

МИНИСТЕРСТВО ОБРАЗОВАНИЯ И НАУКИ РОССИЙСКОЙ ФЕДЕРАЦИИ

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Федеральное государственное бюджетное образовательное учреждение  
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# **ИНОСТРАННЫЙ ЯЗЫК.**

## **АНГЛИЙСКИЙ ЯЗЫК ДЛЯ БАКАЛАВРОВ И СПЕЦИАЛИСТОВ**

Рекомендовано Редсоветом университета в качестве учебного пособия  
по английскому языку для студентов, обучающихся по направлениям  
08.03.01 «Строительство», 07.03.01 «Архитектура»,  
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Представлен основной лексический, грамматический и тематический материал, необходимый для формирования у студентов навыков профессиональной коммуникации на английском языке. Задания по чтению научно-популярных и научных текстов разработаны с учетом современных методик обучения иностранному языку.

Пособие подготовлено на кафедре «Иностранные языки» и предназначено для студентов 1 курса дневного отделения, обучающихся по направлениям подготовки бакалавриата 08.03.01 «Строительство», 07.03.01 «Архитектура», 08.05.01 «Строительство уникальных зданий и сооружений» и 09.03.02 «Информационные системы и технологии», при изучении дисциплины «Иностранный язык», а также для специалистов, работающих в этих областях, руководителей строительных организаций, желающих повысить уровень языковой компетенции.

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## ВВЕДЕНИЕ

Предлагаемое Вашему вниманию учебное пособие является логическим продолжением учебного пособия «Английский язык для бакалавров» авторов Мусориной О.А., Стешиной Е.Г., Смирновой В.Н. (ПГУАС, 2014) и предназначено для работы со студентами 1 курса дневного отделения, обучающихся по направлениям подготовки бакалавриата 08.03.01 «Строительство», 07.03.01 «Архитектура», 08.05.01 «Строительство уникальных зданий и сооружений» и 09.03.02 «Информационные системы и технологии». Кроме того, его могут использовать специалисты, работающие в этих областях, инженеры, руководители строительных организаций, желающие повысить уровень языковой компетенции. Пособие рассчитано на 36–54 ч аудиторной работы и такой же объем самостоятельных занятий. Авторы рекомендуют использовать его во 2 семестре 1 года обучения, или в течение всего учебного года, в зависимости от количества часов, выделяемых на курс, и уровня языковой компетенции студентов.

Структура пособия довольно традиционна для такого рода изданий: введение, тематические разделы (units), тексты для реферирования и перевода, приложения, англо-русский словарь, список использованной литературы. По мнению авторов, такая стандартная структура вполне подходит для студентов неязыковых вузов, помогая им свободнее ориентироваться в материале. В то же время пособие снабжено фотографиями, картинками и рисунками для повышения интереса к текстам и визуализации тематического материала.

Пособие охватывает темы, необходимые для профессиональной коммуникации будущих архитекторов и строителей, а именно «Моя профессия», «Наука как карьера», «Архитектура Лондона», «Русская архитектура», «Строительные материалы», «Части здания», «Научно-технический прогресс», «Интернет» и др.

С первого раздела идет постепенное введение и активизация такой лексической группы, как «Academic English» – языка науки и образования, что отвечает современным требованиям к изучению иностранного языка в вузе.

Значительное внимание уделяется организации работы с текстами. Изучение каждого текста происходит на основе целого ряда заданий на развитие коммуникативной компетенции, а также по практике перевода, что в конечном итоге должно привести к овладению студентами основами научной и профессиональной коммуникации.

Грамматический материал представлен следующим образом: раздел 1 – усилительная конструкция, разделы 2, 3 – страдательный залог, разделы 4, 5 – неличные формы глагола. Авторы рекомендуют преподавателю

использовать дополнительные упражнения и тесты для закрепления грамматического материала.

Тексты для реферирования и перевода предназначены как для аудиторной, так и для самостоятельной работы. Кроме того, их можно использовать для подготовки к зачету или экзамену.

В приложения вынесены план реферирования статьи, основы научной презентации, правила работы с текстом, таблица неправильных глаголов.

Авторы надеются, что материал данного учебного пособия поможет преподавателям эффективно организовать процесс обучения английскому языку в вузе, повысит интерес студентов к этому предмету.

Авторы выражают благодарность рецензентам: кандидату педагогических наук, доценту кафедры «Перевод и переводоведение» Пензенского государственного университета Е.Ю. Ожеговой; кандидату культурологии, доценту кафедры «Иностранные языки» С.В. Сботовой (ПГУАС) за положительные отзывы о пособии. Выражаем благодарность сотрудникам РИО ПГУАС за организационную и техническую помощь в подготовке пособия к изданию.

## Unit 1. SCIENCE AS A CAREER

Обсудите в группе следующие вопросы:

1. What are your ambitions or dreams?
2. What are your plans for the future?
3. Do you do your best to reach the goal?

Используйте модель:

I would like/want/ plan...

- to become a good specialist;
- to start my own business;
- to learn how to drive;
- to earn a lot of money;
- to buy a luxurious car;
- to become famous;
- to design a unique building.

Прочитайте текст о выборе профессии и выполните задания к нему.

### Text 1. MY PROFESSION

It is common knowledge that it is very difficult for a person to choose the right profession. Many young people do not know for sure what kind of occupation they will choose after finishing school. We understand them very much because there are many trades and professions and all of them are important and useful. On the other hand, there are many boys and girls who know very early what trade they will take up and they prepare themselves to this trade.

To choose the right occupation one should take into account many factors: his gifts, capabilities, tastes, turn of mind. For example, for those who have a practical turn of mind it is better to choose the profession of an engineer, or a worker or a technician. For those who love children it is better to become a teacher or a children's doctor.

People choose their occupation in different ways. Some are ready to take up a profession in which they can help other people. Others prefer to follow their parents' example and take up their professions. There are some young people who choose only popular professions. I think it is not right to choose your future occupation this way. We must be interested in it and must be suited for it.

As for me I decided to become an engineer. I am sure it is one of the most useful professions. I want to become a good specialist. I do my best to get good knowledge of all subjects. I read books and magazines with special information about my future profession. My parents approve of my choice.

1) Соответствуют ли данные утверждения содержанию текста? Выберите один из вариантов: «Да» – «True», «Нет» – «False» или «В тексте нет информации» – «Not given».

1. It is not easy for a person to choose the right profession.
2. All young people prepare themselves to their future profession.
3. The chief factor to take into account is one's turn of mind.
4. Engineering is for those having a practical turn of mind.
5. Girls become better teachers or doctors.
6. There are many ways of choosing your occupation.
7. For some people their parents' example may be useful and important.
8. You should take into account only popular professions.

2) Обратите внимание на фразы, которые используются в тексте для выражения собственного мнения и построения логической структуры текста:

It is common knowledge that ...	Известно, что (все знают, что...)
On the other hand ...	С другой стороны, ...
For example ...	Например, ...
I think ...	Я думаю ( что)...
As for me ...	Что касается меня, ...
I am sure...	Я уверен, ...

3) Ответьте на вопросы, используя фразы из задания 2.

1. Why is it difficult to choose the right profession?
2. What factors should you take into account while choosing your occupation?
3. What is the right way to choose your future profession?
4. What is important for you in your career: money, experience, challenges and opportunities?
5. What do you do to become a good specialist and to succeed in life?
6. Do you plan to choose science for your career?
7. What famous scientists do you know?
8. What are their most famous ideas or theories?

4) Проверьте себя: знаете ли вы ученых и их открытия, изобретения, теории или сферу научной деятельности?

e.g. Thomas Edison is known as.../ is famous for.../ invented/ did research on...

Isaac Newton	the origin of species
Nicolaus Copernicus	black holes and how the Universe began
James Watt	helicopter

Charles Darwin	the theory of relativity
Alfred Nobel	the heliocentric theory
Thomas Edison	the law of gravitation
Michael Faraday	the universal steam engine
Albert Einstein	electric motor
Igor Sikorsky	dynamite
Stephen Hawking	electric lamp

Прочитайте текст «Albert Einstein» и выполните задания к нему:

1) Подберите для каждого абзаца соответствующий заголовок.

- A. Einstein's early years
- B. The famous formula
- C. The nuclear explosion
- D. Albert Einstein as a human being
- E. Crisis in physics
- F. Einstein's university career
- G. The articles without quotes or references
- H. Einstein's new views on the flow of time
- I. Year 1905 came
- J. An example illustrating his theory
- K. An experiment to measure the speed of light
- L. Present research

2) К какой информации из текста относятся эти цифры? Заполните пропуски?

26    60    299,792.458    2,000,000    1905    1921    1945    2008

1. The speed of light is ... kilometers per second.
2. Einstein's five articles were published in ...
3. He was ... years old and employed as a technical expert.
4. In ... Einstein received the Nobel Prize.
5. The Andromeda Galaxy is about ... light years away from us.
6. Back on earth, 4 million years have passed, but the astronaut has only aged by ... years.
7. On July 16, ... an explosion took place in the desert of New Mexico, USA, in which a nuclear explosive charge was detonated for the first time.
8. The LHC particle accelerator went into operation in ... at the European Research Centre CERN.

3) Прочитайте 1, 2 и 3 абзацы текста. С какими существительными употребляются следующие прилагательные?

leading	speed
human	work
technical	scientist
scientific	comprehension
rapid	concept
revolutionary	expert
new	succession
unimaginable	discipline

4) Укажите пары синонимов.

speed	motion
idea	observe
think	velocity
movement	approach
reach	concept
watch	ponder

5) Найдите в тексте существительные или словосочетания, которые употребляются с данными глаголами. Запишите полученные фразы.

to find the key to ...

to create ...

to explain ...

to contain ...

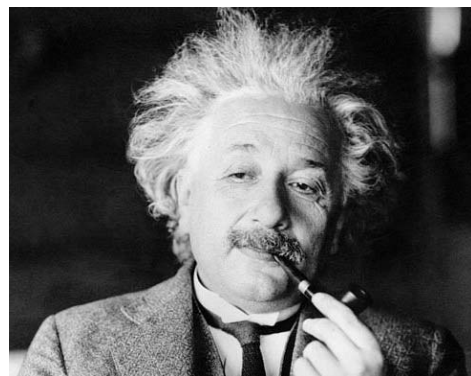
to question ...

to solve ...

to develop ...

## Text 2. ALBERT EINSTEIN

(1) Towards the end of the 19th century physics entered a deep crisis. Leading scientists maintained that physics had come to an end. This scientific discipline had developed at an incredible pace from a world of macro-physics with visible objects to a world of microphysics with events that occurred at unimaginable speeds and in orders of magnitude that were beyond human comprehension. The door to the age of quantum physics was about to open. But who would find the key to the new understanding of the world?





(2) Then 1905 arrived. In that year a young man contributed five articles in rapid succession to the journal "Annalen der Physik". His name was Albert Einstein. He was 26 years old and employed as a technical expert at the Swiss Patent Office in Bern. He was about to create a radically new concept of space, time, matter and energy with the thoughts contained in these articles. Science writer Bill Bryson sums it up in his typically witty style saying that Einstein's first article explained the nature of light, and it won him the Nobel Prize in 1921. The second article proved that atoms really do exist. And the third simply changed the whole world.

(3) It was Einstein's revolutionary work on a new theory of space and time that later became known as "the theory of relativity". Einstein did not like this title at first. He would have preferred the "theory of absoluteness". However, the fact remains that the treatise entitled "On the Electrodynamics of Moving Bodies" is seen as one of the most outstanding scientific contributions of all times, and could well be the greatest idea that ever occurred to any human being. The article contains no footnotes or quotes, hardly any mathematics and no references to other works. C.P. Snow said it was as if Einstein had reached his conclusions through pure thought, without any help and without listening to the opinions of others.

(4) Einstein is described as stubborn even as a child. He was born in Ulm in 1879 but the family moved to Munich when he was six weeks old. Albert was an unusually quiet child. He did not start speaking until he was three, and at twelve he taught himself geometry by studying the writings of Euclid. He wanted to solve the mysteries of the world. Despite his high aspirations his school career was by no means brilliant, as is often the case with highly gifted children. He finally gave up school completely and went to Italy (where his parents were living), but with the aim of studying in Zurich. In 1900 he graduated from the Swiss Institute of Technology in Zurich with a teaching diploma in maths. Then, while working at the patent office he married Mileva Maric who had studied together with him.

(5) Even as a child Einstein had pondered about what would happen if someone moved as fast as light and observed a light wave that moved with him. He found no satisfactory answer to this question, but he never gave up thinking about it. He was perfectly capable of giving intense thought to one particular question for years. He spontaneously started to question the foundations of space and time. Then he heard about the results of an experiment by Michelson and Morley in the USA. The aim of this experiment was to measure the speed of light in relation to the earth, which moved at a considerable speed around the sun. It was assumed that there would be differences in the speed of light due to changes in the motion of the earth. But no such effect was found. The speed of light turned out to be absolutely constant. In the end Einstein adopted the invariability of the speed of light as a principle. According to his hypothesis,

light spreads throughout space at a constant speed "c". Although this assumption contradicted the accepted rules of mechanics, this did not bother Einstein at all. As it turned out, he was right. The speed of light is the highest attainable speed in our space-time continuum. Light travels at 299,792.458 kilometres per second. But by fixing the speed of light, space and time become relative. In a moving frame of reference time passes more slowly than in one that is at rest.

(6) Newton had introduced space and time into physics in a simple way. He said that time ticks regularly from moment to moment. But even in Newton's day there were doubts. Leibniz, for instance, thought that time was nothing more than a language that enables us to relate events to each other. In a world without change, that is without events, there would be no time. Einstein came close to Leibniz's concept without adopting it completely. But in Einstein's new view the flow of time was at least something dependent on the system. The slowing of time in moving systems is determined by a factor called the gamma factor. For modest speeds this factor is practically equal to one, and in this case Newton's concept works well. But if the speed is around 30,000 km/s, that is 10 percent of the speed of light, the factor changes to about 1.005. At 99 percent of the speed of light the factor is 7. So, in this kind of system, time passes about seven times more slowly than in a resting system. The gamma factor increases when the speed approaches the speed of light. Once this is reached, the gamma factor is infinite in size. For this reason it is not possible for a body with mass to move at the speed of light or faster.

(7) Let's assume we are observing an astronaut who is moving away from earth at a constant acceleration, for instance with about the same increase in velocity as experienced when something falls freely onto the earth's surface. In this case the speed increase is 9.8 metres per second. Let's say the astronaut is moving towards the Andromeda Galaxy, which is about two million light years away from us. After the astronaut has travelled half way to the Andromeda Galaxy he stops accelerating and slows down his movement, so that he finally arrives in the Andromeda region at a slow speed. It's easy to calculate that this would take him or her just 30 years. During this time the astronaut covers a total of two million light years. The astronaut then turns around and arrives back on earth 30 years later. Meanwhile, back on earth, 4 million years have passed, but the astronaut has only aged by 60 years.

(8) In an extension of his theory of relativity Einstein finally developed the most famous formula in physics:  $E = mc^2$ . It states that energy and mass are different forms of the same substance, and that they are equivalent to each other. Or, to put it differently: energy is released matter, and matter is energy waiting for its release. As c is an enormous figure, the formula expresses that every thing that consists of matter contains an unimaginable amount of energy. At the time Einstein was only thinking about the transformation of a very small part of the mass, such as in the radioactive decay of an atomic nucleus. But now we know

that the formula is much more extensive. A proton, or the nucleus of a hydrogen atom, is completely transformed into radioactive energy when it collides with its antiparticle, an antiproton.

(9) In 1909 Einstein left the patent office to begin a university career. He taught at Zurich University, at Bern University and then in Prague. In 1912 he returned to Zurich. In 1914 the Prussian Academy of Sciences in Berlin offered him a position coupled with a lectureship at the Kaiser Wilhelm Institute of Physics. When he received the Nobel Prize some years later, he was a leading figure of international renown. During the Weimar Republic Einstein, who was an ardent pacifist with strong social views, experienced an increasing amount of anti-Semitic hostility. While in the USA together with his second wife, Elsa Loewenthal his books were burned in Germany and Hitler took over government in 1933. He was so shocked at the mass crimes committed by the Nazis that he never set foot in Germany again. He accepted an invitation from the Institute for Advanced Study in Princeton, where he remained until his death. He hardly travelled and worked on a comprehensive description of gravitation and electromagnetism. These were difficult questions and he did not manage to find a satisfactory solution.

(10) On July 16, 1945 an explosion took place in the desert of New Mexico, USA, in which a nuclear explosive charge was detonated for the first time. A small portion of the matter was transformed into radiation. Apart from the test bomb two additional atom bombs had been successfully produced. In August 1945 they were detonated over the Japanese cities of Hiroshima and Nagasaki. However, the physicists did not invent the nuclear explosion, they simply brought it to earth from the sun. And Einstein himself? Alarmed by the reports he was receiving, he wrote a letter to President Roosevelt in August 1939 expressing his concern that Germany might be able to produce atom bombs. This letter was crucial in the founding of the "Manhattan Project" that led to the construction of the atom bomb. This was a fatal mistake, as Einstein later emphasized, and certainly the most tragic example of the power and powerlessness of science. In 1950 he wrote that he had never participated in enterprises of a military technical nature, nor had he carried out any research that had anything to do with the production of atomic bombs. During the post-war years he was actively involved in creating a world order that banished the nuclear threat.

(11) The equivalence of matter and energy is still under constant observation in particle physics. But it is still unclear where the mass of the particles really originates. The LHC particle accelerator that went into operation in 2008 at the European Research Centre CERN was to provide the answer to this question. It may well help us understand what Einstein's famous formula really means.

(12) And Albert Einstein the human being? He was an enthusiastic sailor and music lover, a pacifist and a non-conformist. Written on parchment his

message to future generations says that if you are not more just, more peaceful and definitely more sensible than we are, or were, then may the devil take you.

Albert Einstein died in Princeton on April 18, 1955.

Harald Fritzsch, Michael Helge  
(adapted from *Deutschland* magazine)

6) Соотнесите понятие и его определение:

1. A very bad situation in which there is a risk that serious problems will become suddenly worse:

collapse                      failure                      crisis

2. Someone's idea of how something is done or should be done

concept                      story                      diagram

3. Very good at doing something because you were born with natural ability:

gifted                      competent                      famous

4. To think that something is true although you have no proof:

observe                      assume                      suspect

5. To move gradually closer to a person, place or thing:

drive                      introduce                      approach

6. To stop doing an activity that you used to do regularly:

give up                      avoid                      finish

7. Something that is surprising, strange or difficult to believe:

advanced                      considerable                      incredible

8. Continuing forever and never ending or stopping:

immense                      immemorial                      infinite

9. Going faster, especially suddenly:

imagination                      acceleration                      definition

10. The correct answer to a complicated problem:

solution                      reaction                      competition

7) Соответствуют ли данные утверждения содержанию текста? Выберите один из вариантов «Да» – «True», «Нет» – «False» или «В тексте нет информации» – «Not given».

