include industrial wastes such as oil and natural gas refinery byproducts, municipal waste, chemical byproducts, agricultural wastes and radioactive water used as coolants in nuclear power plants. When improperly handled and disposed of, liquid wastes pose a serious threat to human health and the environment because of their ability to enter watersheds, pollute ground water and drinking water.

Ответьте на следующие вопросы:

1. What are liquid wastes?
2. Where do liquid wastes accumulate?
3. What is one of liquid pollutants?
4. What is called thermal pollution?

Урок 6. Функции Participle II. Liquid wastes

Функции Participle II

Форма Past Participle правильных глаголов образуется путем прибавления суффикса -ed к основной форме глагола, например:

decide — решать decided — решенный

В предложении Past Participle может выступать в функции:

- 1) определения к существительному:
The broken cup was on the floor. Разбитая чашка лежала на полу.
- 2) обособленного определения, заменяющего придаточное определительное предложение:
Here is the letter received from Nick. Вот письмо, полученное от Коли.
(Here is the letter which I received from Nick yesterday- Вот письмо, которое я получил от Коли вчера.)

Liquid wastes

Traditionally, liquid wastes have been discharged into surface drainage systems and diluted. They accumulate ultimately in lakes and oceans, where they are stored. As the volume of liquid waste increases, the capacity of the natural water system to dilute it is overwhelmed, and the drainage system becomes a system of moving waste.

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in nuclear power plants. When improperly handled and disposed of, liquid wastes pose a serious threat to human health and the environment because of their ability to enter watersheds, pollute ground water and drinking water.

Ответьте на следующие вопросы:

1. What are liquid wastes?
2. Where do liquid wastes accumulate?
3. What is one of liquid pollutants?
4. What is called thermal pollution?

Урок 7. Наречие. Gaseous wastes

Наречие

В английском языке, как и в русском, наречием называется часть речи, которая обозначает признак действия, состояния или качества.

По своей структуре наречия делятся на:

1. Простые, состоящие только из одного корня:

now - сейчас

well - хорошо

there - там

2. Производные, в состав которых входят суффиксы и префиксы:

orally - устно

indeed - действительно

uphill - в гору

3. Сложные, состоящие из нескольких корней:

anyhow (any + how) - как-то

everywhere (every + where) - везде

4. Составные, состоящие из нескольких слов:

by all means - обязательно

for ever - навсегда

in a friendly way - дружески

as far as - насколько

По своему значению наречия делятся на:

1. Наречия времени (к ним относятся наречия определённого и неопределённого времени):

today - сегодня

soon - скоро

since - с тех пор, как

already - уже

never - никогда

2. Наречия образа действия:

slowly - медленно

often - часто

3. Наречия места:

inside - внутри

here - здесь

4. Наречия меры и степени:

much - много

very - очень

5. Вопросительные наречия:

how - как

when - когда

В предложении наречия выполняют чаще всего функцию обстоятельства:

It is never too late to learn. (обстоятельство времени)

Учиться никогда не поздно.

Gaseous wastes.

The population explosion, with the consequent industrial expansion, has produced a variety of *gaseous wastes* and pollutants in the form of minute liquid and solid particles that are suspended in the atmosphere. In the past, pollutants were expelled into the *air* with the reasonable assurance that normal atmospheric processes would disperse and dilute them to a harmless, unnoticeable level. In many heavily industrialized areas, however, the atmosphere's capacity for absorption and dispersal has been exceeded, and the composition of the air has been radically altered. The problem is so severe in some areas that rain is made more acid than normal by pollutants, particularly oxides of sulfur and nitrogen, and is called acid rain. If the troposphere (the lower part of the atmosphere, which is involved in most human activities) extended indefinitely into space air pollution would not pose a problem. The troposphere, however, extends only to an altitude of 10 or 15 km, and few pollutants move out of it into the overlying stratosphere for any great length of time. A steadily increasing volume of pollutants is thus concentrated mostly in the lower part of the troposphere.

