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ТЕРМИНОЛОГИЧЕСКИЙ ИНОСТРАННЫЙ ЯЗЫК

ПРАКТИКУМ
для студентов специальностей
1-36 04 02 «Промышленная электроника»,
1-40 04 01 «Информатика и технологии
программирования», 1-53 01 07 «Информационные
технологии и управление в технических системах»
дневной формы обучения

Гомель 2022

Рекомендовано научно-методическим советом
энергетического факультета ГГТУ им. П. О. Сухого
(*протокол № 10 от 22.06.2022 г.*)

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Практикум разработан с целью подготовки студентов к использованию иностранного языка в профессиональной деятельности. Содержит три раздела и дополнительный материал.
Для студентов специальностей 1-36 04 02 «Промышленная электроника», 1-40 04 01 «Информатика и технологии программирования», 1-53 01 07 «Информационные технологии и управление в технических системах» дневной формы обучения.

ОГЛАВЛЕНИЕ

ВВЕДЕНИЕ

Данный электронный учебно-методический документ разработан в соответствии с образовательным стандартом и программой обучения по специальностям:

1-36 04 02 «Промышленная электроника»;

1-40 04 01 «Информатика и технологии программирования»;

1-53 01 07 «Информационные технологии и управление в технических системах».

Рецензируемый ЭУМД соответствует содержанию учебной программы курса по иностранному языку неязыкового УВО и отвечает необходимым нормативным требованиям учебно-методической документации.

Данный ЭУМД разработан с целью развития умений и навыков чтения и понимания общенаучных, общетехнических и профессионально ориентированных текстов по профилю специальности студента и навыков устной речи в пределах тематики, предусмотренной учебной программой. Основная цель учебного пособия реализуется на базе системы упражнений и заданий тренировочного и закрепительного характера, а также на основе учебных текстов, предназначенных для чтения и понимания прочитанного с варьируемой целью.

Пособие состоит из трех частей. Первая часть направлена на обучение чтению и переводу технических текстов по специальности, вторая часть направленна на развитие навыков говорения в рамках профессиональной деятельности обучающихся; грамматическая часть включает правила и упражнения; грамматические упражнения и задания имеют целью повторение, закрепление, усвоение и актуализацию грамматических моделей, речевых образцов и структур, свойственных современной научно-технической речи в учебных материалах на заданную тему; умение использовать полученные знания при переводе с английского языка на родной. Лексические упражнения имеют целью расширить границы языкового запаса студентов, показать синонимические ресурсы языка, антонимические параллели, полисемические связи в структуре слов, контекстуальное значение слов и интернациональный характер лексики английского языка. Терминологический словарь, включенный в ЭУМД, имеет целью помочь студентам при чтении научных и технических текстов по профилю специальности.

Разделы пособия, предусматривающие работу с аспектами языка, нацелены на формирование активного и потенциального словаря студентов, грамматических структур, свойственных научно-технической речи, усвоение словообразовательных моделей; развитие навыков учебного чтения, говорения и письма. Темы ЭУМД представляют собой определённые циклы взаимосвязанных уроков пособия, обеспечивающих формирование академических и социально-личностных компетенций студентов.

Исходя из конечной цели обучения языку в университете – подготовки будущих специалистов к чтению, пониманию и активной переработке текстовой информации оригинальной научно-технической литературы по профилю специальности, в ЭУМД уделяется внимание выработке навыков и умений в разных видах учебного чтения на иностранном языке (изучающее (детальное), просмотровое, ознакомительное, поисковое). Это, в дальнейшем, позволит выпускникам университета с достаточной гибкостью и определенной скоростью извлекать и перерабатывать из текста смысловую информацию. В каждом разделе представлены схемы и тематические картинки для описания.

В разделе «PART 2 (часть 2)» содержатся тексты, диалоги, учебные материалы, упражнения и задания, предполагающие работу студентов в команде, в группах, подгруппах, в парах под наблюдением преподавателя, а также проведение учебных и деловых игр деятельного характера с мотивированной ситуацией общения. Разговорная практика общения строится, в основном, на текстовом материале с опорой на тематические логико-смысловые схемы, интерпретирующие смысловое содержание прорабатываемого текста, диалога, позволяющие вовлекать студентов в разного рода дискуссии, инсценировки, импровизации, симуляции, стимулируя монологическое и диалогическое высказывание.