1. A. Einstein made great progress at school.

2. He graduated from the Swiss Institute of Technology in Zurich with a diploma in physics.

3. His treatise entitled "On the Electrodynamics of Moving Bodies" is the most outstanding scientific contribution of all times.

4. At first he wanted to entitle his work the "theory of absoluteness".

5. There were lots of footnotes, quotes and references to other works in his article.

6. Einstein started his university career in 1914.

7. Einstein felt responsible for the existence of atom bomb.

8. According to Einstein, energy and mass are different substances.

9. He went to the USA to lecture there.

8) Изучите модель усилительной конструкции и переведите предложения.

It was Einstein's revolutionary work on a new theory of space and time that later became known as "the theory of relativity". *Именно революционная работа Эйнштейна над новой теорией пространства и времени позднее стала известна как теория относительности.*

1. It was during that period that the term *technics* first appeared, meaning *art, skill*.

2. It was in 1536 that Copernicus was allowed to publish his work.

3. It was at the beginning of the 20-th century that zoning structure in town planning came into being.

4. It is transport that is seen as one of the chief contributors to health and environment problems in urban regions.

5. It was a complex device that was used to calculate astronomical positions.

6. It is the Cadastre that traditionally assists in land taxation, land redistribution and providing relevant information.

7. It was yesterday that the equipment was installed in the laboratory

8. It is the gravitation that makes satellites move around the Earth.

9) Выберите отрывок текста для письменного перевода. Изучите требования к переводу научно-популярных и научно-технических текстов.

1. Точная передача текста оригинала.

2. Строгая ясность изложения мысли при максимально сжатой и лаконичной форме, присущей стилю русской научно-технической литературы.

3. Полное соответствие перевода общепринятым нормам русского литературного языка. Это необходимо учитывать при переводе отсутствующих в русском языке и характерных для английского языка синтаксических конструкций. Кроме того, смысловая насыщенность в английском языке ослабляется к концу предложения, тогда как в русском языке, наоборот, смысловое нарастание идет от начала предложения к его концу.

10) Расскажите об известном ученом или напишите его биографию, используя выражения и предложения из текста.

He/she was born .....

His/her parents were .....

In his/her childhood he/she liked .....

He/she went to the University of ..... and received a degree in .....

He/she discovered .....

His/her most famous idea (research, project) .....

People know him/her for (as) .....

## Unit 2. RUSSIAN ARCHITECTURE

Обсудите в группе следующие вопросы:

1. What Russian cities and towns are notable for their architecture?
2. Is your native town among them?
3. Have you ever been to Moscow?
4. If yes, what places did you visit? Did you like them?
5. What are «musts» of Moscow architecture?

Прочитайте текст 1 «The Jewels of Moscow Architecture» и выполните задания к нему.

1) Подберите определение к каждому из слов.

a) fortress	1) to ask or tell someone to go somewhere, especially so that they can do something for you there
b) to send	2) the period when someone is king, queen
c) fortification	3) the act of burying something in the ground
d) reign	4) a large, beautifully decorated house
e) tower	5) a hollow metal object like a cup with a piece of metal hanging inside it, which makes a ringing noise when it moves or you shake it
f) to crown	6) to make someone or something part of a larger group or set
g) burial	7) so surprising that it is difficult to believe
h) icon	8) a tall narrow building either built on its own or forming part of a castle, church
i) palace	9) a picture or figure of a holy person that is used in worship in the Greek or Russian Orthodox Church
j) dome	10) a large strong building used for defending an important place
k) bell	11) the bricks or stone from which a building, wall etc has been made
l) cannon	12) to place a crown on the head of a new king or queen as part of an official ceremony in which they become king or queen
m) to include	13) a round roof on a building
n) astonishing	14) towers, walls are built around a place in order to protect it or defend it
o) to celebrate	15) to show that an event or occasion is important by doing something special or enjoyable
p) masonry	16) a large heavy powerful gun that was used in the past to fire heavy metal balls

2) Пользуясь грамматическим справочником в конце учебного пособия, повторите правила употребления страдательного залога и переведите предложения из текста.

1. Under Dmitry Donskoi the Kremlin *was built* of white stone.
2. Thus during the reign of Ivan III the walls of white stone *were replaced* by new red-brick walls and towers.
3. The Cathedral of the Assumption (Uspensky sobor) *was built* in 1475–79.
4. The Russian Tsars and Emperors *were crowned* here.
5. St. Basil's Cathedral, one of the world's most astonishing buildings, *was built* by two Russian architects between 1555 and 1560 for Ivan the Terrible to celebrate his victory over the Tatar khanate of Kazan.

3) Перепишите предложения, изменив залог сказуемого.

1. In 1474 Ivan III sent a mission to Italy to find the best architectural and engineering talent.
2. The Italians introduced a new concept of the fortress walls quite different in character from that of the old Russian white-stone Kremlins.
3. In the centre of the Kremlin you can see Ivan the Great Bell Tower
4. Other notable buildings in the Kremlin include the Armoury Chamber
5. St. Basil's Cathedral embodies the characteristic architectural features of the wooden churches of North-East Russia

4) Заполните пропуски предложениями *with, by*.

1. The hall was decorated ... pink balloons.
2. The roof of the church will be repaired ... local people.
3. This material has been already published ... Cambridge University Press.
4. The house was built ... money that he had borrowed from the bank.
5. When the accident happened, the car was brought ... police.

## Text 1. THE JEWELS OF MOSCOW ARCHITECTURE

One of the jewels of Russian architecture is the Moscow Kremlin with its cathedrals, its many towers and red-brick walls. The Kremlin is the heart of Moscow. It is the oldest historical and architectural centre of the city.

The first Kremlin was a wooden fortress. Under Dmitry Donskoi the Kremlin was built of white stone. In 1474 Ivan III sent a mission to Italy to find the best architectural and engineering talent. They brought back with them Rodolfo Aristotele Fioravanti of Bologna who was at once an architect, an engineer, and an expert in military fortifications. Most of the other architects were northern Italians, mainly from Milan (Marco Ruffo, Pietro Solario, etc.).



The Italians introduced a new concept of the fortress walls quite different in character from that of the old Russian white-stone Kremlins. Thus during the reign of Ivan III the walls of white stone were replaced by new red-brick walls and towers.

The oldest part of the Kremlin is Cathedral Square and its three

grand cathedrals. The Cathedral of the Assumption (Uspensky sobor) was built in 1475–79. The Russian Tsars and Emperors were crowned here. The Archangel Cathedral (Arkhangelsky sobor, 1505–08) was the burial place of Russian princes and tsars. The Cathedral of the Annunciation (Blagoveshchensky sobor), erected in 1484–89 by masterbuilders from Pskov, was home church of Russian Tsars. It is famous for the icons painted by Andrei Rublev.

The Kremlin walls enclose several palaces. The Patriarch's Palace, built in the mid-seventeenth century for Patriarch Nikon is a museum of Russian seventeenth-century life. On the west side of Cathedral Square, next to Terem Palace with its golden domes, there is the Faceted Palace, designed for the imperial throne room.

In the centre of the Kremlin rises Ivan the Great Bell Tower, one of the most remarkable structures of the sixteenth century. It unites all the Kremlin Cathedrals into a majestic ensemble.

At the foot of the Bell Tower stands the Tsar Bell, the largest bell in the world. Not far from it, there is the Tsar Cannon.



Other notable buildings in the Kremlin include the Armoury Chamber, containing a magnificent collection of treasures, and the Kremlin Palace built in the early nineteen sixties. Just outside the Kremlin walls, on the edge of Red Square, stands the Church of the Intercession of the Virgin (Sobor Pokrova na Rvu), better known as St Basil's Cathedral, one of the world's most astonishing buildings. It was built by two Russian architects between 1555 and 1560 for Ivan the Terrible to celebrate his victory over the Tatar khanate of Kazan.

St Basil's Cathedral embodies the characteristic architectural features of the wooden churches of North-East Russia, "translated" into masonry. The eight



cupolas dominated by the central pyramid are all of the same general silhouette, but are different in design and colours.

*Пояснения к тексту:*

Cathedral of the Assumption – Успенский собор

Archangel Cathedral – Архангельский собор

Cathedral of the Annunciation – Благовещенский собор

Faceted Palace – Грановитая палата

Church of the Intercession of the Virgin – Собор Покрова на Рву

5) Соответствуют ли данные утверждения содержанию текста? Выберите один из вариантов: «Да» – «True», «Нет» – «False» или «В тексте нет информации» – «Not given».

1. Under Dmitry Donskoi the Kremlin was built of red bricks.

2. In 1474 Ivan III sent a mission to France to find the best architectural and engineering talent.

3. During the reign of Ivan I the walls of white stone were replaced by new red-brick walls and towers.

4. The Italian architects and engineers were well paid during the construction.

5. The oldest part of the Kremlin is the Patriarch's Palace and its three grand cathedrals.

6. The Cathedral of the Annunciation is famous for the icons painted by Andrei Rublev.

7. On the east side of Cathedral Square there is the Faceted Palace, designed for the imperial throne room.

8. St Basil's Cathedral was built by two Russian architects between 1555 and 1560 for Ivan the Terrible.

6) Ответьте на вопросы к тексту.

1. When was the Kremlin built of white stone?

2. Who sent a mission to Italy to find the best architectural and engineering talent?

3. What did Italian architects introduce in the character of the old Russian white-stone Kremlin?

4. What is the oldest part of the Kremlin?

5. How many cathedrals are there in the Kremlin? What are they?

6. When was the Patriarch's Palace built?

7. What was the Faceted Palace designed for?

8. What unites all the Kremlin Cathedrals into a majestic ensemble?

9. What is the Armoury Chamber famous for?

10. When and by whom was St. Basil's Cathedral built?

7) Расскажите (подготовьте доклад или презентацию) об одном из памятников архитектуры в России, используя образец:

One of the jewels of Russian architecture is...

It is located/ situated in...

It was built of white stone/brick...

It was built by the great Russian architect...

It was designed for ...

It is famous for the icons painted by...

It is a museum of Russian 18-th century life.

Other notable buildings include ...

It unites all the Cathedrals into a majestic ensemble

It embodies the characteristic architectural features of the wooden architecture.

8) Проверьте себя. Выполните тест по теме «Страдательный залог».

Выберите правильный вариант ответа:

1. This theatre ... (build) over 100 years ago.
  - a) had been built
  - b) has been built
  - c) was built
2. Is your car still for sale? — No. It ... already (sell).
  - a) has been sold
  - b) had been sold
  - c) was sold
3. Sometimes mistakes ... (make).
  - a) are made
  - b) are being made.
  - c) have been made
4. For the past few days I (work) in Jack's office, as my own ... (decorate).
  - a) have been working/ is being decorated
  - b) worked/ decorated
  - c) am worked/ is being decorated.
5. While my friend ... (talk) to me, his wallet .. (steal).
  - a) was being talked/ was being stolen
  - b) was talking/ was stolen
  - c) talked/stole
6. Where is your friend Bob? — — I don't know. He ... (not/ seen) recently.
  - a) hasn't seen
  - b) didn't see
  - c) hasn't been seen
7. If someone ... (report) you to the police, you ... (make) to pay a big fine.
  - a) reports/ will be made

- b) will report/ will make  
c) is reported/ will be made
8. Professor ... ( give) another lecture at the same time next week.  
a) will have been given  
b) will be given  
c) will give
9. Look at the dust in here! It ... (look) as if this room (not/clean) ... for a month.  
a) is looked/ hasn't cleaned  
b) looks/ hasn't been cleaned  
c) has looked/ isn't cleaned
10. The door ... (open) and a young lady ... (come in). It should be admitted that the door ... (open) by herself.  
a) opened/ came in/ was opened  
b) was opened/ came in/ was opened  
c) opened/ came in/ opened

Прочитайте текст 2 «Time-Honored Tobolsk» и выполните задания к нему:

1) Подберите к словам из текста их определения.

1) mighty	a) if something such as power, influence, or a feeling wanes, it becomes gradually less strong or less important
2) to wane	b) wood used for building or making things
3) inventor	c) the place where two or more rivers flow together
4) timber	d) a group of buildings in a place far from cities or towns, usually established as a military camp or a place for trade
5) deprive	e) to be given something
6) settlement	f) a group of houses and buildings where people live, especially in a place where few people have lived before
7) outpost	g) an area of lower land between two lines of hills or mountains, usually with a river flowing through it
8) confluence	h) a building where people are kept as a punishment for a crime, or while they are waiting to go to court for their trial

9) valley	i) the part of a fence or outside wall that you can open and close so that you can enter or leave a place
10) prison	j) done or made in the traditional or original way
11) masterpiece	k) very strong and powerful, or very big and impressive
12) authentic	l) someone who has invented something, or whose job is to invent things
13) to receive	m) someone who opposes or fights against people in authority
14) rebel	n) to prevent someone from having something, especially something that they need or should have
15) gate	o) a work of art, a piece of writing or music etc that is of very high quality or that is the best that a particular artist, writer etc has produced

2) Переведите текст, пользуясь словарем.

### Text 2. TIME-HONORED TOBOLSK

A formerly prosperous and magnificent town, Tobolsk was once the capital of the whole of Siberia until its importance waned when both the main Siberian road and Trans-Siberian rail-way bypassed the town in favor of nearby Tyumen. Thanks to the abundant forests which provided heaps of cheap timber, Tobolsk's historical centre still consists of wooden houses. Tobolsk is now the only Siberian city to have its own Kremlin, which has recently undergone renovation to its historical glory.

Tobolsk was founded in 1587 when Cossack leader Danila Chulkov ordered the construction of a fortress (or an *ostrog*, as it was called then) at the confluence of the Irtysh and the Tobol rivers. At first, Tobolsk served as a distant Siberian outpost. By 1595 Tobolsk received its first trade caravans from Bukhara, and later from Mongolia and China. All this strengthened Tobolsk's position as the first and most prosperous settlement in Siberia, with high stone fortress walls and magnificent churches to match its reputation.

Today Tobolsk is divided into two main parts: new districts on the highlands and flat hill, and the historical lowlands in the valley where the Tobol and the Irtysh meet. Tourists come usually to the new districts in the north first, and should take a lazy walk along the central street up to the Kremlin, crossing the

standard town square with a giant cube housing the town's administration and an eternal flame memorial.

Do not miss a monument to Russian poet and Tobolsk citizen Pyotr Ershov, the author of the famous fairy-tale poem "The Hump-backed Horse" (Konek Gorbunok).

About half of Tobolsk's Red Square is occupied by a weather beaten 20th century stadium proudly called Stroitel Stadium ("Construction Worker Stadium"). The rest of the square features the castle-like 18th century Guest House which ironically functioned mainly as a court of law and a transit prison receiving famous "guests" such as Decembrists, Fyodor Dostoevksy and countless revolutionaries.

The fairy tale white stone Castle serves as an archive and with all its gates and towers looks as if taken from a Russian fairy tale. Another 19th century castle that served as a transit prison stands in front of the Kremlin and is open for the public as a historical museum. Enter the Kremlin to admire the elegant blue and golden domes of St. Sofia Cathedral (1686) and the bell tower (1799).

Walking around the Kremlin visitors can see an authentic 19th century town in the lowlands, which seems untouched by modern trends and standards. The scenery of small wooden houses and small church domes looming up to the horizon along the mighty Irtysh viewed from the high Kremlin hill never fails to impress. Walk down the wooden stairs and you will find yourself well back in the past standing in the center of an old half-abandoned settlement.

Take a slow meditative walk along the town and imagine the once rich and intellectual Tobolsk. It is here that inventor of the periodic table of elements, Dmitry Mendeleev, was born and finished school. The town where many exiled noblemen spent the second part of their life and where the last Tsar, Nikolai II and his family were kept under arrest before meeting their end in Ekaterinburg.

Among the hundreds of Tobolsk's exiled visitors was a church bell from the town of Uglich which gathered the rebel population against tsar Boris Godunov in 1591. The bell was whipped, deprived of its tongue and sent to Siberia. It was only at the end of the 19th century that the bell returned home.

Many houses of the historical part are masterpieces of wooden architecture, and stand in one big ensemble with the view unchanged for decades.

(adapted from *Moscow News*)

3) Определите, является ли данное утверждение: истинным, ложным, в тексте нет информации. Аргументируйте свой ответ.

- a) Thanks to the mighty rivers Tobolsk became a historical centre of Siberia.
- b) Tobolsk was founded in 1578 when Cossack leader Danila Chulkov ordered the construction of a fortress.
- c) Tobolsk was built at the confluence of the Yenisei and the Tobol rivers.

d) By 1595 Tobolsk received its first trade caravans from Bukhara, and later from Mongolia and China.

e) Today Tobolsk is divided into three main parts: new districts on the highlands, the Kremlin on a flat hill and the historical lowlands in the valley.

f) There are two castles: one serves as an archive and with all its gates and towers, another castle served as a transit prison.

g) Here Dmitry Mendeleev invented his periodic table of elements.

h) Among the hundreds of Tobolsk's exiled visitors was a church bell from the town of Uglich.

4) Ответьте на вопросы к тексту.

1. When was Tobolsk the capital of the whole of Siberia founded?

2. Where did Cossack leader Danila Chulkov order the construction of a fortress?

3. Where did Tobolsk receive its first trade caravans from?

4. What is Tobolsk's Red Square occupied by?

5. What structure served as a transit prison and stands in front of the Kremlin and is open for the public as a historical museum?

6. What can the tourists admire on the territory of the Kremlin?

7. What can visitors see walking around the Kremlin?

8. Where were the last Tsar, Nikolai II and his family kept under arrest before meeting their end in Ekaterinburg?

5) Переведите предложения с пассивными конструкциями.

1. Today Tobolsk is divided into two main parts: new districts on the highlands and flat hill, and the historical lowlands in the valley where the Tobol and the Irtysh meet.

2. About half of Tobolsk's Red Square is occupied by a weather beaten 20th century stadium proudly called Stroitel Stadium.

3. It is here that inventor of the periodic table of elements, Dmitry Mendeleev, was born and finished school.

4. The last Tsar, Nikolai II and his family were kept under arrest before meeting their end in Ekaterinburg.

5. The bell was whipped, deprived of its tongue and sent to Siberia.

6) Выпишите из текста словосочетания и предложения, с помощью которых можно рассказать об истории и архитектуре вашего родного города или другого города России. Подготовьте сообщение на эту тему.

## Unit 3. DISCOVER LONDON

Обсудите в группе следующие вопросы:

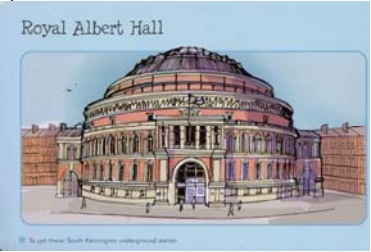
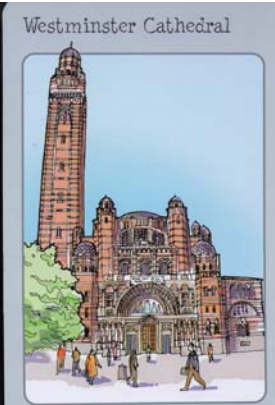
1. Have you ever been to London?
2. Would you like to visit the British capital?
3. What do you know about its history? When was it founded? Who was it founded by?
4. What sights or monuments have become symbols of London?