A dramatic example of air pollution is the oilfield fires in Kuwait that resulted from the 1991 Persian Gulf War. On January 5, before fighting began, the wells were intact. On February 15, nearly a month into the air war and a week before the ground war, a number of wells were afire. By March 3, at the conclusion of the ground campaign, more than 600 wells had been ignited, sending clouds of thick, black smoke into the atmosphere. The fires were expected to last for at least another year; even the most optimistic said that this could prove to be the worst man-made atmospheric pollution event in history. The fires reportedly consumed several million barrels of oil per day and spewed 500,000 tons of particulates into the air each week. In the spring of 1991, air-sampling instruments at the Mauna Loa observatory in Hawaii recorded numerous "spikes" of soot, five times higher than normal.

The regional and worldwide effects of the Kuwaiti oil fires are not yet clear. Preliminary computer modeling predicted that acid rain could affect areas as far as 2000 km from Kuwait. By mid-1991, unprecedented acid rain in southern Russia was announced by Soviet scientists. In addition, smoke and darkened snow in Pakistan and northern India were visible in satellite images. Because soot-covered snow absorbs more heat, rapid melting could result, causing floods or damage to crops. Some scientists even suggested a possible connection between the smoke and the unusual intensity of the typhoon that struck Bangladesh on May 1, 1991, killing more than 100,000 people.

Ответьте на следующие вопросы:

1. What are gaseous wastes?
2. What is the main gaseous waste?
3. What are the consequences of air pollution?
4. What are the main polluters of air?
5. What measures should be taken to protect air from pollution?

Урок 8. Наречие. Gaseous wastes

Наречие

В английском языке, как и в русском, наречием называется часть речи, которая обозначает признак действия, состояния или качества.

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1. Простые, состоящие только из одного корня:

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orally - устно

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uphill - в гору

3. Сложные, состоящие из нескольких корней:

anyhow (any + how) - как-то

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4. Составные, состоящие из нескольких слов:

by all means - обязательно

for ever - навсегда

in a friendly way - дружески

as far as - насколько

По своему значению наречия делятся на:

1. Наречия времени (к ним относятся наречия определённого и неопределённого времени):

today - сегодня

soon - скоро

since - с тех пор, как

already - уже

never - никогда

2. Наречия образа действия:

slowly - медленно

often - часто

3. Наречия места:

inside - внутри

here - здесь

4. Наречия меры и степени:

much - много

very - очень

5. Вопросительные наречия:

how - как

when - когда

В предложении наречия выполняют чаще всего функцию обстоятельства:

It is never too late to learn. (обстоятельство времени)

Учиться никогда не поздно.

Gaseous wastes

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Ответьте на следующие вопросы:

1. What are gaseous wastes?
2. What is the main gaseous waste?
3. What are the consequences of air pollution?
4. What are the main polluters of air?
5. What measures should be taken to protect air from pollution?

Урок 9. Герундий. Air pollution

Герундий

В английском языке есть неличная форма глагола, оканчивающаяся на -ing, которой нет в русском языке. Эта ing-форма называется the Gerund (герундий). Герундию присущи черты как глагола, так и существительного.

Черты существительного

1. Герундий употребляется в роли подлежащего или дополнения:

Reading is useful. Чтение полезно.

I like reading. Я люблю читать.

2. Герундий может иметь при себе определение, выраженное притяжательным местоимением или существительным:

We were pleased with Alec's coming. Мы были довольны, что пришел Алик (приходом Алика).

Черты глагола

1. Герундий определяется наречием:

I like your speaking English so, fast. Мне нравится, что вы так быстро говорите по-английски.

2. Герундий может иметь при себе прямое дополнение:

She likes reading French books. Она любит читать французские книги.

Air pollution

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

Ответьте на следующие вопросы:

1. What are gaseous wastes?
2. What is the main gaseous waste?
3. What are the consequences of air pollution?
4. What are the main polluters of air?
5. What measures should be taken to protect air from pollution?