PART 1. SCIENCE AND TECHNOLOGIES

UNIT 1. SCIENCE

1. **Pre-reading Look at the names of the following inventions. What do you think they are for? What are their functions?**
- The Multi-Use Ear Mirror
- The Marine Mammal Communication Device
- The Light Bulb Changer
- The Anti-Eating Mouth Cage
- The Electrified Table Cloth
- The BeerBrella
- The Laser Pointer
- Cat Exerciser

2. **Read the article once to check your ideas from the Pre-reading activity.**

How to protect your brilliant invention

Imagine this. You've invented a fantastic new machine. You're going to be rich. But someone could steal your idea! How can you protect it? Simple! Just take out a patent. There are lots of benefits to patenting your invention. The patent stops other people making, using or selling your invention. It usually lasts for 20 years, and it is recognised around the world, not just in the country where the patent is applied for. And once you have a patent, you can sell your product.

So how do you patent an invention? Well, first you have to make sure that your invention can be patented. Ask yourself these questions. Can it be used? (It must be useful.) Can it be made? (You can't patent a theory or an idea.) Is it new? (You can't patent something that already exists.) Have you made it public? (Your invention isn't new if you've written about it, made it and sold it, or used it in public.) Have you really invented it? (Your invention must include "an inventive step".) Most importantly, is there a market for your invention? (Getting a patent can be expensive, so you need to make sure it's worth it.)

OK, so now you're ready to patent your invention. You do this by filling out a patent specification form. This describes your patent in detail: how it works, how it is made, how it is used, and so on. Next, you send in two copies of the patent specification, and a fee (J130 in the UK) to pay for the patent search. What's that? Well, the Patent Office has to check that there isn't another patent for your invention. Next, the invention is examined by the Patent Office and experts to see if it does what you say it does. If your application is approved, your patent is published. So, now all you have to do is manufacture it, market it, sell it, and count your millions!

Thousands of patents are registered every year. Some of them become household goods, but others disappear. Here are a few examples of unusual products that have been patented in recent years.

The Multi-Use Ear Mirror This is designed to allow you to examine your own ear. It consists of two mirrors fastened together with a piece of plastic.

The Marine Mammal Communication Device This is a keyboard that translates keystrokes into sounds that dolphins can understand.

The Light Bulb Changer This machine is for changing a light bulb. It weighs more than 50 kilograms.

The Anti-Eating Mouth Cage Remember the face mask that Hannibal Lecter wore in the Silence of the Lambs film? This is it.

The Electrified Table Cloth This device is designed to discourage insects from going onto a table cloth. The insects are given tiny electric shocks.

The BeerBrella This is a little hat for your can of beer. It's designed to keep the sun off your drink.

The Laser Pointer Cat Exerciser This is a device for exercising your cat. As the laser pointer is moved about, the cat follows it and gets some much-needed exercise.

Will you be getting any of these devices?

3. Read the article again and choose the correct option.
1. The patent usually lasts for 10 / 20 years.
2. You can / cannot patent an idea.
3. You can / cannot patent something that already exists.
4. It is important that there is / isn't a market for your invention.
5. You need to pay a fee of J130 / J230.

4. Language focus

Look at this extract from the article, "Next, the invention is examined by the Patent Office..." The writer has used the Present Simple Passive ("is examined"). Transform the following sentences into the Present Simple Passive. Do not include the agent (the person who does the action).
1. They move it about. 2. They register it. 3. They publish it. 4. They approve it. 5. They use it.

5. Discussion. Answer the questions:
1. Have you ever invented something or thought about inventing something? What?
2. What's the most useful invention of recent years?
3. Can you think of something that needs to be invented? What? Why?

6. Role-play the dialogue:

Tom: And then, this guy turns up and...

Mary: Hey, have you got the time?

Tom: Yes, it's... it's ten past six. So, anyway, I was waiting there and this guy...

Mary: Look, I'm sorry but I've really got to get going. I don't want to miss the...

Tom: Oh, I won't be long. So, anyway...

Mary: But I really should be going. I tell you what. I'll give you a call when I get into Chicago.

Tom: But I haven't finished my story yet.

Mary: I know, but I really should get going. My flight leaves in an hour and a half and it'll take me at least twenty minutes to get to the airport.

Tom: OK. Well, have a great flight, and call me as soon as you get in. I'll finish my story later.

Mary: Great!

Tom: And don't forget to get me those biscuits I asked for.

Mary: Don't worry! I won't. See you.

Tom: OK. Bye.

Mary: Bye. [silence] OK. Hang up now.

Tom: Erm.

Mary: If you don't, I will. OK. I'm going to hang up.

Tom: Hey, don't forget...

7. Make up your own dialogue using the following phrases:
Attempting to finish a conversation.

OK. I'll see what I can do. Anyway, I really must go now because... OK, thanks for calling. I'll get onto it right away. I'm sorry but I've really got to get going. I've got to be in the airport in ten minutes. Oh, I'm sorry but I've got another call coming in. I'm sorry but that's my other line. Can I call you back in ten minutes? OK. I'm glad we've cleared that up. So, I'll speak to you again sometime next week. OK. Well, I think that's all really, isn't it? So, I guess I'd better get going. I'm terribly sorry but I've really got to get going.