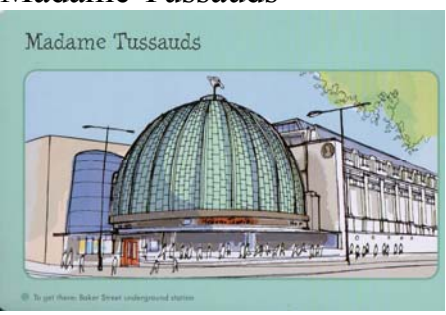
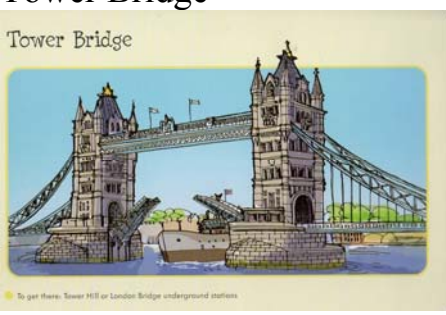

Прочитайте текст о достопримечательностях британской столицы и выполните задания к нему.

### Text. SOME THINGS TO SPOT IN LONDON

1) Заполните пропуски подходящими по смыслу словосочетаниями:

- |                                     |                        |                            |
|-------------------------------------|------------------------|----------------------------|
| A. the official home                | B. the Cabinet Room    | C. “inside-out” building   |
| D. to make new laws                 | E. the Knights Templar | F. Egyptian mummies        |
| G. hosting classical music concerts |                        | H. a viewing platform      |
| I. different types of marble        |                        | J. teenager Roman girl     |
| K. opens in the middle              |                        | L. the lifelike wax models |
| M. glorious and grisly past         |                        | N. grocery shop            |
| O. spectacular views                |                        | P. extravagant monument    |
| Q. a complex of 21 towers           |                        | R. a blade of light        |
| S. climb up the dome                |                        |                            |

<p>Royal Albert Hall</p> 	<p>This grand oval concert hall, which opened in 1871, is dedicated to the memory of Queen Victoria's husband, Prince Albert.</p> <p>The hall is most famous for (1)... .., but it has been used for all sorts of other events too – including ballroom dancing, car shows, circuses and even, in 1991, London's first ever sumo wrestling tournament</p>
<p>Westminster Cathedral</p> 	<p>This distinctive cathedral is the headquarters of the Roman Catholic Church in Britain. Completed in 1903, it was built to look more like a Byzantine church than an English cathedral, with soaring domes, balconies, and elegant towers.</p> <p>The interior is just as impressive. The walls and columns are made of over 100 (2)... .., and decorated with intricate mosaics</p>

<p><b>Museum of London</b></p>  <p>Museum of London</p> <p>To get there: Moorgate underground station</p>	<p>This is the place to find out all about London's (3)... .. – from prehistoric times right up to the present day.</p> <p>You can discover how Romans built the first city on the River Thames, how London was ravaged by the Great Fire and the Great Plague, and wander down a reconstructed street from Victorian London, experiencing its strange sights and sounds</p>
<p><b>Madame Tussauds</b></p>  <p>Madame Tussauds</p> <p>To get there: Baker Street underground station</p>	<p>It is the world's most famous wax museum. French artist. Marie Tussaud opened her museum on Baker Street in 1835. Since then it has grown into one of London's most popular tourist attractions.</p> <p>Around two million visitors come here each year to have their pictures taken with (4) ... .. of famous people such as actors, pop stars and the Royal Family</p>
<p><b>Tower Bridge</b></p>  <p>Tower Bridge</p> <p>To get there: Tower Hill or London Bridge underground stations</p>	<p>With its distinctive stone towers, Tower Bridge is one of London's most famous landmarks. It was completed in 1894, and remains the only bridge over the Thames that (5) ... ..</p> <p>The middle of the bridge has two sections (called bascules) that rise up to let tall ships through. They open around 1,000 times a year, and are operated by people that work in the towers</p>
<p><b>Albert Memorial</b></p>  <p>Albert Memorial</p>	<p>Queen Victoria ordered this (6) ... .. to be built in memory of her husband, Prince Albert, who died in 1861.</p> <p>The seated statue of the Prince in the middle is covered in glimmering gold leaf. It's surrounded by a canopy with intricate mosaics of angels, and a gold cross on the top. Sculptures around the memorial represent the different continents</p>



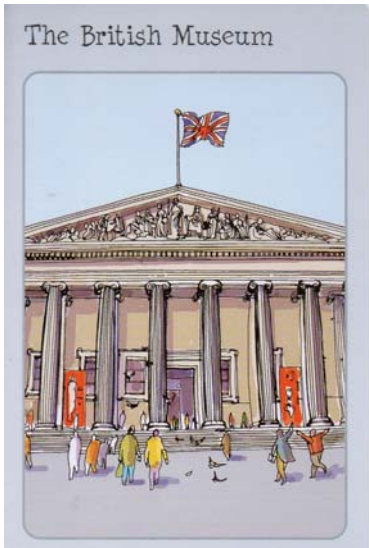
### Houses of Parliament



The Houses of Parliament (Palace of Westminster) is where the British government meets (7) ... ..

Inside are over 5km (3 miles) of corridors, 100 flights of stairs, and around 1,100 rooms. The most famous rooms are the House of Commons, where MPs debate political issues, and Westminster Hall, the only remaining part of a medieval palace that was once here

### The British Museum



Established in 1753, the British Museum is the oldest public museum in the world, and one of the biggest. It's free too. Its vast collection includes (8) ... .. and priceless medieval manuscripts.

At the heart of the museum is the beautiful glass-roofed Great Court, and a huge round library called the Reading Room

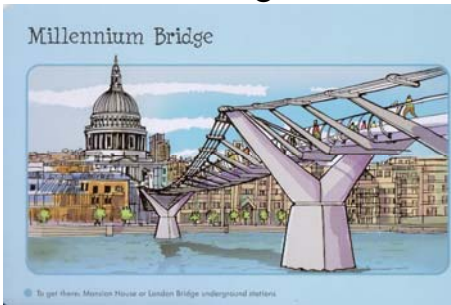
### Lloyd's building



Home of the insurance company Lloyd's of London, this striking building was designed by architect Richard Rogers, and opened in 1986.

Unlike other skyscrapers, the Lloyd's building has staircases, elevators and water pipes on the outside, so there's more space for offices inside. Because of this, it's nicknamed the (9) ... ..

## Millennium Bridge



This sleek steel footbridge spans the Thames between St. Paul's Cathedral and the Tate Modern, linking the north and south banks of the city.

The Millennium Bridge is the first new footbridge to cross the Thames in over 100 years. It was built to celebrate the new millennium, and designed to look like (10) ...  
... .. streaking across the river

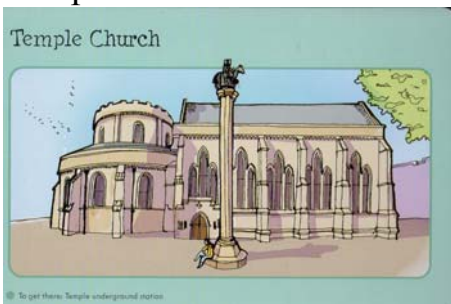
## Tower of London



This ancient fortress is actually (11) ... ..  
..., enclosed within thick stone walls. Over the past 900 years, the Tower has been used as a royal palace, an astronomical observatory, and even a zoo.

But the Tower is best known as a prison, where enemies of English kings and queens had their heads chopped off. Today it's a museum, housing the priceless Crown Jewels

## Temple Church



Temple Church is one of the oldest buildings in London, although it has changed a lot since it was first built around 800 years ago.

The church was constructed in the 1100s by a group of monks called (12) ... .., who fought in the Crusades, religious wars in the Middle East. A statue on a pillar outside the church shows one of the knights riding a horse

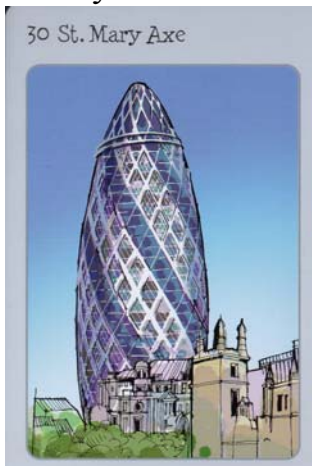
## Buckingham Palace



Since 1837, this enormous palace has been (13) ... .. of the kings and queens of Great Britain. Inside are almost 800 lavishly decorated rooms, including 52 bedrooms and 78 bathrooms. The palace also has a chapel, post office and cinema.

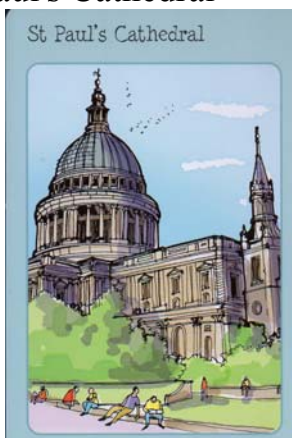
Most of Buckingham Palace is private, but you can visit some of the beautiful State Rooms on public tours in the summer

### 30 St. Mary Axe



The official name of this distinctive glass building is 30 St. Mary Axe, but its often known as 'the Gherkin' because of its unusual shape. It is 180m (590ft) high, with 40 floors of offices, and London's highest restaurant at the top (which is only for people who work in the building). The outside is covered in 7,429 panes of glass – enough to cover five football fields. When 30 St. Mary Axe was built, the grave of a (14) ... .. was discovered buried in the ground beneath. It's still there now

### St. Paul's Cathedral



The soaring dome of St. Paul's Cathedral is one of the most famous landmarks in the world. Inside, the Cathedral is decorated with intricate wooden carvings, and dazzling mosaics made of around 30 million pieces of glass. You can (15 .. ... .. too. It's 550 steps to the Golden Gallery at the very top, where you get stunning views across London

### Harrods





Harrods was just a small (16)... .. when it opened in 1849. Today it's one of the largest and most famous department stores in the world. Harrods has 330 departments, spread over seven floors. They boast that they can sell you anything you want, from anywhere in the world. The Pet Department once even sold a customer a baby elephant

### The London Eye



This huge observation wheel was built to celebrate the new millennium. It was only meant to be up for five years, but was so popular it was made a permanent addition to London's skyline. The London Eye is 135m (450ft) high – that's three times higher than Tower Bridge. Its 32 glass capsules travel in a slow circle as the wheel turns. From the top, passengers inside get (17)... .. across London



<p>No. 10 Downing Street</p> 	<p>This famous address has been the home of British Prime Ministers since 1735. It's actually three houses joined up, with over 100 rooms inside.</p> <p>There are elegant dining rooms, where visiting leaders from other countries are entertained, and (18) . . . . ., where the Prime Minister and his closest advisers make important political decisions</p>
<p>City Hall</p> 	<p>This strangely shaped glass building is where the Mayor of London works. It has ten floors of busy offices, as well as (19)... . . . at the top that gives you great views up and down the River Thames.</p> <p>City Hall's round shape means it loses heat less than rectangular buildings, which makes it better for the environment</p>

2) Найдите в тексте предложения с пассивными конструкциями и переведите их на русский язык

3) Догадайтесь, о каких достопримечательностях идет речь. Соотнесите информацию в правом столбце с названием достопримечательности в левом.

1. The London Eye	a) It was built using the profits from a science and arts exhibition that took place in nearby Hyde Park in 1851
2. No. 10 Downing Street	b) The museum overlooks part of the ancient city wall, built by the Romans around 2,000 years ago to protect London from enemy invasions
3. City Hall	c) Before a cathedral was built here, this site was used for bull fights, a rubbish dump, a market, a maze, and a notorious prison
4. Royal Albert Hall	d) Prince Albert said he didn't want a statue of him made after he died. Queen Victoria obviously didn't listen
5. Museum of London	e) In 1977, it was painted red, white and blue to celebrate the Queen's Silver Jubilee
6. Harrods	f) Its tallest tower is called Victoria Tower. If a flag is flying from the top, that means the politicians are meeting inside

7. Albert Memorial	g) The famous Parthenon Marbles were taken from an Ancient Greek temple over 100 years ago. Today, the Greek government wants them back
8. Tower Bridge	h) The bridge opened in the year 2000, but was shut after just two days, when people felt the surface swaying as they crossed. The problem was fixed, but ever since the bridge has been nicknamed the 'Wobbly Bridge'
9. Madame Tussauds	i) The round front of it is based on the design of an even older church in Jerusalem, called the Church of the Holy Sepulchre
10. Houses of Parliament	g) The Tower has been protected since the 16th century by guards called Yeoman Warders, also known as Beefeaters. You can spot them giving tours in their red and black coats.
11. The British Museum	k) The Palace has over 600 staff, including gardeners, cooks and cleaners. There are even two people who look after its 300 clocks
12. Lloyd's building	l) The Cathedral was completed in 1710, and designed by the architect Sir Christopher Wren. It's 111m (364ft) high dome is the second largest in Europe (after St. Peter's in Rome)
13. Millennium Bridge	m) Before it became the home of British Prime Ministers, No. 10 Downing Street was owned by a man named Mr. Chicken
14. Buckingham Palace	n) The building was finished in 2002, and cost £43 million. It's made of over 4,000 tons of steel and glass
15. 30 St. Mary Axe	o) It takes around four months for Madame Tussauds to create one of its wax figures. The heads alone take five weeks to get right, with each strand of hair being added individually
16. St. Paul's Cathedral	p) In 1898, the world's very first escalator was installed in it. Passengers were given a drink at the top to celebrate the ride

4) Пользуясь текстом, составьте терминологический словарь по теме «Архитектура».

5) Выберите один из исторических или архитектурных объектов Лондона и расскажите об его истории и значении.

## Unit 4. CONSTRUCTION PROCESS

Обсудите в группе следующие вопросы:

1. What do you have to do as a civil engineer?

- to design a structure
- to select building materials
- to sign contracts
- to employ workers
- to lay the foundation
- to supervise the construction process
- to make the survey of the construction site

2. What do you usually do when you have your professional practice?

Прочитайте текст «Строительные материалы» и выполните задания к нему.

### TEXT 1. BUILDING MATERIALS

One of the primary tasks of a civil engineer is to select all the necessary building materials and adapt them for the construction.

All building materials are classified according to their structure and according to their use. According to their structure building materials may be natural and artificial. Natural building materials are stone, clay, sand, lime and timber. Artificial materials are brick, concrete, cement, steel and plastics. According to their use building materials are divided into three groups: main, binding and secondary.

1. Main or structural building materials are brick, stone, concrete, timber and metals. They are used for bearing structures. Structural materials should be hard, durable, fire and weather resistant and easily fastened together.

Timber, stone and brick are the most ancient building materials. Wood is light, cheap and easy to work, but it is not fire and weather resistant. Wood is often used in modern construction for window and door frames.

Stone possesses mechanical strength, durability, compactness, porosity, sound and heat insulation. It is fire-resistant. Different types of natural and artificial stones are used for the construction of modern buildings.

Brick is artificial stone made of clay and sand. Bricks are chiefly used for the construction of walls. They present a pleasant appearance and give strength and firmness to the structures. Structural steel and concrete are the most widely used building materials now. They possess an increased mechanical strength, durability and are weather resistant.

Concrete is a mixture of cement, sand, crushed stone and water. The most important component of concrete is cement. Sand and crushed stone are used as aggregates. Concrete is used for making mass concrete, reinforced concrete or

precast reinforced concrete. Reinforced concrete is combination of steel and concrete.

2. Binding materials are lime, gypsum and cement. They are used for making different mortars for the purpose of binding together masonry units. They are also used for making artificial stones, and as constituents of wall plaster. Gypsum is used nowadays for making gypsum blocks. Cement is used for concrete making. Only high quality cement is employed for reinforced concrete work. Cement is a binding material made of limestone and clay.

3. Secondary materials are timber, plastics, glass, some metals and some stones. They are used for the interior finish of the building and secondary work. One of the most widely used secondary materials is plastics. Plastics have good insulating properties and are fire and corrosion resistant. They add colour and beauty to modern houses.

1) Подберите к словам и словосочетаниям на английском языке их русские эквиваленты.

bearing structure	долговечность, прочность
resistance	крепость, сопротивление
natural	строительный раствор
artificial	дерево, лесоматериалы
stone	кирпич
clay	вяжущие
sand	отделочный
lime	заполнитель
durability	щебень
strength	несущая конструкция
mortar	сопротивление
timber, wood	естественный
brick	искусственный
binding	камень
finishing	глина
aggregate	песок
crushed stone	известь

2) Переведите текст.

3) Пользуясь таблицей, дайте определение каждому строительному материалу.

Brick		sand
Contrete	is made of	steel and concrete
Reinforced concrete	is a mixture of	cement, sand, crushed stove and water
Cement	is combination of	clay and sand
Glass		limestone and clay

4) Опишите один из строительных материалов по образцу.

e.g. Brick is artificial stone made of ...

It is used for...

It gives...

5) Замените придаточные определительные предложения причастными оборотами. Правила употребления причастия вы можете найти в грамматическом справочнике в конце учебного пособия.

1. All the people *who live in this house* are students.

2. The woman *who is speaking now* is our secretary.

3. The apparatus *that stands on the table in the corner of the laboratory* is quite new.

4. The young man *who helps the professor in his experiments* studies at our university.

5. People *who borrow books from the library* must return them on time.

6. There are lots of students at our university *who take part in all kinds of activities: contests, competitions clubs*.

2. Переведите предложения, содержащие причастие 1, причастие 2

1. The project created by this media guru is discussion-based.

2. Traveling from the city center, you should take a No. 70 bus.

3. Crossing the road, visitors can see a church and walk around its yard.

4. The estate was damaged during the 1812 Napoleonic invasion of Moscow.

5. The palace interiors covered by painting and tapestries arouse our admiration.

6. Police officers roamed in twos or threes keeping an eye on the crowd.

7. A young guy wearing an apron is a potter's apprentice.

8. When painting and decorating vases and plates, the masters try to stick to their unique style.

Прочитайте текст «Части здания» и выполните задания к нему.

## Text 2. PARTS OF A BUILDING

A building consists of the superstructure and the substructure. The part of a building below the ground level is called the substructure and part above the ground the superstructure.

After the excavation is dug for the basement the foundation walls below the ground level are constructed. Then the frame-work is erected. It is the part upon which the stability of the structure depends.



Foundation is the lowest part of the building upon which the superstructure rests. It serves to keep the walls and floors from contact with the soil and prevent the structure from settlement. There are different types of foundation: strip, pile, isolated, raft and others. Mostly they are constructed of in-situ concrete, precast reinforced concrete elements, piles, field stone or brick.