Урок 10. Герундий. Air pollution

Герундий

В английском языке есть неличная форма глагола, оканчивающаяся на -ing, которой нет в русском языке. Эта ing-форма называется the Gerund (герундий). Герундию присущи черты как глагола, так и существительного.

Черты существительного

1. Герундий употребляется в роли подлежащего или дополнения:

Reading is useful. Чтение полезно.

I like reading. Я люблю читать.

2. Герундий может иметь при себе определение, выраженное притяжательным местоимением или существительным:

We were pleased with Alec's coming. Мы были довольны, что пришел Алик (приходом Алика).

Черты глагола

1. Герундий определяется наречием:

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She likes reading French books. Она любит читать французские книги.

Air pollution

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

Ответьте на следующие вопросы:

1. What are gaseous wastes?
2. What is the main gaseous waste?
3. What are the consequences of air pollution?
4. What are the main polluters of air?
5. What measures should be taken to protect air from pollution?

Урок 11. Функции Participle I. Acid rains. Depletion of the Ozone Layer.

Функции Participle I

Present Participle может быть образовано от любого глагола (кроме модальных и вспомогательных глаголов shall и will) путем прибавления окончания -ing

standing - стоящий

burning - горящий

Если глагол оканчивается на непроемное e, то при образовании Present Participle e опускается:

smile- smiling

write - writing

Если глагол состоит из одного слога, то при образовании Present Participle удваивается конечная согласная:

Sit-sitting

Run- running

Present Participle участвует в образовании времен группы Continuous в сочетании с личными формами вспомогательного глагола to be:

They are drawing now. Они чертят сейчас.

В предложении Present Participle может выступать в функции:

1) определения к существительному:

I like to see smiling faces. Я люблю видеть улыбающиеся лица.

2) обособленного определения:

The boy sitting at the table is her Мальчик, сидящий за столом, ее брат, brother.

The boy who is sitting at the table is her brother. Мальчик, который сидит за столом, ее брат.

3) обстоятельства:

She went out smiling. Она вышла улыбаясь.

Acid rains. Depletion of the Ozone Layer.

One of the most alarming forms of air pollution is acid rain. It results from the release into the atmosphere of sulphur and nitrogen oxides that react with water droplets and return to earth in the form of acid rain, mist or snow. Acid rain is killing forests in Canada, the USA, and central and northern Europe. (Nearly every species of tree is affected.) It has acidified lakes and streams and they can't support fish, wildlife, plants or insects. (In the USA 1 in 5 lakes suffer from this type of pollution).

Depletion of the Ozone Layer

The protective layer of the Earth, the ozone layer, which protects the Earth from the sun's destructive UV (ultraviolet) rays, is being damaged by CFCs (chlorofluorocarbons). They are released by the daily use of industrial and household products: refrigerators, air conditioners, foam insulation, cleaning chemicals, food packaging. In the ozone layer they attack the ozone molecules making a «hole». This «hole» allows more UV rays to penetrate to the Earth. It increases the risk of skin cancer, weakens the immune system of people. Besides, UV rays influence the oceans, the growth of plankton, an essential part of the marine-life food chain in the negative way, reduce economically important crops (rice, cotton, soy beans). The life cycle is going to be undermined by the ozone.

Ответьте на следующие вопросы:

1. What are acid rains?
2. What damage do acid rains bring?
3. What causes acid rains?
4. What is ozone layer?
5. Why are the ozone “holes” dangerous for the life on the Earth?

Урок 12. Функции Participle I. Acid rains. Depletion of the Ozone Layer.