Walls may be external and internal. External walls enclose area and support the weight of floors and roofs. They rest directly on the foundation structure. Internal walls or partitions subdivide the building into rooms. They may or may not support other parts of the building. Wood, brick, stone, concrete and other natural and artificial materials are used for the construction of walls.

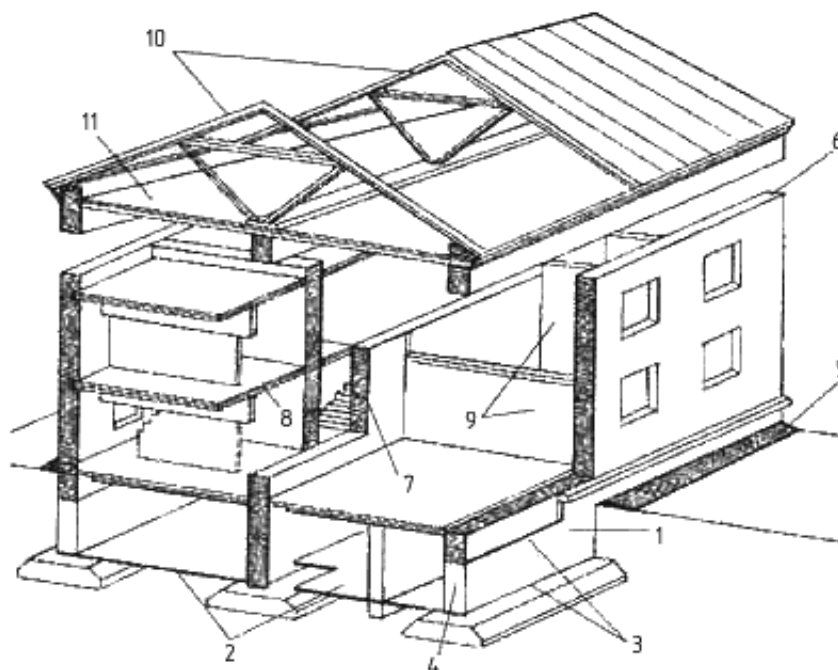
Floors divide the building into stories. They may be either of timber or of a fire-resistant materials.

Roofs are covering or upper parts of a building constructed over the enclosed space. They keep out rain, snow and wind and preserve the interior from exposure to the weather. Roofs tie the walls and give strength and firmness to the structure. There may be flat and pitched roofs. The pitch is governed by climatic conditions and by the covering material used. The covering may be of wood, tiling, fabricated units, slates and tiles.

The staircase leads to the upper floors. The staircase consists of stairs (steps). The steps between two landings are a flight of stairs. Wood, stone concrete and metal may be used for the construction of stairs.

There are doors to provide a passage in and out of a room or a building and windows to admit light and air.

Doors, window frames and even stairs are delivered to the building site on lorries. They are to be fixed in the houses. A lot of houses are built of prefabricated blocks (prefabs).



- 1 – фундамент – foundation;
- 2 – пол подвала (основания) – basement floor;
- 3 – гидроизоляция – insulation;
- 4 – стены подвала – basement walls;
- 5 – отмостка – perimeter pavement;
- 6 – наружные стены – external walls;
- 7 – внутренние стены – internal walls;
- 8 – межэтажное перекрытие – floor;
- 9 – перегородки – partitions;
- 10 – стропила – rafters;
- 11 – чердачное перекрытие – attic floor.

1) Подберите к словам и словосочетаниям на английском языке их русские эквиваленты.

superstructure	внешний
substructure	внутренний
ground level	воздействие
foundation	с наклоном
settlement	плоский
field stone	лестничный пролет
external	надстройка
internal	нулевой цикл
exposure	уровень земли
pitched	фундамент
flat	оседание
flight of stairs	валун, булыжник

2) Переведите текст.

3) Скажите, какую функцию выполняет та или иная часть здания. Используйте герундий вместо инфинитива.

e.g. Foundation is for ... (to prevent the structure from settlement) – Foundation is for preventing the structure from settlement.

1. The foundation is for ... (to keep the walls and floors from contact with the soil).

2. External walls are for ... (to enclose area and support the weight of floors and roofs).

3. Internal walls are for ... (to divide the building into rooms).

4. Floors are for ... (to divide the building into stories).

5. Roofs are for ... (to keep out rain and snow, to tie walls, to give strength and firmness to the structure).

6. The staircase is for ... (to go upstairs).
7. Doors are for ... (to provide a passage in and out).
8. Windows are for ... (to admit light and air).

4) Переведите на русский язык предложения, содержащие герундий и герундиальные обороты. Правила употребления герундия вы можете найти в грамматическом справочнике в конце учебного пособия.

1. Repairing cars is his business.
2. Taking cold shower in the morning is very healthy.
3. It looks like raining.
4. My watch wants repairing.
5. I had no hope of getting an answer before the end of the month.
6. He talked without stopping.
7. Some people can walk all day without feeling tired.
8. My nephew took wrestling up for a while, but soon lost interest.
9. His father disliked wasting time on such trifles.
10. The neighbours saved our life by lending us that money.
11. Beethoven continued writing music after he became deaf.
12. The place is worth visiting.
13. Watching football matches may be exciting enough, but of course it is more exciting playing football.

Прочитайте текст 3 «На стройплощадке» и выполните задание к нему.

### Text 3. ON A CONSTRUCTION SITE

In the construction of any structure the first step is to make a careful survey of the site and to examine the soil. It is also necessary to clear the site, to erect accessive roads, to deliver building materials.

After preparatory work the builders lay the foundation and erect the walls, the floors, the roof of a building.

The last stage of construction includes finishing work and installation of various facilities for gas, water and sewage services.

Construction work usually involves a large number of people of various building trades. Bricklayers, plumbers, welders, plasterers, painters, carpenters, engineers work on a construction site.

Most of the site operations are mechanized and reduced to a minimum. Many structures are assembled of precast elements.

Builders use different building machines in the process of construction. Bulldozers level the ground. Cranes hoist structural elements and place them into position. Lorries and trailers deliver building materials to the site.

Bricklayers build the walls and other parts made of bricks. Plumbers fix all the baths, water pipes and the sanitary fittings. Electricians run electric wires. Welders are employed in welding structural elements.

All the doors and window-frames are made by carpenters and put into their places by joiners. Plasterers put plaster or cement over all the walls and ceiling and make them smooth. Painters and decorators carry out finishing work. The building process takes place under supervision of foremen and engineers.

1) Подберите к словам и словосочетаниям на английском языке их русские эквиваленты.

to survey	монтаж
to examine	удобства, оборудование
accessive roads	канализация
preparatory work	вовлекать
to lay the foundation	собирать
to erect	доставлять
finishing work	производить топографическую съемку
installation	исследовать
facilities	подъездные пути
sewage services	предварительная работа
to involve	закладывать фундамент
to assemble	воздвигать, сооружать
to deliver	отделочные работы

2) Переведите текст.

3) Ответьте на вопросы по тексту:

1. What are the main stages of construction process?
2. When do the builders lay the foundation?
3. What does the last stage of construction include?
4. What specialists are involved in the process?
5. Why are most operations reduced to a minimum?
6. What building machines can you see on the site?
7. Who supervises the construction process?

4) Расскажите о процессе строительства от лица одного из участников – рабочего, прораба или инженера. Вопросы задания № 3 помогут вам.

5) Перепишите предложения, найдите в них неличные формы глагола (причастия, герундий, инфинитив), определите их. Переведите предложения.

1. It was hard to him to answer the last question.
2. While listening to his report they made notes.

3. His work resulted in solving many problems.
4. The engine tested required no improvement.
5. The columns supporting this roof are made of white stone.
6. People began studying higher mathematics in the 17<sup>th</sup> century.
7. It is useless to discuss the question.
8. The force applied to the body was measured.
9. I simply love driving a car.
10. To know everything is to know nothing.
11. In what direction is this force acting?
12. The letters received today must be answered immediately.
13. The car bought by Tom isn't new.
14. There was no chance of getting an answer before the end of the week.
15. A man went into the office leaving the door open.
16. They had enough time to make a tour of London.
17. My watch needs cleaning.
18. Pieces of broken glass were seen everywhere.
19. I came here to tell you the truth.
20. Entering the room, I switched on the light.

6) Переведите предложения, содержащие объектный и субъектный инфинитивные обороты. (См. грамматический справочник в конце учебного пособия)

1. We know all bodies to consist of atoms.
2. Television is said to have both advantages and disadvantages.
3. He wants Professor Blake to be invited to the conference.
4. Many years ago the Sun was believed to rotate round the Earth.
5. The manager expects us to do this properly.
6. Venus is considered to be the closest neighbor to the Earth
7. Usually English people don't like strangers to ask personal question.
8. He is expected to manage this business well.
9. That man has never been seen to smile.
10. They noticed her leave the house.

Прочитайте текст 4 и выполните задания к нему:

#### Text 4 . NEW CONSTRUCTION TECHNOLOGY PROGRAMS

For more than 1000 years, the construction industry remained relatively the same. With the invention and introduction of new construction technology over the past few decades, however, the industry has advanced by leaps and bounds.

New construction technology resources include bid software, programs that estimate the total amount it will cost to build the project. Construction bid software can be purchased by a general contractor and installed on their

computers, or, increasingly, it can be Web-based. Construction bid software can be very general, covering the entire project, or it can be highly specific, depending on the contractor's needs. There are programs aimed at certain segments of the construction industry, from residential to heavy construction. There are programs for carpentry estimating; conceptual estimating; concrete estimating and insurance claims estimating, as well as any miscellaneous estimating work that needs to be done. There are construction job cost software programs specializing in plumbing, piping and as well as repair and remodeling tasks.

One of the most ground-breaking new construction technology assets is three-dimensional modeling, a computer program that allows the user to build the construction project on the screen before the first shovel hits actual dirt. This program allows the construction manager to visualize any potential conflicts or design flaws and to take care of them early in the process, instead of later with a costly change order.

New construction technology can be found in programs designed to cover budgeting, cost estimating and accounting as well. Construction estimate software is the basis for monitoring costs of construction project during the building phases to ensure cost overruns to not occur. Construction estimate software can be an in-depth, complex process as it requires a complete overview of all costs related to a project. Accounting programs are also of vital importance, as steps already taken during the construction process can be properly monitored to make sure budget limits are maintained and overruns have not occurred that could affect the budget for the remainder of the project.

1) Подберите к словам на английском языке их русские эквиваленты.

invention	оценивать
software	обзор
to estimate	поддерживать
contractor	экскаватор
residential	разносторонний
miscellaneous	трубопровод
plumbing	подрядчик
to monitor	гарантировать
piping	бюджет
shovel	ремоделирование
to maintain	происходить
budget	программное обеспечение
remodeling	изобретение
overview	жилой
to ensure	происходить
to occur	канализация

2) Переведите текст.

3) Ответьте на вопросы к тексту.

1. What does new construction technology resources include?
2. What do you know about construction bid software?
3. What are the programs for the construction industry?
4. Can the computer program build the construction project on the screen?
5. What spheres does new construction technology deal with?
6. Construction estimate software requires a complete overview of all costs related to a project, doesn't it?
7. What are the tasks of accounting programs?

4) Определите, является ли предложение: 1) истинным, 2) ложным, 3) в тексте нет информации.

1. Construction bid software can be purchased by a general contractor or it can be Web-based.
2. There are programs aimed at certain segments of the construction industry, from residential to general to heavy construction.
3. Programmers use algorithms when writing programs.
4. New construction technology can be found in programs designed to cover accounting.
5. Construction estimate software requires a complete overview of all costs related to a project
6. Accounting programs properly monitor the budget limits of the project.
7. Accounting programs are not of great importance.

## Unit 5. SCIENCE AND TECHNOLOGY

Обсудите в группе следующие вопросы:

1. What words do you associate with “science” and “technology”?
2. What gadgets and devices do you have in your possession?
3. What do you use them for?
4. Do you know any facts concerning advancements in technology?

### Text 1. SCIENTIFIC AND TECHNOLOGICAL PROGRESS

1) Прочитайте текст и переведите его на русский язык.

It's difficult to overestimate the role of science and technology in our life. They accelerate the development of civilization and help us in our co-operation with nature. Scientists investigate the laws of the universe, discover the secrets of nature, and apply their knowledge in practice improving the life of people.

Let's compare our life nowadays with the life of people at the beginning of the 20<sup>th</sup> century. It has changed beyond recognition. Our ancestors hadn't the slightest idea of the trivial things created by the scientific progress that we use in our every day life. We mean refrigerators, TV sets, computers, microwave ovens, radio telephones, what not. They would seem miracle to them that made our life easy, comfortable and pleasant. On the other hand, the great inventions of the beginning of the 20<sup>th</sup> century, we mean radio, aeroplanes, combustion and jet engines have become usual things and we can't imagine our life without them.

A century is a long period for scientific and technological progress, as it's rather rapid. Millions of investigations, the endless number of outstanding discoveries have been made. The 20th century has had several names that were connected with a certain era in science and technology. At first it was called the atomic age due to the discovery of the splitting of the atom. Then it became the age of the conquest of space when for the first time in the history of mankind a man overcame the gravity and entered the Universe. And now we live in the information era when the computer network embraces the globe and connects not only the countries and space stations but a lot of people all over the world. All these things prove the power and the greatest progressive role of science in our life.

But every medal has its reverse. And the rapid scientific progress has aroused a number of problems that are a matter of our great concern. These are ecological problems, the safety of nuclear power stations, the nuclear war threat, and the responsibility of a scientist.

But still we are grateful to the outstanding men of the past and the present who have courage and patience to disclose the secrets of the Universe.



*Пояснения к тексту:*

a matter of great concern – вопрос, вызывающий озабоченность

beyond recognition – до неузнаваемости

combustion engine – двигатель внутреннего сгорания

jet engine – реактивный двигатель

miracle – чудо

Our ancestors hadn't the slightest idea of... – У наших предков не было ни малейшего представления о ...

splitting – расщепление

2) Отметьте в тексте предложения, являющиеся эквивалентами русских.

1. Трудно переоценить роль науки и техники в нашей жизни.

2. Наши предки не имели ни малейшего представления об обыденных вещах, созданных научным прогрессом, которыми мы пользуемся каждый день.

3. Были проведены миллионы исследований и сделано бесконечное число выдающихся открытий.

4. Но у любой медали есть обратная сторона.

5. И все же мы благодарны великим ученым прошлого и настоящего, у которых есть мужество и терпение раскрывать секреты Вселенной.

3) Заполните пропуски подходящими по смыслу словами.

1. Science and technology ... the development of civilization and help us in our ... with nature.

2. Trivial things created by the scientific progress would seem ... to our ancestors.

3. The great inventions made our life easy, ... and ... .

4. A century is a long period for ... and ... progress, as it's rather ... .

5. Now we live in the ... ... when the computer network ... the globe and ... not only the countries and space stations, but a lot of ... all over the world.

6. Rapid scientific progress has ... a number of problems that are a matter of our great ... .

4) Опираясь на содержание прочитанного текста, закончите предложения.

1. Scientists investigate the laws of the Universe, discover the secrets of nature and then

a) write thick books improving the life of people.

b) invent different machines improving the life of people.

c) apply their knowledge in practice improving the life of people.

2. Our life nowadays, as compared with the life of people at the beginning of the 20<sup>th</sup> century,

- a) has not changed at all.
- b) has changed beyond recognition.
- c) has become more pleasant and comfortable.

3. Our century has had several names that were connected with

- a) a certain era in science and technology.
- b) a certain era in art and music.
- c) the development of the society.

5) Ответьте на вопросы.

1. What is the role of science and technology in our life?

2. What things, which we use in our daily life, would seem miracles to our ancestors?

3. How have great inventions changed our life?

4. Why was the 20<sup>th</sup> century called the atomic age?

5. What problems has the rapid scientific progress aroused? Which of them is the most urgent?

6. We are grateful to the great scientists and inventors, aren't we?

6) Расположите пункты плана согласно логике повествования.

1. Things that make our life easy, comfortable and pleasant.

2. Every medal has its reverse.

3. The role of science and technology in our life.

4. The reason why the 20<sup>th</sup> century has had several different names.

7) Используя факты из текста, расскажите о:

1. Trivial things that make our life comfortable, but would seem miracles to our ancestors.

2. Why the 20<sup>th</sup> century was called the atomic age, the age of the conquest of space and the information era.

3. The problem caused by the rapid scientific progress.

## Text 2. INTERNET – A NEW MEDIUM

1) Прочитайте текст и переведите его, пользуясь словарем.

Do you know that although the basic applications and guidelines that make the Internet possible had existed for almost a decade, the network did not gain a public face until the 1990s?

Since then the world has changed immensely because of the Internet. And its arrival has already given some clear indications about the way in which languages are going to be affected. We are facing a development whose consequences for English (and indeed for languages in general) are profound.

The Internet is a genuine new medium of linguistic communication, taking some of the properties of the two traditional mediums, speech and writing, synthesizing them in a new way, and adding further properties which were unavailable to either in the past. Because people are typing their messages on a screen, there are obvious similarities with written language; but there are some important differences. To begin with, most of the interactions are in the form of a dialogue – doing the job of speech, only in written forms. Moreover, it is a fast-moving dialogue, especially in chatgroups and virtual worlds, where people are exchanging messages as fast as they can type. E-mails are also dialogic in character. Although there can be quite a lag before a reply is received, the language in which the reply is often written is that of a face-to-face conversation. It is this dialogic character which has led some commentators to describe Internet communications as “written speech”.

But in our real conversations we do not only pronounce words. We pronounce them with a definite intonation, stress, speed, rhythm and tone of voice. The limitations of the keyboard enable only some of the properties of spoken language to be expressed on the screen (punctuation marks, repeating letters, spacing or capitalization of letters, for example, can be used to stress the meaning of the word.) But it is impossible to communicate the other properties which add so much meaning to face-to-face conversation – facial expressions and gestures. Remember the saying “it ain’t what you say, nor the way that you say it, but the way that you look when you say it”? Has anything been done to compensate for this obvious defect of the Internet communication? Yes, here they are – “smileys”!

2) ОТВЕЬТЕ НА ВОПРОСЫ К ТЕКСТУ.

1. When did the Internet gain a public face?
2. The Internet is a genuine new medium of linguistic communication, isn't it?
3. Are e-mails dialogic in character?
4. Which limitations of the Internet communications can you mention?
5. What way do you prefer to communicate with your friends?

3) СООТНЕСИТЕ КЛЮЧЕВЫЕ СЛОВА С СООТВЕТСТВУЮЩИМ ОПРЕДЕЛЕНИЕМ.

Computer  
The Internet  
Screen  
E-mail  
Program

- a) A set of instructions given to a computer to make it perform an operation.
- b) An electronic machine that can store information and do things with it according to a set of instructions.
- c) A computer system that allows millions of computer users around the world to exchange information.
- d) A system that allows people to send messages to each other by computer
- e) The flat glass part of a computer.

4) Найдите в тексте предложения, содержащие нижеследующие слова и выражения.

- to give indications
- to be a new medium of linguistic communication
- to be dialogic in character
- to pronounce words with a definite intonation
- to be expressed on the screen

5) Разделите текст на смысловые части, подберите названия к каждой из них.

### Text 3. OPERATING SYSTEMS

1) Прочитайте и переведите текст.

When computers were first introduced in the 1940's and 50's, every program written had to provide instructions that told the computer how to use devices such as the printer, how to store information on a disk, as well as how to perform several other tasks not necessarily related to the program. The additional program instructions for working with hardware devices were very complex, and time-consuming. Programmers soon realized it would be smarter to develop one program that could control the computer's hardware, which others programs could have used when they needed it. With that, the first operating system was born.

Today, operating systems control and manage the use of hardware devices such as the printer or mouse. They also provide disk management by letting you store information in files. The operating system also lets you run programs such as the basic word processor. Lastly, the operating system provides several of its own commands that help you to use the computer.

DOS is the most commonly used PC operating system. DOS is an abbreviation for disk operating system. DOS was developed by a company named Microsoft. MS-DOS is an abbreviation for "Microsoft DOS". When IBM first released the IBM PC in 1981, IBM licensed DOS from Microsoft for use on

the PC and called it PC-DOS. From the users perspective, PC-DOS and MS-DOS are the same, each providing the same capabilities and commands.

The version of DOS release in 1981 was 1.0. Over the past decade, DOS has undergone several changes. Each time the DOS developers release a new version, they increase the version number.

Windows NT (new technology) is an operating system developed by Microsoft. NT is an enhanced version of the popular Microsoft Windows 3.0, 3.1 programmes. NT requires a 386 processor or greater and 8 Mb of RAM. For the best NT performance, you have to use a 486 processor with about 16 Mb or higher. Unlike the Windows, which runs on top of DOS, Windows NT is an operating system itself. However, NT is DOS compatible. The advantage of using NT over Windows is that NT makes better use of the PC's memory management capabilities.

OS/2 is a PC operating system created by IBM. Like NT, OS/2 is DOS compatible and provides a graphical user interface that lets you run programs with a click of a mouse. Also like NT, OS/2 performs best when you are using a powerful system. Many IBM based PC's are shipped with OS/2 preinstalled.

UNIX is a multi-user operating system that allows multiple users to access the system. Traditionally, UNIX was run on a larger mini computers to which users accessed the systems using terminals and not PC's. UNIX allowed each user to simultaneously run the programs they desired. Unlike NT and OS/2, UNIX is not DOS compatible. Most users would not purchase UNIX for their own use.

Windows 95&98 (Windows 2000, Windows ME, Windows XP) are the most popular user-oriented operating systems with a friendly interface and multitasking capabilities. The usage of Windows 95 and its enhanced version Windows 98 is so simple that even little kids learn how to use it very quickly. Windows 95 and 98 are DOS compatible, so all programs written for DOS may work under the new operating system.

Windows 95 requires 486 processor with 16 megabytes of RAM or Pentium 75-90 with 40 megabytes of free hard disk space.

*Пояснения к тексту:*

on top of DOS – "сверху", на основе ДОС;

are shipped – поставляются;

with a click of a mouse – одним щелчком клавиши мыши;

multiple users – многочисленные пользователи;

simultaneously – одновременно.

2) Ответьте на вопросы к тексту.

1. When were computers first introduced?
2. Do comprehensive operating systems control and manage the use of hardware devices?
3. Do operating systems also provide disk management?
4. What is DOS?
5. DOS was developed by Microsoft, wasn't it?
6. Each time the DOS developers release a new version, don't they?
7. What is the difference between PC-DOS and MS-DOS?
8. What can you say about Windows NT?
9. Is there an advantage of using NT over Windows?
10. What do you know about OS/2?
11. What other operating systems can you mention, using information from the text?

3) Соотнесите ключевые слова с соответствующим определением.

Hardware

Processor

Computer

File

User

a) An electronic machine that can store information and do things with it according to a set of instructions.

b) Computer machinery and equipment, as opposed to the programmes that make computers work.

c) Someone that uses a product, service etc.

d) The central part of a computer that does the calculations needed to deal with the information it is given.

e) A collection of information on a computer that is stored under a particular name.

4) Составьте план к тексту, выделив главные мысли в каждом абзаце.

5) Найдите в тексте Причастия I и II, определите их формы и функции.

6) Прочтите мнения людей о значении компьютера в современном мире. С чьим мнением Вы согласны (не согласны)? Выразите свое мнение.

Jill (21): I really enjoy my computer. It's so amazing. I can make new friends and chat with them on the Internet. Now I have two close friends from Italy and Canada. Next summer we are going to meet in Paris and spend a week together visiting many interesting places. Besides, the Internet helps me in my studies. I can find the necessary information and ideas there.

Nick (11): I'm learning how to use a computer. Most of all I like playing computer games. Sometimes I'm lucky, sometimes not. But I hate losing and try my chances again and again. So, I spend a lot of time playing computer games.

Mr.Black (47): Computers offer wonderful opportunities for everybody. But I think that young people spend too much time using computers. They don't have time and sometime wish for communication with their relatives and friends for reading, sport and other traditional hobbies. Computers are dangerous and addictive, to my mind.

Mrs.Black (43): I hate computers. Children sit in front of them for hours. It's bad for their health. They can't stop playing cruel and silly games. They become nervous, angry and tired. Computers are a waste of time. Children use them only for games and don't really learn anything.

7) Составьте небольшие диалоги, посвященные роли компьютера в жизни современного молодого человека.

1. You are playing an interesting computer game. But you haven't done your homework. Your mother is angry. She wants you to stop playing.

2. Your friend is fond of computer games. He spends all the time playing. Ask him to go for a walk with you.

8) Обсудите в группе.

1. Judging from your experience tell your groupmates if UNIX is used nowadays? What about OS/2?

2. What are the advantages and disadvantages of Windows 95 and Windows 98?

#### Text 4. WINDOWS 95

1) Прочитайте и переведите текст.

Windows 95 is a new operational system with an easy interface based on the expanding windows principle which uses icons to graphically represent files and their types.

Windows 95 makes the way you and your computer interact easy. Most everyday tasks are now easier to accomplish than ever before. For example, the second mouse button has become a powerful weapon. The old Windows 3.0 Program Manager and File Manager have been replaced. The desktop tools that replace them are very like those found on a Macintosh. For example, there is a Recycle Bin that makes it easier to recover accidentally deleted files.

Your computer probably will crash less running Windows 95 than it did with Windows 3.1 and 3.0 or even DOS. Most memory related problems have been removed. Built-in networking features make it easy to reliably share files with co-workers across the room or across the world. And MS DOS as we know it is so well hidden that you'll rarely give it a thought. Yes, you can still run DOS programs and older Windows applications but most users will probably want to spend most of their time using Windows 95 applications instead.

Microsoft says that it is moving forward in the time when we'll all think more about our data and less about the specific name-brand programs used to create them. Windows 95 plug-and-play capability makes it easy to upgrade your computer hardware. And portable computer users will like what Microsoft has done to make their lives calmer.

A new Windows shortcuts capability makes it easy to reach frequently used files and other necessities. A new Find feature helps you to locate and examine the contents of files in a flash.

Most of this is accomplished without sacrificing performance. In fact, many things (like printing) usually happen faster now, due to 32-bit support and other Windows 95 advancements.

*Пояснения к тексту:*

Recycle Bin – корзина;

to plug – подключать;

flash – вспышка, зд. in a flash – моментально;

to give smth. a thought – подумать о чем-либо;

brand-name – торговая марка;

shortcut – кратчайший путь;

to sacrifice – жертвовать;

advancement- прогресс, продвижение.

2) Ответьте на вопросы к тексту.

1. What is Windows 95?
2. What new principles are used in Windows 95?
3. What is a Recycle Bin feature?
4. What problems has Windows 95 solved?
5. Is it possible to run old DOS programs under Windows 95?
6. What is a plug-and-play capability?
7. What is a shortcut capability?
8. What is a Find feature?
9. Why many things work faster now with Windows 95?



3) Определите, является ли данное утверждение: истинным, ложным, в тексте нет информации. Аргументируйте свой ответ.

1. An icon is graphical image represents file and its type.
2. The second button is not used in Windows 95 because people use 1-button mouse.
3. There is a Recycle Bin that makes it easier to recover accidentally deleted files.
4. Windows 95&98 are the most popular user-oriented operating systems.
5. Due to the advancements of Windows 95 many things usually happen faster now.

4) Найдите в тексте все неличные формы глагола (инфинитив, причастие, герундий). Определите их функции в предложении.

5) Найдите в тексте предложения, описывающие преимущества операционной системы Windows 95.

6) Составьте план к тексту, выделив главные мысли в каждом абзаце.

#### Text 5. INTRODUCTION TO THE WWW AND THE INTERNET

1) Прочитайте и переведите текст.

Millions of people around the world use the Internet to search for and retrieve information on all sorts of topics in a wide variety of areas including the arts business, government, humanities, news, politics and recreation. People communicate through electronic mail (e-mail) discussion groups, chat channels and other means of informational exchange. They share information and make commercial and business transactions. All this activity is possible because tens of thousands of networks are connected to the Internet and exchange information in the same basic ways.

The World Wide Web (WWW) is a part of the Internet. But it's not a collection of networks. Rather, it is information that is connected or linked together like a web. You access this information through one interface or tool called a Web browser. The number of resources and services that are part of the World Wide Web is growing extremely fast. In 1996 there were more than 20 million users of the WWW. By using a computer terminal (hardware) connected to a network that is a part of the Internet, and by using a program (software) to browse or retrieve information that is a part of the World Wide Web, the people connected to the Internet and World Wide Web through the local providers have access to a variety of information. Each browser provides a graphical interface. You move from place to place, from site to site on the Web by using a mouse to

click on a portion of text, icon or region of a map. These items are called hyperlinks or links. Each link you select represents a document, an image, a video clip or an audio file somewhere on the Internet. The user doesn't need to know where it is, the browser follows the link.

All sorts of things are available on the WWW. One can use Internet for recreational purposes. Many TV and radio stations broadcast live on the WWW. Essentially, if something can be put into digital format and stored in a computer, then it's available on the WWW. You can even visit museums, gardens, cities throughout the world, learn foreign languages and meet new friends. And, of course, you can play computer games through WWW, competing with partners from other countries and continents.

Just a little bit of exploring the World Wide Web will show you what a lot of use and fun it is.

*Пояснения к тексту:*

World Wide Web – «Всемирная Паутина»;

to retrieve – извлекать;

variety – разнообразие, спектр;

recreation – развлечение;

network – сеть;

to share – делить;

humanities – гуманитарные науки;

business transactions – коммерческие операции;

to browse – рассматривать, разглядывать;

provider – провайдер (компания, предоставляющая доступ к WWW через местные телефонные сети);

broadcast live – передавать в прямом эфире;

site – страница, сайт;

to link – соединять;

hyperlink – гиперссылка.

2) Ответьте на вопросы к тексту.

1. What is Internet used for?
2. Why are so many activities such as e-mail and business transactions possible through the Internet?
3. What is WWW?
4. What is Web browser?
5. What does a user need to have an access to the WWW?
6. What are hyperlinks?
7. What resources are available on the WWW?
8. What are the basic recreational applications of the WWW?

3) Определите, является ли данное утверждение: истинным, ложным, в тексте нет информации. Аргументируйте свой ответ.

1. There are still not so many users of the Internet.
2. There is information on all sorts of topics on the Internet, including education and weather forecasts.
3. People can communicate through e-mail only.
4. You can access information available on the WWW through the Web browser.
5. You need a computer (hardware) and a special program (software) to be a WWW user.
6. DOS is the most commonly used PC operating system.
7. Films and pictures are not available on the Internet.

4) Используя справочную литературу, дайте определения следующим словам и выражениям.

Internet;  
World Wide Web;  
Web browser;  
Internet provider;  
Hyperlinks.

- 5) Побеседуйте с другом о значении интернета в современном мире.
- Does anyone in your group have experience working on the Internet? Ask them:
    - about the difficulties they had;
    - useful information retrieved;
    - fun they got.
  - Why do so few people have experience working on the Internet?
  - World famous authors and publishers say that the Internet violates their copyright because Web-programmers put all kinds of books, pictures, music, films and programs free on the Internet and reduces their sales and profits. Do you agree?

#### Text 6. BILL GATES

1) Прочитайте и переведите текст.

William Henry Gates was born in Seattle, Washington, in 1955.

He is an American business executive, chairman and chief executive officer of the Microsoft. While attending Harvard in 1975, Gates together with Allen developed a version of the BASIC computer programming language for the first personal computer.

In the early 1980s, Gates led Microsoft's evolution from the developer of computer programming languages to a large computer software company. This transition began with the introduction of MS-DOS, the operating system for the new IBM Personal Computer in 1981. Gates also led Microsoft towards the introduction of application software such as the Microsoft Word processor.

Much of Gates' success is based on his ability to translate technical visions into market strategy. Although Gates has accumulated great wealth from his holdings of Microsoft stock, he has been known as a tough competitor who seems to value winning in a competitive environment over money. Gates still continues to work personally in product development at Microsoft.

2) Ответьте на вопросы.

1. Why do you think Bill Gates, President of Microsoft Company, is one of the richest people on the Earth?

2. What other famous people of science and engineering can you mention?

# ТЕКСТЫ ДЛЯ ПЕРЕВОДА И РЕФЕРИРОВАНИЯ

## Text I. CEMENT

In the most general sense of the word, cement is a binder, a substance which sets and hardens independently, and can bind other materials together. The word "cement" traces to the Romans, who used the term "opus caementicium" to describe masonry which resembled concrete and was made from crushed rock with burnt lime as binder. The volcanic ash and pulverized brick additives which were added to the burnt lime to obtain a hydraulic binder were later referred to as *cementum*, *cimentum*, *cament* and *cement*. Cements used in construction are characterized as hydraulic or non-hydraulic.

The most important use of cement is the production of mortar and concrete – the bonding of natural or artificial aggregates to form a strong building material which is durable in the face of normal environmental effects.

Concrete should not be confused with cement because the term *cement* refers only to the dry powder substance used to bind the aggregate materials of concrete. Upon the addition of water and/or additives the cement mixture is referred to as concrete, especially if aggregates have been added.

It is uncertain where it was first discovered that a combination of hydrated nonhydraulic lime and a pozzolan produces a hydraulic mixture (Pozzolanic reaction), but concrete made from such mixtures was first used on a large scale by Roman engineers. They used both natural pozzolans (trass or pumice) and artificial pozzolans (ground brick or pottery) in these concretes. Many excellent examples of structures made from these concretes are still standing, notably the huge monolithic dome of the Pantheon in Rome.

## Text II. COMPOSITION OF CONCRETE

There are many types of concrete available, created by varying the proportions of the main ingredients below. By varying the proportions of materials, or by substitution for the cementitious and aggregate phases, the finished product can be tailored to its application with varying strength, density, or chemical and thermal resistance properties.

The mix design depends on the type of structure being built, how the concrete will be mixed and delivered, and how it will be placed to form this structure.

Portland cement is the most common type of cement in general usage. It is a basic ingredient of concrete, mortar, and plaster. English masonry worker Joseph Aspdin patented Portland cement in 1824; it was named because of its similarity in colour to Portland limestone, quarried from the English Isle of Portland and used extensively in London architecture. It consists of a mixture of oxides of calcium, silicon and aluminium. Portland cement and similar materials are made

by heating limestone (a source of calcium) with clay, and grinding this product (called clinker) with a source of sulfate (most commonly gypsum). The manufacture of Portland cement creates about 5 percent of human CO<sub>2</sub> emissions.

Combining water with a cementitious material forms a cement paste. The cement paste glues the aggregate together, fills voids within it, and allows it to flow more freely.

### **Text III. HISTORY OF CONCRETE**

Concrete has been used for construction in various ancient civilizations. An analysis of ancient Egyptian pyramids has shown that concrete was employed in their construction.

During the Roman Empire, Roman concrete (or *Opus caementicium*) was made from quicklime, pozzolanic ash/pozzolana, and an aggregate of pumice. Its widespread use in many Roman structures, a key event in the history of architecture termed the Concrete Revolution, freed Roman construction from the restrictions of stone and brick material and allowed for revolutionary new designs both in terms of structural complexity and dimension.

Concrete, as the Romans knew it, was in effect a new and revolutionary material. Laid in the shape of arches, vaults and domes, it quickly hardened into a rigid mass, free from many of the internal thrusts and strains which trouble the builders of similar structures in stone or brick.

Modern tests show *Opus caementicium* to be as strong as modern Portland cement concrete in its compressive strength (ca. 200 kg/cm<sup>2</sup>). However, due to the absence of steel reinforcement, its tensile strength was far lower and its mode of application was also different.

Modern structural concrete differs from Roman concrete in two important details. First, its mix consistency is fluid and homogeneous, allowing it to be poured into forms rather than requiring hand-layering together with the placement of aggregate, which, in Roman practice, often consisted of rubble. Second, integral reinforcing steel gives modern concrete assemblies great strength in tension, whereas Roman concrete could depend only upon the strength of the concrete bonding to resist tension.

### **Text IV. CONCRETE**

Concrete is a construction material composed of cement (commonly Portland cement) as well as other cementitious materials such as fly ash and slag cement, aggregate (generally a coarse aggregate made of crushed rocks such as limestone, or granite, plus a fine aggregate such as sand), water, and chemical admixtures. The word *concrete* comes from the Latin word "concretus" (meaning compact or condensed), the past participle of "concreresco", from "com-" (together) and "cresco" (to grow).

Concrete solidifies and hardens after mixing with water and placement due to a chemical process known as hydration. The water reacts with the cement, which bonds the other components together, eventually creating a stone-like material. Concrete is used to make pavements, pipes, architectural structures, foundations. motorways/roads, bridges/overpasses, parking structures, brick/block walls and footings for gates, fences and poles.

Concrete is used more than any other man-made material in the world. As of 2006, about 7.5 cubic kilometres of concrete are made each year – more than one cubic metre for every person on Earth.

Concrete powers are a US \$35-billion industry which employs more than two million workers in the United States alone. More than 55,000 miles (89,000 km) of highways in the United States are paved with this material. Reinforced concrete, prestressed concrete and precast concrete are the most widely used modern kinds of concrete functional extensions.

### **Text V. CONCRETE PRODUCTION**

The processes used vary dramatically, from hand tools to heavy industry, but result in the concrete being placed where it cures into a final form. When initially mixed together, Portland cement and water rapidly form a gel, formed of tangled chains of interlocking crystals. These continue to react over time, with the initially fluid gel often aiding in placement by improving workability. As the concrete sets, the chains of crystals join up, and form a rigid structure, gluing the aggregate particles in place. During curing, more of the cement reacts with the residual water (hydration).