Функции Participle I

Present Participle может быть образовано от любого глагола (кроме модальных и вспомогательных глаголов shall и will) путем прибавления окончания -ing
standing - стоящий
burning - горящий

Если глагол оканчивается на непроемное e, то при образовании Present Participle e опускается:

smile- smiling

write - writing

Если глагол состоит из одного слога, то при образовании Present Participle удваивается конечная согласная:

Sit-sitting

Run- running

Present Participle участвует в образовании времен группы Continuous в сочетании с личными формами вспомогательного глагола to be:

They are drawing now. Они чертят сейчас.

В предложении Present Participle может выступать в функции:

1) определения к существительному:

I like to see smiling faces. Я люблю видеть улыбающиеся лица.

2) обособленного определения:

The boy sitting at the table is her brother. Мальчик, сидящий за столом, ее брат, brother.

The boy who is sitting at the table is her brother. Мальчик, который сидит за столом, ее брат.

3) обстоятельства:

She went out smiling. Она вышла улыбаясь.

Acid rains. Depletion of the Ozone Layer.

One of the most alarming forms of air pollution is acid rain. It results from the release into the atmosphere of sulphur and nitrogen oxides that react with water droplets and return to earth in the form of acid rain, mist or snow. Acid rain is killing forests in Canada, the USA, and central and northern Europe. (Nearly every species of tree is affected.) It has acidified lakes and streams and they can't support fish, wildlife, plants or insects. (In the USA 1 in 5 lakes suffer from this type of pollution).

Урок 13. Функции Participle I. Acid rains. Depletion of the Ozone Layer.

Depletion of the Ozone Layer

The protective layer of the Earth, the ozone layer, which protects the Earth from the sun's destructive UV (ultraviolet) rays, is being damaged by CFCs (chlorofluorocarbons). They are released by the daily use of industrial and household products: refrigerators, air conditioners, foam insulation, cleaning chemicals, food packaging. In the ozone layer they attack the ozone molecules making a «hole». This «hole» allows more UV rays to penetrate to the Earth. It increases the risk of skin cancer, weakens the immune system of people. Besides, UV rays influence the oceans, the growth of plankton, an essential part of the marine-life food chain in the negative way, reduce economically important crops (rice, cotton, soy beans). The life cycle is going to be undermined by the ozone.

Ответьте на следующие вопросы:

1. What are acid rains?
2. What damage do acid rains bring?
3. What causes acid rains?
4. What is ozone layer?
5. Why are the ozone “holes” dangerous for the life on the Earth?

Урок 14. Функции инфинитива. Radioactive wastes

Функции инфинитива

В английском языке инфинитив имеет свойства глагола и существительного. Инфинитив обычно употребляется с частицей to.

Черты существительного

1. Инфинитив может быть подлежащим в предложении:
To speak English is not difficult. Говорить по-английски нетрудно.
2. Инфинитив может быть прямым дополнением:
Our students like to read. Наши студенты любят читать.

Черты глагола

1. За инфинитивом может следовать прямое дополнение:
He likes to read English books. Он любит читать английские книги.
2. Инфинитив может быть частью составного глагольного сказуемого:
He must do his homework this evening. Он должен делать домашнее задание вечером.

Radioactive wastes

All industries face waste-disposal problems, but none are greater than those of the nuclear energy industry. The generation nuclear energy creates numerous radioactive isotopes—some with short half-lives, others with very long ones. Nuclear waste is extremely hazardous itself but another nuclear waste product is a large amount of heat. Any disposal system must therefore be capable of removing the waste while completely isolating it from the biological environment. In addition, containment must be maintained for exceptionally long periods. Compared to the waste produced by many other industries, the volume of radioactive waste is not large, but the hazards and the heat that are generated are considerable.

One of the more promising methods of radioactive waste disposal involves storage in thick salt formations. Salt deposits are desirable because they are essentially impermeable and are isolated from circulating groundwater. In addition, salt yields to plastic flow, so it is unlikely to fracture and make contact with leaching solutions over extended periods of time. Salt also has a high thermal conductivity and thus can absorb heat from the waste, and it has approximately the same shielding properties as concrete. In theory, radioactive wastes would be solidified and sealed in containers from 15 to 60 cm in diameter and as much as 3 m in length. The containers would then be shipped to salt mines in the stable interior of the continent, where seismic activity is minimal. There, they would be placed in holes drilled in a salt formation deep in a mine. When filled with waste, the hole would be packed with crushed salt and closed.

Ответьте на следующие вопросы:

1. What are radioactive wastes?
2. What is one of the more promising methods of radioactive waste disposal?
3. What the consequences of radioactive wastes?

Урок 15. Функции инфинитива. Radioactive wastes

Функции инфинитива

В английском языке инфинитив имеет свойства глагола и существительного. Инфинитив обычно употребляется с частицей to.

Черты существительного

1. Инфинитив может быть подлежащим в предложении:
To speak English is not difficult. Говорить по-английски нетрудно.
2. Инфинитив может быть прямым дополнением:
Our students like to read. Наши студенты любят читать.

Черты глагола

1. За инфинитивом может следовать прямое дополнение:
He likes to read English books. Он любит читать английские книги.
2. Инфинитив может быть частью составного глагольного сказуемого:
He must do his homework this evening. Он должен делать домашнее задание вечером.

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Ответьте на следующие вопросы:

1. What are radioactive wastes?
2. What is one of the more promising methods of radioactive waste disposal?
3. What the consequences of radioactive wastes?

**Урок 16. Сравнение функций причастия и герундия.
Mining wastes**

Сравнение функций причастия и герундия

Функция	Герундий	Причастие I
Подлежащее	Driving a car is his hobby.	-
Именная часть сказуемого	His hobby is driving a car.	-
Часть глагольного сказуемого (Continuous)	-	He is driving too fast.
Дополнение	He enjoys driving.	-
Определение	I don't like his plan of driving to the country.	The man driving a car is our manager.
Обстоятельство	After driving almost the whole day he felt very tired.	(When/While) driving a car one must be very attentive.

Mining wastes

Mining Wastes. The waste products from mining operations include:

- 1) tailings and dumps,
- 2) altered terrain (due to open-pit mining and strip mining),
- 3) changes in the composition of the surface, and
- 4) solid, liquid, and gaseous wastes produced by refining.

In the United States, approximately 3 billion metric tons of rock are mined each year. About 85% comes from open-pit and strip mines, which require the removal of an additional 6 billion metric tons of rock as overburden. Such surface mining operations have affected about 12,000 km² of land in the United States. The principal geologic problem arises from the alteration of the terrain by the creation of open pits and artificial mounds and hills of tailings.

An additional problem arises if mine tailings enter the drainage system. They can choke a stream channel, increasing the flood hazards. Alteration of a stream system also can be produced from placer mining, in which the movement of large quantities of sediment upsets the balance of the stream.

Ответьте на следующие вопросы:

1. What are mining wastes?
2. What do the waste products from operations include?
3. What are consequences of mining wastes?

**Урок 17. Сравнение функций причастия и герундия.
Mining wastes**

Сравнение функций причастия и герундия

Функция	Герундий	Причастие I
Подлежащее	Driving a car is his hobby.	-
Именная часть сказуемого	His hobby is driving a car.	-
Часть глагольного сказуемого (Continuous)	-	He is driving too fast.
Дополнение	He enjoys driving.	-
Определение	I don't like his plan of driving to the country.	The man driving a car is our manager.
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Mining wastes

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An additional problem arises if mine tailings enter the drainage system. They can choke a stream channel, increasing the flood hazards. Alteration of a stream system also can be produced from placer mining, in which the movement of large quantities of sediment upsets the balance of the stream.

Ответьте на следующие вопросы:

1. What are mining wastes?
2. What do the waste products from operations include?
3. What are consequences of mining wastes?