This curing process develops physical and chemical properties: mechanical strength, low moisture permeability, and chemical and volumetric stability.

Mixing concrete. Thorough mixing is essential for the production of uniform, high quality concrete. Therefore, equipment and methods should be capable of effectively mixing concrete materials containing the largest specified aggregate to produce uniform mixtures of the lowest slump practical for the work.

Separate paste mixing has shown that the mixing of cement and water into a paste before combining these materials with aggregates can increase the compressive strength of the resulting concrete. The paste is generally mixed in a high-speed, shear-type mixer at a w/cm (water to cement ratio) of 0.30 to 0.45 by mass.

### **Text VI. THE INFLUENCE OF LOCAL MATERIALS AND LABOUR**

Traditional building construction is simply the form of building which is normal at some particular time and in some particular place. What is considered traditional varies from one period to another and from one place to another.

There is often a different tradition for what has been called monumental from that for domestic building. The wealthy client is not limited to a form of construction based on local labour and materials as is the domestic client. The poorer the local supply of materials and skills the greater the differences there tend to be between the two forms of building. In places where there was a poor supply of durable materials, only the State, the Church and the landowner could afford to import the stone and brick for durable construction, and in such places there are usually few examples of domestic architecture surviving from the past to match the examples of monumental buildings. This is, for example, true in Britain, where domestic buildings do not generally date back more than three or four centuries whereas there are churches and castles which were built eight or nine centuries ago.

Most forms of building have traditionally been based on local materials. This is inevitable when materials are bulky and heavy and there is no cheap form of transport. As building skills improve and the properties of materials are better understood, the materials are fashioned not only to improve the convenience of the buildings but also so as to use the materials themselves more economically, which in itself makes it more feasible to obtain materials from other areas. The use of materials in a more economic fashion is stimulated as the more easily available materials are used up and there is a need to go further for materials and to spend more time in winning them. For example, in stone districts the earlier forms of construction were often based on thick walls built of loosely piled stones which were gathered from the ground. Ways of building walls with less material were developed when it became necessary to dig the stones out of the ground and perhaps to cart them some distance.

Some forms of construction are more labour-consuming than others and some need more skilled labour than others. Self-built construction is usually relatively unskilled and often the labour used for such construction has no economic value, since the construction is carried out at a time when the labour would otherwise be unoccupied. Under such conditions the most economic form of construction is one which is based on materials which can be fashioned without much skill and which are readily to hand. The application of these principles can be observed in the forms of construction once traditional in many parts of Britain.

## **Text VII. EARTH AS A BUILDING MATERIAL**

In 1982 a large exhibition and conference took place at the Pompidou Centre in Paris entitled 'A forgotten building practice for the future'. The theme was earth as a building material. Earth can be used in construction for more than just



trenches and potato cellars. It is the second most important building material after bamboo. More than 30 per cent of the world's current population live in earth houses, which once also flourished in Western Europe but have since been forgotten. They are now on the march again, soon at full speed in France, Germany and the USA.

The aspects of earth building that make it popular are:

- It is based on a resource which is abundant in most countries. In many cases the material can be excavated on site.
- It requires much less energy, a small percentage of the energy needed for concrete building; if carried out correctly, it also has a long life expectancy.
- It has reasonable and simple building methods which make selfbuilding feasible.
- The earth buildings create a good indoor climate because of their good moisture-regulating properties.
- Buildings can be recycled more easily than those in any other material.

There are two main ways of building earth houses: ramming (pisé) where the earth is rammed between shuttering to make walls, and earth block (adobe) where the earth is first pressed into blocks and dried before use.

Argillaceous marine earth is considered the best raw material for earth building. It is also possible to mix clay with other types of earth. Earth can be used in its natural state, and stabilizers such as cement or bitumen can also be added to increase the cohesion. It can also be mixed with straw, sawdust or light clinker for reinforcement or to increase the insulation value. If it is a good mixture, homogeneous earth construction has strong structural properties. There are examples of German earth houses up to six storeys high. As with other stone and cast materials the tensile strength is poor, and arches or vaults are necessary over openings. Earth structures reach their ultimate strength after a few years. During the first months the walls are soft enough to be chased for electrics and to have holes bored for pipes, niches made, etc. The only enemy of earth construction is damp – very careful design and construction is necessary to avoid damp problems. Even a small detailing error can lead to big problems. Concrete is tougher than earth in such situations.

Earth building is extremely labour-intensive compared to most other methods. In the present economic situation where all the labour must be paid for, building with earth is very expensive. Earth technology is undergoing intensive development on mainland Europe. At present it should be seen as a potential self-build method, mainly in areas where there are earth resources.

## **Text VIII. INNOVATION IN BUILDING**

Innovation in building has been generated in many different ways. Clients have set new problems: they have demanded better standards of comfort and convenience, better services and more economic solutions. Designers have looked to the potential of new materials to solve new problems and to solve old problems in new and better ways. Constructors have used the new materials in an effort to reduce the costs of construction. Their freedom to choose materials is only complete where they are building directly for the market. Building offers a large potential market and the producers of materials have naturally tried to exploit this market for their materials.

While innovations have added to the range of materials available for building, increased the number of possible techniques, and made it possible to provide a better standard of comfort and service, they have done little to reduce the costs of construction. Increases in the standards of living have tended to lead to a rise both in the national costs of building construction and in the costs of individual buildings. While rises in the efficiency in other sectors of industry may leave the potential purchasers of buildings with more resources to devote to this purpose, it is unlikely that demand can be met, unless higher efficiency and hence lower relative costs can be achieved.

Many observers have felt that traditional building, involving as it does the joining together of a large number of small units, must be basically inefficient. Building has been critically compared with the factory industries and with the success they have achieved in mechanisation, in replacing craft processes with machines and with semiskilled labour and with their success with large scale methods. There have been various attempts to try to emulate these methods in building. Broadly, these attempts have taken four forms: prefabrication, system building, mechanisation, and the rationalisation of the erection process.

Prefabrication has developed along two lines: in the form of standard as compared with purpose-made components and in the form of systems of construction based on large scale purpose-made components. The use of standard components has been developing steadily over the last half century. More and more items of joinery and metal goods are purchased ready made; plasterboard and plaster panels are replacing wet plaster, electrical and plumbing be obtained with units out to size and ready for systems can installation. The development of systems of construction has naturally been most noticeable in those fields in which a standardised product is acceptable, for example, housing and schools. Some of these systems have been based on interlocking units which form a load-bearing structure; the units vary in size from traditionally sized building blocks to room-sized units. Other systems have been built around a frame hung with a light cladding material.

## **Text IX. INTERNATIONAL DIFFERENCES IN TRADITIONAL CONSTRUCTION**

In Britain the brick is particularly cheap and is widely used in all forms of construction. Brick is also widely used in some parts of western Europe, although it is not as economic or as widely used as in Britain. In North America bricks are comparatively expensive, while timber is cheap and is generally used both for framing and for cladding small buildings. Again, timber is cheap and plentiful in Australia and in New Zealand and is widely used for framing and for cladding. South-East Asia is again predominately an area where timber is the typical building material. For example, in Burma and Indonesia most small buildings are of timber and bamboo. This is what would be expected in countries with an abundance of forest products. Timber construction satisfies most of the economic and physical conditions required. It is cheap, easily handled by non-professional constructors, provides a flexible form of construction which will withstand earthquakes without too much damage, and which if necessary can be easily repaired, and is adequate for protection against sun and rain in countries with a hot, humid climate. Light-weight forms of construction such as timber and bamboo are not so suitable in hot, dry climates where the need is not so much for ventilation as for the exclusion of the sun's rays and heated air, and hence where thick walls are an advantage. Moreover, in such climates, for example, India, timber is less freely available and is often wanted as fuel for burning clay for bricks and tiles. Again, in some tropical countries timber cannot be used because of the likelihood of damage by termites.

Often the simple indigenous materials are inflammable and hence unsuitable in large urban areas where buildings are required close together. In urban areas the building users tend to be in full-time employment: not only do they not have time to build their own dwellings but they lack the time to carry out the level of maintenance necessary for durability for many of the forms of construction based on indigenous materials found in Asia and Africa. Hence, as countries become industrialized and urbanized the form of building traditional to the country tends to change to one based on non-inflammable materials; construction becomes largely professionalised and labour economy becomes of importance both in the initial construction and in the maintenance of the buildings. For the smaller type of building masonry is generally used, but for large buildings, and these tend to become of increasing importance, steel and concrete are usually used. Since building materials tend to be expensive to import because of their bulk and weight, and since they are generally comparatively easy to manufacture, they are suitable for home production in developing countries.

## Text X. PRIVATE HOUSING

Generally with the growth of rent controls and the provision of housing for rent by public authorities, only luxury dwellings are built for rent by private investors. Most private housing is owner-occupied. However, few owners have their dwellings purpose built, most purchase new dwellings from housing developers and existing housing from their current owners.

Generally the finance for the purchase of housing is borrowed; in Great Britain about five-sixths of it is borrowed from building societies, the balance from insurance offices, banks and local government. The amount of finance available for lending for house purchase, therefore, depends to a very large extent on the savings invested in building societies. This depends on the cost of living in relation to income and the amount available for saving, on the relative rates of interest paid by building societies to lenders in relation to other outlets for small savings, on taxation and tax expectation and on the rate of inflation and expectations about the rate of inflation. If for any of these reasons the amount invested fails to increase at an adequate rate or declines, building societies have less to lend and can grant mortgages to fewer house purchasers and lend less to each. Thus the rate of investment affects both the number of house purchasers and the prices they can afford.

The stock of existing dwellings owned by their occupiers is large (forty to fifty times) compared with the normal rate of additions to the stock. Even though only a proportion of existing dwellings are on the market at any one time, the number is usually two or three times as great as the number of new dwellings. As a result new construction cannot greatly affect supply in the short to medium run. Hence the prices of dwellings in the short to medium run depend more on the availability of mortgage funds than on building costs, and prices can rise and fall substantially over short periods. Since the amount of the mortgage is limited in relation to the borrower's income, the number of new borrowers declines with an increase in dwelling prices unless incomes rise in step.

Occupiers purchase dwellings not only to consume the amenities they provide but also because dwellings provide a store of value, that is their price tends to increase in step with inflation and thus retains its real value in contrast to savings held in building societies and other savings held in money terms. Thus when the value of money is declining, or is expected to decline, and especially when there is little confidence in equities, people put their savings into property, in the case of housing by purchasing a house, or a larger one, extending an existing one or purchasing a second one. The extent to which they do this depends on expectations about the rate of inflation, the rate of interest and tax regulations, and, of course, the availability of mortgage funds. Such transactions add further to the rate at which the demand for dwellings can change.

## **Text XI. INNOVATION AND THE BUILDERS**

The influence of builders on the development of methods of construction depends on their degree of freedom in determining the materials and methods of building. This freedom is severely limited when they are building to the detailed design and specification of a professional designer. However, an important part of building activity is carried out by contractors responsible both for the design and the construction. This occurs either where the builder erects off-the-peg buildings, or designs and builds bespoke buildings. Often the contractor has some freedom in deciding on materials and forms of construction even when erecting to the design of a professional designer, since materials are not always specified closely and substitutes are often acceptable. Within the field of building the contractor probably has most scope in the housing field, and perhaps in the field of civil engineering where many contracts are obtained on the basis of design and construction.

The development of new materials and new ways of using old materials is usually actuated by a shortage of traditional materials or of specialised labour, or by the hope that the newer alternatives will be directly or indirectly cheaper. In Britain the brick replaced such local material as cob, pise and clay lump, not because it was cheaper as a material, but because far less labour, was needed to build with it. Again, concrete block has replaced brick for some uses partly because of brick shortages and partly because of a saving in labour. Prefabricated components have come into use where their overall cost was lower than for in situ work. A shortage of materials in the traditional form or of the labour for carrying out the work stimulates the use of new methods. A shortage of plasterers has made the acceptance of plasterboard and other plaster products far easier than would otherwise have been the case. Sometimes prefabricated materials have been favoured because they materially assist in shortening the period needed to carry out construction. Early completion brings forward the date of payment to the contractor and shortens the period between the owner laying out his capital and obtaining an income. The use of prefabricated components often make it possible to simplify the whole program of construction and to dovetail the operations more closely.

## **Text XII. INNOVATIONS AND THE PRODUCERS OF BUILDING MATERIALS**

Traditionally, the builder took his materials from the ground or from where they grew and fashioned them himself into construction materials. Gradually, however, the preparation of the materials became the work of the specialist and crafts developed to win the materials from their raw state and to prepare them for the builder. Sand and gravel is excavated, cleaned and graded, timber is

felled, cut and seasoned, and stone is quarried, cut and dressed. The growth of specialisation tends to reduce the costs of materials, since the specialists have a greater opportunity to become skilled and efficient than the builder and are able to make a greater use of the specialised equipment needed.

At first, the preparation of the materials by the supplier tends to stop at a fairly early stage, the final fashioning being left to the builder himself. However, once a range of requirements becomes standardized and the preparation can be transferred off the site, it is possible for the materials producers to take the production of materials a stage further and to produce what are, in effect, building components. The extent to which this is possible depends on a number of factors.

Clearly, the manufacture of building components, prefabrication, is stimulated in relation to the degree to which replication is possible and by the possibility of using special tools and machines for large scale production. Diseconomies tend to arise if the resulting product is more difficult to transport to the site than the raw materials from which it is made; for instance, it may happen that the component has to have added strength in order to stand the stresses of the journey to the site.

Clearly, timber is one of the easiest materials to prefabricate and one which possesses most of the requirements mentioned above. It is not, therefore, surprising to find that with the introduction of efficient transport and mechanical woodworking machinery the manufacture of joinery became a factory industry. Over the last few decades the use of manufactured joinery, window and door frames, doors, cupboard fronts, and other items, have largely replaced site-built joinery for most types of buildings. In many countries the prefabrication of joinery has gone further and, for example, timbers are supplied already cut to size for floors and roofs, and roof and floor frames are supplied already prefabricated.

### **Text XIII. FOUNDATION INSULATION**

Foundation insulation provides a means of reducing the heat loss of the building. Depending on the approach taken, foundation insulation can also provide other benefits, such as acting as an exterior wall drainage layer. The requirements for basement insulation vary from province to province. Check with the local municipality for the local requirements.

Foundations can be insulated on the interior or the exterior of the building. Interior insulated basements may be partially insulated with insulation extending 2 ft. (600 mm) below grade or full depth. Interior basement insulation often requires installing framing to support the insulation and the interior finish. This approach creates a finished basement space that often adds to the habitable areas of the house.

Insulating the basement from the outside provides its own advantages. The insulation often can also provide wall drainage offering additional protection while reducing heat loss. Exterior basement insulation also reduces the temperature swing that the foundation wall experiences, which often reduces thermal stresses and the cracking that sometimes results. The disadvantage of this system is that the insulation often requires protection because it extends above grade.

#### **Text XIV. FOOTINGS AND FOUNDATIONS FOR CRAWL SPACES**

Houses with a crawl space are supported on a foundation wall that is carried at least 6 in. (150 mm) above the exterior finished grade. Trenches are dug for the foundation walls and the footings placed at a depth below grade determined by soil conditions and frost penetration (see Table 3). The sizes of the footings are generally the same as those used to support basement walls. The foundation walls may be built of concrete, concrete masonry units or preserved wood, but since the inside grade is never much lower than the outside grade, the thickness of the foundation walls is usually less than those enclosing a basement.

Footings for columns supporting the floor beams should be placed on solid undisturbed ground, and this may require some excavation. Concrete, masonry or preserved wood columns are generally used to support the beams. The excavated area is backfilled around the base of the columns and footings when the crawl space floor is leveled. Crawl space insulation can be installed either at the perimeter of the foundation or in the floor frame under the living space.

#### **Text XV. FOUNDATION DAMPPROOFING AND WATERPROOFING**

Foundation damp proofing on the exterior face of the foundation is intended to control the movement of soil moisture into the foundation. On the interior face of the foundation, it is also used to prevent the movement of moisture from concrete or unit masonry foundation walls into interior wood framing that supports insulation or interior finishes. Damp proofing takes many forms. Most commonly, a heavy coat of bituminous material, polyethylene or other sheet material is used.

Waterproofing, on the other hand, is intended to deal with severe water problems normally associated with high water tables. Whereas damp proofing is necessary for all foundations, waterproofing is required only for foundations that are subject to hydrostatic pressures. Special attention of a qualified professional is normally recommended for these buildings. Often Special steps need to be taken to deal with the water and the forces that are superimposed onto the foundation.

Concrete and unit masonry walls below grade should be damp proofed with a heavy coat of bituminous material applied on the exterior surface from the footings to the finished grade line. Such a coating is usually sufficient to make the wall watertight against ordinary seepage that may occur after a rainstorm or from soil dampness. Added protection from moisture can be provided by special dense glass-fibre insulation or by other commercially available drainage layers.

In poorly drained soils, waterproofing walls may be necessary, and should consist of an impermeable membrane such as two layers of bitumen-saturated felt. The two layers of felt should be attached to the wall and each other, and covered with liquid bitumen.

Where hydrostatic pressures exist, waterproofing the foundation involves more than the two layers of impermeable wall membrane as noted. It also requires that the floor slab is waterproofed with a membrane sandwiched between two layers of concrete each not less than 3 in. (75 mm) thick. The floor membrane must extend to the wall membrane forming a complete seal. In many cases, foundations subjected to hydrostatic pressure are also equipped with a means of relieving the water pressure, preventing structural damage.

It should be clear that foundations that are waterproofed do not need to be damp proofed. Waterproofing can provide all of the protection that damp proofing normally provides.

Care must be taken when backfilling walls to prevent damage to the damp proofing, waterproofing, insulation or drainage layer. Damp proofing is also required on the interior of concrete or unit masonry walls that come into contact with interior wood framing that supports insulation.



# ГРАММАТИЧЕСКИЙ СПРАВОЧНИК

## Действительный залог (Active Voice)

В **действительном залоге** подлежащее обозначает исполнителя действия, лицо или предмет, выполняющие описываемое действие, а тот, на кого направлено действие, т.н. «получатель действия» в предложении является дополнением.

Большинство предложений имеют действительный залог.

Предложения **действительного залога в английском языке** образуются следующим образом:

**исполнитель действия + I форма глагола + получатель действия**

Например: The professor teaches the students. Профессор преподает студентам.

John washes the dishes. Джон моет посуду.

## Страдательный залог (Passive Voice)

В **страдательном залоге** подлежащим является лицо или предмет, подвергающиеся воздействию со стороны другого лица или предмета. Другими словами, исполнитель и получатель действия меняются местами, хотя исполнитель действия может и не указываться.

Предложения **страдательного залога в английском языке** образуются следующим образом:

**получатель действия + be + причастие прошедшего времени**

Например: The students are taught. Студентам преподают. The dishes are washed. Посуду моют.

Страдательный залог употребляется:

1. Главным образом в тех случаях, когда исполнитель действия не упоминается в предложении; он либо неизвестен, либо говорящий не считает нужным сообщить о нем.

Например:

Is English spoken in many countries? На английском говорят во многих странах?

That book was written a few years ago. Эта книга была написана несколько лет назад.

2. Когда исполнитель действия, хотя и упоминается в предложении, но не стоит в центре внимания говорящего; существительное или местоимение, выражающее данное исполнителя действия, вводится предлогом *by*. Обратите внимание, что в действительном залоге исполнитель действия является подлежащим, в страдательном же залоге он становится дополнением.

Например: The students are taught **by** the professor. Студентам преподает профессор.

The dishes are washed **by** John. Посуду моет Джон.

Также в предложении страдательного залога может употребляться другое дополнение, присоединяемое предлогом *with*, и описывающее, посредством чего совершается действие, например:

The dishes are washed **with** a bar of soap. Посуду моют куском мыла.

В английском языке сфера употребления глаголов в страдательном залоге значительно шире, чем в русском. Так, любой глагол, принимающий прямое или косвенное дополнение, может употребляться в страдательном залоге.

Например: I gave **him** a **book**. (Я дал ему книгу.) A **book** was given to him. (Книга была отдана ему.) = **He** was given a book. (Ему была дана книга.) They showed **me** a **beautiful picture**. (Они показали мне красивую картину.) A **beautiful picture** was shown to me. (Красивая картина была показана мне.) = **I** was shown a beautiful picture. (Мне была показана красивая картина.)

В английском языке в страдательном залоге могут употребляться глаголы, принимающие предложное дополнение (например: *to attend to*, *to send for* и др.). Предложенное дополнение используется в качестве подлежащего страдательного оборота, а предлог стоит непосредственно после глагола.

Например: She **went after** him. – He was **gone after**. Она пошла за ним. – За ним пошла.

### Способы перевода страдательного залога на русский язык

Существует три способа перевода страдательного залога на русский язык:

1. При помощи глагола "быть" + краткая форма причастия, например:

Were his books translated into Russian? *Были* ли его книги *переведены* на русский язык?

2. Глаголами, оканчивающимися на *-ся*, например:

Letters are delivered by mailmen. Письма *доставляются* почтальонами.

3. Неопределенно-личным оборотом (этот способ перевода возможен в тех случаях, когда в английском предложении не упоминается исполнитель действия), например:

They were taught French last year. Их *учили* французскому языку в прошлом году.

### Примеры действительного и страдательного залога

В нижеследующей таблице приведены примеры действительного и страдательного залога во всех возможных временах.

	Действительный залог	Страдательный залог
Present Simple	Once a week, Tom <b>cleans</b> the house.	Once a week, the house <b>is cleaned</b> by Tom.
Present Continuous	Right now, Sarah <b>is writing</b> the letter.	Right now, the letter <b>is being written</b> by Sarah.
Past Simple	Sam <b>repaired</b> the car.	The car <b>was repaired</b> by Sam.
Past Continuous	The salesman <b>was helping</b> the customer when the thief came into the store.	The customer <b>was being helped</b> by the salesman when the thief came into the store.
Present Perfect	Many tourists <b>have visited</b> that castle.	That castle <b>has been visited</b> by many tourists.
Present Perfect Continuous	Recently, John <b>has been doing</b> the work.	
Past Perfect	George <b>had repaired</b> many cars before he received his mechanic's license.	Many cars <b>had been repaired</b> by George before he received his mechanic's license.
Past Perfect Continuous	Chef Jones <b>had been preparing</b> the restaurant's fantastic dinners for two years before he moved to Paris.	
Future Simple	Someone <b>will finish</b> the work by 5:00 PM.	The work <b>will be finished</b> by 5:00 PM.

Future Simple <i>going to</i>	Sally <b>is going to make</b> a beautiful dinner tonight.	A beautiful dinner <b>is going to be made</b> by Sally tonight.
Future Continuous	At 8:00 PM tonight, John <b>will be washing</b> the dishes.	
Future Perfect	They <b>will have completed</b> the project before the deadline.	The project <b>will have been completed</b> before the deadline.
Future Perfect Continuous	The famous artist <b>will have been painting</b> the mural for over six months by the time it is finished.	
Used To	Jerry <b>used to pay</b> the bills.	The bills <b>used to be paid</b> by Jerry.
Would Always	My mother <b>would always make</b> the pies.	The pies <b>would always be made</b> by my mother.
Future in the Past	I knew John <b>would finish</b> the work by 5:00 PM.	I knew the work <b>would be finished</b> by 5:00 PM.

### Причастие настоящего времени (Present Participle, или Participle I)

Причастие в английском языке относится к неличным формам глагола – производным от глагола, сочетающим признаки глагола и другой части речи. Причастие имеет признаки глагола и наречия или прилагательного.

Present Participle может быть образовано от любого глагола (кроме модальных и вспомогательных глаголов *shall* и *will*) путем прибавления окончания *-ing*, соответствующего русским окончаниям *-ащ(-ящ) ий(ея), -ущ(-ющ) ий(ся)*:

*standing* – стоящий

*turning* – вращающийся

*burning* – горящий

Если глагол оканчивается на непроизносимое *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

swim – swimming

Present Participle участвует в образовании времен группы Progressive 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, заменяющие придаточное определительное предложение:

The boy sitting at the table is her brother.

Мальчик, сидящий за столом, ее брат.

3. Обстоятельства (в этих случаях английское причастие настоящего времени переводится русским деепричастием):

She went out smiling.

Она вышла улыбаясь.

## Причастие прошедшего времени (Past Participle, или Participle II)

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

decide – решать; decided – решенный

Форма Past Participle неправильных глаголов образуется особыми способами например:

write – писать; written – написанный

Past Participle участвует в образовании времен группы Perfect, страдательного залога:

I have just got tickets to the cinema.

Я только что достал билеты в кино.

This article was written by my friend.

Эта статья была написана моим другом.

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.

### ГЕРУНДИЙ (THE GERUND)

Герундий – неличная форма глагола, имеющая грамматические особенности как глагола, так и существительного и всегда выражающая действие как процесс. Например:

increasing – увеличение

heating – нагревание и т.д.

Таблица форм герундия

	Active	Passive
Indefinite Perfect	Writing written having	being written having been written

Синтаксические функции герундия в предложении и способы его перевода на русский язык

Функция	Пример	Перевод
1. Подлежащее	1. Parking in the city center is a nightmare.	1. Припарковаться в центре города ужасно сложно.
2. Именная часть составного сказуемого	2. His hobby is fixing cars.	2. Его любимое занятие – ремонтировать машину.
3. Дополнение:		
а) прямое	3a. The car needs repairing	3a. Машина нуждается в ремонте.
б) предложное	3b. She told us about her travelling to that faraway place.	3б. Она рассказала нам о своей поездке в это отдаленное место.
4. Определение	4. There are different ways of obtaining this substance.	4. Существуют различные способы получения этого вещества.
5. Обстоятельство	5. After receiving good results they stopped experiments.	5. Подучив (после того как получили) хорошие результаты, они прекратили эксперименты.

## Способы перевода герундия

1. В функции подлежащего, определения, именной части сказуемого и прямого дополнения герундий переводится существительным или инфинитивом (см. примеры 1, 2, 3а, 4).

2. В функции предложного дополнения герундий переводится существительным или придаточным предложением (см. пример 3б).

3. В функции обстоятельства герундий переводится существительным с предлогом, деепричастием или придаточным предложением (см. пример 5).

4. Сложные формы герундия чаще всего переводятся придаточным предложением:

I know of his having been appointed to a new job.	Я знаю, что его назначили на новую работу.
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## ИНФИНИТИВ (THE INFINITIVE)

Как в русском, так и в английском языке инфинитив имеет функции глагола и существительного в предложении.

Инфинитив обычно употребляется с частицей *to*.

### Черты существительного

1. Инфинитив может быть подлежащим в предложении:

To <i>study</i> well is your duty.	Учиться хорошо – ваша обязанность.
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To <i>speak</i> English is not difficult.	Говорить по-английски не трудно.
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2. Инфинитив может быть прямым дополнением:

Our students like <i>to read</i> .	Наши студенты любят читать.
------------------------------------	-----------------------------

My sister asked me <i>to go</i> there with her.	Моя сестра попросила меня пойти туда с ней.
---	---

3. Инфинитив может быть именной частью составного сказуемого:

Your task is <i>to study</i> well.	Ваша задача – учиться хорошо.
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### Черты глагола

1. За инфинитивом может следовать прямое дополнение:

He likes to read <i>J. Rowling's books</i>	Он любит читать книги <i>J. Rowling's</i> .
--	---

2. Инфинитив может определяться наречием:

They were surprised to see me <i>so early</i> .	Они удивились, увидев меня так рано.
---	--------------------------------------

3. Инфинитив может быть частью составного глагольного сказуемого:

He *must do* his homework this evening. Он должен делать домашнее задание вечером.

Ann *began to read* English books. Аня начала читать английские книги.

Кроме того, инфинитив имеет еще и другие синтаксические функции.

1. Инфинитив может быть определением, заменяющим целое придаточное определительное предложение:

My friend has brought me an interesting book *to read*. Мой друг принес мне интересную книгу, которую я могу почитать.

2. Инфинитив может быть обстоятельством цели, заменяющим обстоятельственное предложение цели:

I went on the Internet *to send* an e-mail. Я зашел в Интернет, чтобы отправить электронное письмо.

3. Инфинитив может входить в состав сложного дополнения:

I want you *to come* early today. Я хочу, чтобы ты пришла рано сегодня.

## ОБЪЕКТНЫЙ ИНФИНИТИВНЫЙ ОБОРОТ (THE OBJECTIVE INFINITIVE CONSTRUCTION)

«Объектный инфинитивный оборот» представляет собой сочетание имени существительного в общем падеже или местоимения в объектном падеже с инфинитивом глагола: *I want him (Peter) to work at this problem with us*. Я хочу, чтобы он (Питер) работал над этой проблемой вместе с нами.

«Объектный инфинитивный оборот» равнозначен придаточному предложению и поэтому переводится на русский язык придаточным дополнительным предложением, вводимым союзами что, чтобы, как:

I expect that she will come tomorrow. Я ожидаю, что она придет завтра.  
I expect her to come tomorrow.

«Объектный инфинитивный оборот» употребляется после глаголов, выражающих:

1) желание или потребность:

to want	хотеть, требовать, нуждаться
to wish	желать
to desire	



I should like	Я хотел бы
He wants me to help him.	Он хочет, чтобы я помог ему.

2) предположение, мнение, суждение:

to suppose – полагать, предполагать

to expect – ожидать

to consider – считать, полагать

to assume – предполагать, допускать

to prove – оказываться, доказывать

to believe – считать, полагать

to understand – понимать

to think – думать, считать

I consider him to be dangerous.	Я считаю, что он опасен.
---------------------------------	--------------------------

После таких глаголов, как *to consider*, *to think*, глагол *to be* может опускаться. Например, вместо *I consider him to be a good specialist* можно сказать *I consider him a good specialist* и на русский язык перевести буквально, а именно: Я считаю его хорошим специалистом.

3) физическое восприятие и ощущение:

to watch	Наблюдать
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to observe	Наблюдать
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to notice	Замечать
-----------	----------

to see	Видеть
--------	--------

to hear	Слышать
---------	---------

to feel	Ощущать
---------	---------

После всех этих глаголов, а также после глаголов *to make*, *to cause* в значении *заставлять*, *вынудить* инфинитив употребляется без частицы *to*:

We did not see the teacher enter the room.	Мы не видели, как преподаватель вошел в комнату.
--	--

4) знание, осведомленность, утверждение, констатацию факта:

to note	отмечать
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to find	находить, считать
---------	-------------------

to claim	утверждать
----------	------------

to state	констатировать
----------	----------------

We found him (to be) dishonest	Мы обнаружили, что он нечестен.
--------------------------------	---------------------------------

5) принуждение, разрешение или запрет:

to make	Заставлять
to cause	заставлять
to force	вынуждать
to allow	позволять
to permit	позволять
to order	приказывать
to command	приказывать
to enable	давать возможность

«Объектный инфинитивный оборот» после этих глаголов не переводится развернутым придаточным предложением:

He made us come here again.                      Он заставил нас снова прийти сюда.

Инфинитив после перечисленных глаголов нередко встречается в страдательном залоге (Passive Voice). В этом случае он переводится на русский язык инфинитивом в форме действительного залога и ставится перед существительным, которое в английском предложении предшествует инфинитиву:

The chief engineer allowed the new engine to be tested.      Главный инженер разрешил испытывать новый двигатель.

### СУБЪЕКТНЫЙ ИНФИНИТИВНЫЙ ОБОРОТ (THE SUBJECTIVE INFINITIVE CONSTRUCTION)

Эта конструкция, выраженная существительным в общем падеже или местоимением в именительном падеже с инфинитивом, переводится на русский язык придаточным предложением:

Говорят, что они живут в Санкт-Петербурге.      They *are said* to live in St. Petersburg.

Сказуемое английского предложения (*are said*) при переводе на русский язык преобразуется в сказуемое главного предложения, представляющее собой неопределенно-личный оборот (говорят), подлежащее (*they*) становится подлежащим русского придаточного предложения, а инфинитив (*to live*) – его сказуемым. Придаточное предложение в русском переводе вводится союзом *что*. «Субъектный инфинитивный оборот» употребляется с глаголами, обозначающими утверждение, знание, физи-

ческое восприятие, просьбу, приказание, которые могут стоять в любом времени в страдательном залоге, а именно с глаголами:

to say	сказать
to know	знать
to think	думать, полагать, считать
to report	сообщать
to suppose	предполагать
to expect	ожидать, полагать
to consider	считать, полагать .
to assume	допускать
to believe	полагать
to see	видеть
to hear	слышать и др.

They were reported to have arrived in Moscow.

Сообщили, что они приехали в Москву.

He is known to have a large collection of pictures.

Известно, что у него большая коллекция картин.

«Субъектный инфинитивный оборот» употребляется также в сочетании с некоторыми непереходными глаголами, которые могут стоять в действительном залоге, а именно с глаголами:

to seem	казаться
to appear	казаться
to prove	оказаться
to turn out	оказаться
to happen	случаться

This young lecturer appears to know his subject well.

Кажется (по-видимому), этот молодой лектор хорошо знает свой предмет.

I happened to be there at that time.

Случилось так, что я был там в это время.

Для выражения залоговых и видовых значений в «Субъектном инфинитивном обороте» используются различные видовые и залоговые формы инфинитива:

Indefinite Infinitive выражает действие, одновременное с действием, выраженным сказуемым предложения:

He *is said to work* hard at his English.

Говорят, что он упорно работает над английским.

Continuous Infinitive выражает действие как процесс, протекающий одновременно с действием, выраженным сказуемым предложения:

The weather seems to be improving. Кажется, (что) погода улучшается.

Perfect Infinitive выражает действие, совершенное ранее действия, выраженного сказуемым, и переводится на русский язык формой глагола в прошедшем времени:

This house *is said to have been built* two hundred years ago. Говорят, что этот дом был построен около двухсот лет тому назад.

# ПРИЛОЖЕНИЯ

## Приложение 1

### Правила и последовательность работы над текстом

При чтении текста и выполнении предтекстовых и послетекстовых заданий рекомендуется следующая последовательность работы над текстом:

1. Прочитайте заглавие текста. Помните, что в научных и научно-популярных текстах, а также в учебных текстах заголовков определяет содержание текста.

2. Прочитайте весь текст или абзац и постараться уяснить его общее содержание. Содержание текста включает как известную, так и новую информацию. К известной информации относятся знакомые слова, интернациональные слова, даты и числа, имена собственные и топонимы. Пунктуация также помогает в понимании текстового материал: кроме точки в конце предложения это кавычки и скобки, заглавные буквы, курсив.

3. Работу с новой информацией можно начать с небольшой группы ключевых слов, которые важны для понимания текста или повторяются в тексте. Если работа подразумевает обращение к словарю (англо-русскому или англо-английскому), необходимо определить их значение по словарю. Если пользоваться словарем запрещено, постарайтесь выяснить значения слова по контексту или упражнениям к тексту.

4. Каждое сложное предложение необходимо разбить на отдельные предложения: сложноподчиненное – на главное и придаточное, сложносоподчиненное – на простые.

5. При анализе сложных по своей структуре предложений, в которых не сразу можно определить составляющие их элементы, рекомендуется прежде всего найти сказуемое главного и придаточных предложений.

6. В каждом предложении определить группу сказуемого (по личной форме глагола), затем найти группы подлежащего и дополнения.

7. Перевод предложения начинать с группы подлежащего, затем переводить группы сказуемого, дополнения и обстоятельства.

8. Отыскать незнакомые слова в словаре, уяснив предварительно, какой частью речи они являются в данном предложении. При этом не брать первое значение слова, а прочесть все значения, дающиеся для данной части речи, и выбрать наиболее подходящее по содержанию переводимого текста.

9. В качестве вспомогательного средства, имеющего большое организующее и практическое значение при работе над переводом, можно рекомендовать предварительную разметку текста при первоначальном ознакомлении с оригиналом.

10. Следует правильно распределять время на анализ и перевод текста. Старайтесь не застревать надолго на одном предложении. При затруднениях сделайте упор на известную информации.

## Структура презентации

### A. The introduction

A formal way of beginning is:

I'd like to present to you the results of our research into ...

Many speakers prefer to begin in a less formal way:

When we first began to look into the question of X, we thought...

It is well known that ...

Many studies have shown that ...

X has established clearly that ...

### B. Signalling

Other signals that you may wish to give include:

Emphasizing

Giving examples

- I'd like to emphasize ... For instance ...

Listing points

Contrasting

- Firstly, ...

On the other hand ...

- Secondly, ...

However, ...

Referring to slides

- This slide shows ...

### C. The conclusion

It is important to end well, for example by summing up the main conclusions.

<p>So, In conclusion, To sum up, Finally,</p>	<p>we can see .. I'd like to say end by ... These studies show ...</p>
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## Перевод и реферирование газетной статьи

Тексты статей газет и журналов (кроме научных) относятся к публицистическому стилю языка.

Существует план реферирования статей на английском языке.

1. The title of the article. Заглавие статьи.

The article is headlined... Статья озаглавлена...

The article is entitled... Статья озаглавлена...

The title (headline) of the article is... Заголовок статьи...

2. The author of the article, the newspaper, where and when the article was published. Автор статьи, газета, в которой она была напечатана.

The author of the article is... Автор статьи...

The article is written by... Статья написана...

The article is (was) published in... Статья опубликована в...

3. The message/ the main idea of the article. Тема и основная идея статьи.

The article is about... Эта статья о...

The article is devoted to... Статья посвящена...

The article deals with... Статья касается(рассматривает)...

The article touches upon... Статья затрагивает...

The article addresses the problem of... Статья обращается к проблеме...