Урок 18. Pollution Solutions

Pollution Solutions

We have only a few years to attempt to turn things around. We must review our wasteful, careless ways, we must consume less, recycle more, conserve wildlife and nature, act according to the dictum «think locally, think globally, act locally. To my mind, we are obliged to remove factories and plants from cities, use modern technologies, redesign and modify purifying systems for cleaning and trapping harmful substances, protect and increase the greenery and broaden ecological education. These are the main practical measures, which must be taken in order to improve the ecological situation.

Some progress has been already made in this direction. 159 countries-members of the UNO have set up environmental protection agencies. They hold conferences discussing ecological problems, set up environmental research centres and take practical urgent measures to avoid ecological catastrophe. There are numerous public organisations such as Greenpeace that are doing much to preserve environment.

The 5th of June is proclaimed the World Environmental Day by the UNO and is celebrated every year.

Урок 19. Pollution Solutions

Pollution Solutions

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Урок 20. Обязательная контрольная работа

Урок 21. Повторительно-обобщающий урок

Литература и средства обучения

Основная литература:

- Баракова М.Я., Журавлева Р.И. Английский язык для горных инженеров. Учебник. М.: «Высшая школа», 2001
- Киткова Н.Г., Сафьянникова Т.Ю. Эффективный курс английского языка для студентов-геологов.- М.: “Менеджер”, 2006
- Earth’s Dynamic Systems. - Macmillan, 1992.
- Жималенкова Т. М. , Мальцева Н.А. Грамматика английского языка. –М., Глосса, 1995
- Кошманова И.И., Сидорова Н.А. Устные темы по английскому языку.- С-Пб.: «Союз», 1999
- Сушкевич А.С., Маглыш М.А. Английский язык Устные темы с упражнениями.- Минск: «АВЕРСЭВ», 2000

5.2. Дополнительная литература:

- Долинская Л.Д., Киткова Н.Г., Сафьянникова Т.Ю. Tests for geo-students. Сборник тестов. - М.: “Менеджер”, 2006
- Киткова Н.Г., Романовская М.А. Basic Geological Terms. Учебное пособие. - М.: “Менеджер”, 2006
- Долинская Л.Д., Киткова Н.Г. Express English for Geo-students. Учебник. - М.: “Менеджер”, 2006
- Киткова Н.Г., Сафьянникова Т.Ю. What is the Earth made of? Учебник. - М.: “Менеджер”, 2006
- Голицынский Ю.Б. Сборник упражнений.- СПб.: КАРО, 2006
- Томахин Г.Д. Лингвострановедческий словарь. США. -М., Русский язык, 2001
- Лингвострановедческий словарь. Великобритания.-М., Русский язык, 2002
- Бурман Я, Бобковский Г. Англо-русский научно-технический словарь. М., «Джон Уайли энд Санз», 1998
- Софиано Т.А. Англо-русский геологический словарь, М., Главная редакция иностранных научно-технических словарей физматгиза, 1961
- Васильева М.А. Учебное пособие по чтению для географов и геологов. На английском языке. – М.: «Менеджер», 2001
- Аракин В.Д., Выгодская З.С., Ильина Н.Н. Англо-русский словарь. – М., Русский язык, 1990
- Таубе А.М., Литвинова А.В., Миллер А.Д., Даглиш Р.С. Русско-английский словарь. –М., Русский язык, 1987
- Тимофеев П.П., Алексеев М.Н., Софиано Т.А. Англо-русский геологический словарь, М.: «Русский язык», 1988
- М. Гери, Р. Мак-Афи Мл., К. Вульфа. Толковый словарь английских геологических терминов. – М.: Мир, 1997
- Шериф Р.Е. Англо-русский энциклопедический словарь терминов разведочной геофизики. М.: «Недра», 1984
- Мюллер В.К., Боянус С.К., Русско-английский словарь. М.: АСТ «Астрель», 2006

5.3. Перечень рекомендуемых средств обучения:

- ТСО;
- Наглядные пособия;
- Мультимедийный проектор;
- Тематический комплект плакатов;
- Грамматические таблицы