The article raises\brings up the problem... Статья поднимает проблему...

The article describes the situation... Статья описывает ситуацию...

The article assesses the situation... Статья дает оценку ситуации...

The aim of the article is to provide the reader with information about... Цель статьи – предоставить читателю информацию о...

4. The contents of the article. Содержание статьи.

The author starts by telling the reader that... Сначала автор рассказывает читателям о том, что...

The author goes on to say that... Затем автор говорит, что...

The author writes/ states/ stresses/ underlines/ emphasizes/ points out that...

Автор пишет/ заявляет/ подчеркивает/ отмечает/ указывает, что...

The author comes to the conclusion that ... Автор приходит к выводу, что...

In conclusion the author draws the attention of the reader to... В заключение автор привлекает внимание читателей к...

3. Your opinion of the article/ your assessment of the article. Ваше мнение о статье.

I find the article interesting/ important/ dull/ useful/ too difficult to understand and assess. Я нахожу статью интересной/ важной/ скучной/ полезной/ слишком трудной для понимания и оценки.

Сводная таблица основных форм нестандартных глаголов

Indefinite stem	Past Indefinite	Participle II	Перевод
be	was, were	been	быть
break	broke	broken	ломать
bear	bore	born	нести
beat	beat	beaten	бить
begin	began	begun	начинать
bring	brought	brought	приносить
build	built	built	строить
burn	burnt	burnt	сжигать
buy	bought	bought	покупать
catch	caught	caught	поймать, ловить
choose	chose	chosen	выбирать
come	came	come	приходить
cost	cost	cost	стоять
cut	cut	cut	резать
deal	dealt	dealt	иметь дело
do	did	done	делать
draw	drew	drawn	тащить, чертить
drink	drank	drunk	пить
drive	drove	driven	ехать
eat	ate	eaten	есть
fall	fell	fallen	падать
feel	felt	felt	чувствовать
fight	fought	fought	сражаться
find	found	found	находить
fly	flew	flown	летать
get	got	got	получать;
give	gave	given	давать
go	went	gone	идти
grow	grew	grown	расти
have	had	had	иметь
hear	heard	heard	слышать
hold	held	held	держать
hurt	hurt	hurt	приносить ущерб, боль
keep	kept	kept	хранить
know	knew	known	знать
lay	laid	laid	класть
lead	led	led	вести



О к о н ч а н и е   п р и л . 4

learn	learnt	learnt	учить(ся)
leave	left	left	оставлять
let	let	let	позволять
lose	lost	lost	терять
make	made	made	делать
mean	meant	meant	иметь ввиду; значить
meet	met	met	встречать
pay	paid	paid	платить
put	put	put	класть
read	read	read	читать
ride	rode	ridden	ехать
ring	rang	rung	звонить
rise	rose	risen	подниматься
run	ran	run	бежать
say	said	said	сказать
see	saw	seen	видеть
sell	sold	sold	продавать
send	sent	sent	посылать
shake	shook	shaken	трясти
show	showed	shown	показывать
sit	sat	sat	сидеть
sleep	slept	slept	спать
speak	spoke	spoken	говорить
speed	sped	sped	ускорять
spend	spent	spent	тратить
stand	stood	stood	стоять
swim	swam	swum	плавать
take	took	taken	брать
teach	taught	taught	учить, преподавать
tell	told	told	говорить
think	thought	thought	думать
throw	threw	thrown	бросать
understand	understood	understood	понимать
wear	wore	worn	носить
win	won	won	выигрывать
wind	wound	wound	заводить
write	wrote	written	писать

# АНГЛО-РУССКИЙ СЛОВАРЬ

## Аа

absorb	поглощать
academic	учебный, академический
accelerate	ускорять
access	подход, доступ
accessive roads	подъездные пути
accomplish	выполнять, достигать
according to	в соответствии с
accuracy	точность
accurate	точный, правильный
achieve	достигать, добиваться
achievement	достижение, подвиг
activity	деятельность, активность
acute	острый
adapt	приспособлять(ся), прилаживать
adjacent	примыкающий
adopt	принимать; заимствовать
advance	прогресс
advanced	передовой, продвинутый, углубленный
advantage	преимущество, выгода; удобство
affect	влиять, затрагивать
aggregate	заполнитель
algorithm	алгоритм
allow	позволять
alma mater	альма-матер (студенческое название университета)
alumni(мн.ч.) alumnus	бывший питомец (школы или университета)
ancient	древний
apartment	жилье, квартира
apply	применять, употреблять
appoint	назначать
area	пространства, зона, площадь, район
arouse	вызывать (восторг, удивление и др.)
artificial	искусственный
assemble	собирать
attics	мансарда, чердак; верхний, чердачный этаж
available	доступный, имеющийся в наличии
average	средний; обычный
avoid	избегать

## Bb

banner	знамя
basement	подвал, цоколь, основание
beam	балка
behaviour	поведение (металла)
bending load (stress)	изгибающая нагрузка (напряжение)
binary	бинарный, двойной
blast furnace	доменная печь
bounce	подпрыгивать, отскакивать;
branch	ветвь, отрасль, сфера
brick	кирпич
bricklayer	каменщик
bridge	мост
browser	браузер, программа, при помощи которой работают в системе Интернет с файлами
built-in	встроенный
bulldozer	бульдозер

## Cc

calculate	вычислять; рассчитывать
calm	спокойный
campus	территория университета или колледжа, университетский городок
canteen	столовая
cantilever	консоль
carpenter	плотник
carry	нести, везти
carry out	перевозить; выполнять
cement	цемент
central processing unit (CPU)	центральное процессорное устройство
century	век, столетие
certain	определенный; уверенный
chain	цепь
chat rooms	чарты
cheap	дешевый
clear	очищать
coal	уголь
coarse	грубый, крупный, необработанный, сырой
collapse	развал, распад, коллапс

common	общий; распространенный
community	общество
competition	конкуренция, соревнование
complex	сложный
computer programmer	программист
concrete	бетон
connection	связь
conquest	покорение
consist of	состоять из
construct	строить
construction	строительство; конструкция
construction site	строительная площадка
consume	потреблять
consumer	потребитель
copy	экземпляр
correspondent	заочный
corrosion	коррозия
corrosion-resistant	коррозионно-устойчивый
courage	мужество, смелость
cover	покрывать, покрывало, обложка
co-worker	коллега, сослуживец
crane	кран
crash	ломаться
create	создавать
crush	дробить, раздавливать
cure	лечение, лекарство, средство
cut	срезать, резать
cyberspace	киберпространство

## Dd

damage	повреждение; разрушение
damp	влажный, сырой
danger	опасность
data	данные, информация
decade	десятилетие
decide	решать
decorate	украшать
deep	глубокий
define	определять
degree	степень; градус; уровень

deliver	доставлять
delivery	доставка, поставка
demand	потребность; требование
dense	плотный
density	плотность
department	отдел, отделение
depend on	зависеть от
depending on	в зависимости от
deposit	накопить(ся)
deposits	залежи; месторождение
design	проектировать; предназначать
designer	проектировщик
desire	желание, желать
desktop	рабочий стол
destroy	разрушать
develop	развивать, разрабатывать
development	развитие; застройка; разработка;
device	прибор; устройство; механизм
differ	отличаться; различаться
different	различный
dig (dug, dug)	копать, рыть
dimension	измерение; размеры (мн.ч.), габариты, величина, объем
disability	инвалидность
disadvantage	недостаток, вред, ущерб
disclose	раскрывать, обнаруживать
discover	обнаруживать
disease	болезнь
disposal	удаление
distance	расстояние
divide	подразделять
do research	проводить научное исследование
dome	купол, свод
door	дверь
down load	загружать
dramatically	значительно, существенно;
drip	капать
drive	приводить в движение
dry	сухой; высушивать
durability	прочность, долговечность

durable прочный, долговечный  
dwelling жилище, жилой дом

## Ее

earth земля; грунт  
earthquake землетрясение  
economy хозяйство; экономика, экономия;  
effective действенный, эффективный  
efficiency эффективность; КПД  
elevator лифт  
e-mail электронная почта  
embrace охватывать  
emission распространение, выделение, эмиссия, выброс, излучение  
employ употреблять, использовать, предоставлять работу  
enable способствовать  
enclose огораживать, окружать  
endless бесконечный  
enforce принудительно применять, вводить  
enhance увеличивать, расширять  
environment окружающая среда; окрестность, местность  
equal равняться, равный  
equip оснащать, оборудовать  
equipment оборудование  
erect строить, возводить  
establish устанавливать  
evolution развитие  
examine рассматривать; исследовать, изучать  
excavate копать, рыть  
excavation выемка грунта  
executive исполнительный  
expensive дорогой  
experience опыт  
explanation объяснение  
exposure воздействие  
external внешний

## Ff

fall in love	влюбиться
facial	лицевой
facilities	удобства, оборудование
faculty	факультет, профессорско-преподавательский состав (америк.)
fasten	соединять, скреплять
favourable	благоприятный
fear	страх, боязнь, опасение;
feed	снабжать; питать
field stone	валун, булыжник
find out	разузнавать, выяснять
finishing work	отделочные работы
fire-resistant	огнеупорный, огнеустойчивый к
fix	устанавливать, закреплять, ремонтировать
flash	вспышка
flat	плоский
flight of stairs	лестничный пролет
floor	перекрытие, пол
floppy disc	гибкий магнитный диск, дискета
fly ash	летучая зола
force	сила; заставлять; стимулировать
fortress	крепость
fossil fuel	ископаемое топливо
foundation	фундамент
frame	каркас
frequently	часто
fuel	топливо;
fume	сильный, резкий запах; дым

## Gg

garbage	мусор, отбросы
gemstone	драгоценный камень
generate	вырабатывать, производить
gigahertz	гигагерц
glue	клей, склеивать
goal	цель
gold	золото
goods	товары

graduate(from)	заканчивать высшее учебное заведение;
выпускник	высшего учебного заведения
gravity	сила тяжести, притяжение, гравитация
grind (ground)	молоть(ся), перемалывать(ся); растирать (в порошок)
ground level	уровень земли
grow	расти
growth	рост
guideline	директива, направление, указание
gym	спортивный зал
gypsum	гипс

## Нh

hallway	коридор, прихожая
happen	происходить
hard	твердый
hard disc	жесткий диск
harden	затвердевать, твердеть
hardness	твердость
hardware	аппаратура, технические средства
harm	наносить ущерб
harmful	вредный
hazardous	опасный
health	здоровье
heat	теплота; нагревать
heating	отопление; нагревание
hoist	поднимать
hold	занимать
hole	отверстие, дыра
hollow	пустотелый
horde	стая, рой
hostel	общежитие
housing	жилищное строительство
hydraulic	гидравлический, гидротехнический
hydropower	энергия воды
hyper text markup language (HTML)	язык разметки гипертекстов
hyper text transfer protocol (HTTP)	протокол передачи гипертекста



## Ii

impressive	впечатляющий
improve	улучшать
inch (per square inch)	дюйм (на кв. дюйм)
include	включать
increase	увеличивать(ся), возрастать
indication	знак, показатель
influence	влияние; влиять
input	ввод данных
in-situ concrete	монолитный бетон
install	устанавливать
installation	монтаж, установка
insulate	изолировать
insurance	страхование
interactive games	интерактивные игры
interior	внутренний
internal	внутренний
introduce	вводить
investigation	исследование
investigate	исследовать
involve	вовлекать, включать
iron	железо
isolated	отдельный

## Jj

judicial	судебный
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## Kk

keep from	удерживать от (предохранять)
keyboard	клавиатура

## Ll

lake	озеро
lag	отставание
law	закон, право
lay the foundation	закладывать фундамент
layout	планировка
legislative	законодательный

level	уровень;
library	библиотека
light	легкий, незначительный; свет, светлый
lime	известь
limit	ограничивать
limitations	недостатки, ограничения, барьеры
link	компоновка
load	нагрузка, груз; нагружать
locality	местность
lorry	грузовик
low-level language	язык нижнего уровня (язык программирования, максимально приближенный к машинным инструкциям)

### **Mm**

machine language	машинный язык
maintain	поддерживать, сохранять
maintenance	поддержание; эксплуатация;
major	основной, главный
manufacture	производить, изготавливать
mass concrete	монолитный бетон
match	соответствовать
meet requirements	удовлетворять требованиям
megahertz	мегагерц
mind	ум, разум
miracle	чудо
mixture	смесь
mode	метод, способ; обычай,
modify	изменять
moisture	влага
molten	расплавленный
monitor	монитор
mortar	строительный раствор
mostly	главным образом
motion	движение
mould	форма; формовать
mouse	мышь
muscles	мускулы, мускулатура

## Nn

national economy	народное хозяйство
navigate	переходить от одного документа к другому
need	потребность, нужда; нуждаться (в чём-л.);
network	сеть
noise	шум
note	отмечать
nuclear war	ядерная война

## Oo

obligatory	обязательный
obtain	получать, приобретать; достигать
occupant	житель
occupy	занимать
oil	нефть
operating system (OS)	операционная система
optional	дополнительный, факультативный
ordinary	простой, обыкновенный, обычный
outlet	торговая точка
output	вывод данных, производство, выпуск
outstanding	выдающийся
overcrowding	перенаселенность
overestimate	переоценивать
oxide	окись

## Pp

painter	маляр
particle	частица
particular	особый, особенный; отдельный
patience	терпение
payout	выплата, окупаемость
perform	выполнять, исполнять
performance	работа, производительность
peripherals	внешнее, периферийное оборудование
permeability	проницаемость
permit	позволять, разрешать
personality	личность
Ph.D	доктор философии

physicist	физик
pile	свая, свайный
pitched	с наклоном
plain	равнина, ровный, простой
plaster	штукатурка
plasterer	штукатур
plastics	пластмассы
plumber	водопроводчик
pollute	загрязнять
pollution	загрязнение
population	население
possess	обладать, владеть
possible	возможный
postgraduate	аспирант
pottery	гончарные изделия, керамика; гончарное дело
powder	порошок, пыль
power	мощность; энергия;
precast	предварительно изготовленный,
precast elements	сборные элементы
precast reinforced concrete	сборный железобетон
prefabricated	заводского изготовления; сборный
prefer	предпочитать
premises	сооружения, здания
preparatory work	предварительная работа
prestressed	предварительно напряженный
prevent	предотвращать
previous	предыдущий
primary	первичный; первостепенный
prime	первостепенный, основной
private	частный, личный
process data	обрабатывать информацию
process	обрабатывать
processing	обработка
profound	глубокий, основательный
property	свойство
protect	охранять, защищать
provide	обеспечивать; предоставлять, давать
pumice	пемза
purpose	назначение; цель

## Qq

quality	качество
quantity	количество
quicklime	негашеная известь

## Rr

result in	приводить к, давать в результате
raft	сплошной
random	произвольный, случайный
RandomAccessMemory (RAM)	память прямого доступа
range	предел, диапазон, ряд
rank	относить к какой-л. категории
rapid	быстрый
rapid-hardening	быстротвердеющий
rate	скорость; темп;
raw	сырой, необработанный
realize	понимать, осознавать
receive	получать
refer	направлять, посылать
refuse	отбросы, мусор
reinforced	армированный; усиленный
reinforced concrete	железобетон
reinforcement	арматура
relatively	относительно
rely	полагаться, надеяться
removal	устранение, удаление
remove	удалять
repair	ремонт
require	требовать
requirement	потребность; требование
research	исследование, изыскание
residential	жилой
resistance	стойкость, сопротивление, прочный
rest	опираться
responsibility	ответственность
reverse	обратная сторона
rigid	жесткий; строгий
road	дорога
rod	стержень; прут

rodent	грызун
roof	крыша
route	маршрут
rubber	каучук, резина, резинка
rubble	булыжник; галька, валун
run	работать, двигаться, управлять

## Ss

safety	надежность; безопасность
science	наука
scientist	ученый
scope	размах; объем (использования)
screen	экран
search	поиск; исследование
secondary	второстепенные
security	безопасность; надежность
self-sufficient	самостоятельный, самодостаточный
serve	служить, обслуживать
set	схватываться (о бетоне)
settlement	оседание; поселение
severely	строго, сурово, резко, сильно
sewage services	канализация
shape	форма; формировать,
shear	сдвиг, срез; срезающая сила
shield	щит, защита, экран
shift	смена
ship	поставлять, доставлять
shortage	недостаток, нехватка
significant	важный, значительный
silicon	кремний
similar	подобный, схожий
skill	искусство, мастерство
skilled	квалифицированный
skyscraper	небоскреб
slab	плита
slag	шлак; окалина, доменный шлак
slate	шифер, кровельный сланец
smart	умный
software	программное обеспечение
soil	почва; грунт

solidify	твердеть, застывать
solve	(раз) решать (проблему)
source	источник
specifications	спецификация, характеристики
speed	скорость
spirit	дух
stability	устойчивость
stain	пятно, краска;
stair landing	лестничная площадка
staircase	лестница
stairs(steps)	ступеньки
steel	сталь
storey	этаж
store	хранить
strip	ленточный
structural	структурный, строительный,
structure	структура, сооружение, конструкция, здание, строение
stucco	штукатурка, лепнина
subdivide	подразделять
substructure	нулевой цикл
superstructure	надстройка
support	нести, поддерживать
survey	производить топографическую съемку
survive	уцелеть; сохраниться, выжить

## Tt

tangled	запутанный, сложный
technique(s)	метод(ы)
technology	техника, технология
tenant	жилец, житель
tend	иметь тенденцию
tensile	растягивающий
tension	растяжение, напряжение
term	срок; называть; семестр; условие
threat	угроза
thrust	толчок, удар, упор; осевое
tie	связывать
tile	черепица
timber, wood	дерево, лесоматериалы

top	верх, вершина
tower	башня, корпус
traffic	дорожное движение, перевозки;
trailer	трейлер
treaty	договор
trivial	обыденный
tycoon	магнат
typhoid	тиф

## Uu

Uniform Resource Locator (URL)	универсальный локатор ресурса
universe	вселенная
urban	городской
urgent	срочный; крайне необходимый
use	применение, использование
user	пользователь
utilize	использовать

## Vv

valuable	ценный
variety	разнообразие
various	разнообразный, различный
vault	свод
vehicle	машина; транспортное средство
versatile	многогрочный, гибкий
volume	объем

## Ww

wall	стена
want	недостаток; хотеть
wash	омывать
washing machine	стиральная машина
way	путь; способ;
weapon	оружие
weather-resistant	устойчивый к влиянию погоды
weigh	взвешивать;
weight	вес



welder	сварщик
wheel	колесо
wheelchair	инвалидное кресло
whole	весь, целый
wholesome	полезный
wide	широкий
width	ширина
window	окно
withstand	выдерживать, сопротивляться, противостоять
wood	дерево; лесоматериал
World Wide Web (WWW)	глобальная сеть
workshop	цех, мастерская
worldwide	во всем мире

## Уу

yard	площадка, завод для отливки железобетонных изделий
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