Saying goodbye

Bye. See you later. Bye for now. Goodbye. Speak soon. Catch you later. (informal) Cheers (British) Cheerio (very British)

UNIT 2. HUMAN BRAIN AND ITS FUNCTIONS

1. Read the text and put different types of questions to it. Retell the text.

Brain waves translated into speech

Just call it thinking out loud. Researchers at Columbia University have translated someone's brain activity and turned it into clear, understandable speech. When we speak, listen, or even just imagine speaking or listening, distinct patterns of activity are produced by our brains. To translate these patterns into speech, the researchers used a vocoder – the same technology that's used by Amazon Echo and Apple's Siri – to synthesise speech and respond to your voice commands. To teach the vocoder to interpret brain activity, the team worked with a group of epilepsy patients who were already undergoing brain surgery. The patients' brain activity was recorded as they were listening to someone recite the numbers zero through to nine. Those signals were then run through the vocoder, which turned them into speech. Artificial intelligence was then used to analyse and clean up the sound produced by the vocoder. They were left with a robotic voice that recited the numbers the patients were hearing. About three-quarters of the time the numbers were correct and understandable. The goal is to train the vocoder to produce speech based on brain signals emitted when a person imagines speaking. In future, they might be able to produce an implant that translates the wearer's thoughts into words. This could be life-changing for people with conditions like ALS who have lost their ability to speak. "If the wearer thinks 'I need a glass of water,' our system could take the brain signals generated by that

thought, and turn them into synthesised, verbal speech," said lead author Dr Nima Mesgarani. "This would be a game changer. It would give anyone who has lost their ability to speak, whether through injury or disease, the renewed chance to connect to the world around them."

2. Read and translate the text.

Using your brain

S o , you see, the human brain weighs about *1,5* kilos. It contains ten to fifteen thousand million nerve cells. Now, each nerve cell can connect with any number or combination of other neurons — that's what you call a nerve cell, a neuron - the total number of possible connections of course is enormous. Now, if you wanted to type that number so you'd have... get an idea of how many combinations there are, you'd have to start by typing a one, then follow that with ten million kilometres of zeros.

Every human brain has an unlimited potential - only a small fraction of neurons are used for...en…everyday routine tasks like eating, moving, routine work, etc. The rest are constantly available for thought.

Now, our brains consist of various parts, some of which control routine functions. But the important parts that make us into those marvellous thinking machines, we like to think we are, are the two hemispheres or the two sides of the brain: the left and the right. Now, the left hemisphere controls the right half of the body, that's right, the left controls the right, and the right controls the left half. Normally the left half of the brain is dominant.

Now, the left side, which is known as the rational side, controls the...these functions: language, numbers, linearity, analysis, logic, lists and sequencing.

The right side, which is known as the irrational side, sometimes people call it the artistic side of your brain, controls those things...er...which are...well, less specific perhaps: rhythm...er...er...colour, imagination, day-dreaming, space: spatial dimension, three-dimensional thought...erm...seeing collections of things as one, as a whole. One interesting thing is that left-handed people often have a dominant right hemisphere, and in this case the priorities of the things I've just mentioned are all reversed.

The corpus callosum is very important. That's corpus CORPUS, callosum CALLOSUM -you should make a note of that, it's very important - that's the link between the two hemispheres in the brain and

it's the key to successful thinking, linking the two parts of the brain, so you don't use them independently.

By the way, you...you could try this experiment: you'll see the two halves being used. Ask someone two questions, one to do with numbers - er...you could say 'What's 12 multiplied by 137?', and the other one to do with space. For example, you could say, 'What piece of furniture is directly above this chair in the room upstairs?' OK? Now, while they're trying to answer the first question, that was the...the numbers one, they'll probably look to the right to prevent being distracted by visual information, and while they're trying to answer the second, that's the spatial one about what's upstairs above the chair, they'll probably look to the left. But of course, some people just close their eyes and that ruins the whole test!

According to experts, as we get older our memories do not get worse. Er...that's just an old wives' tale. In fact, we forget things at all ages. If you *expect your* memory to be bad or to get worse, it probably will. Lack of stimulation, brain exercise and lack of interest can mean that you forget things more easily. Lack of concentration simply.

Ah, lack of fresh air can also lead to your brain being less efficient because it gets starved of oxygen, and an unhealthy lifestyle - take note - can also damage your brain: er...alcohol, smoke, um...pollutants in the air like lead, er...chemicals in food, they can all add to a generally deteriorating condition of the brain.

You've probably heard a lot of people say 'I'm not brainy' or 'That's too difficult for my brain' - but this is not true because everyone's brain has an equal potential.

There are a few rules, Golden Rules of brain power: One: Use your senses: don't only think in an abstract, logical wav. Try to imagine a problem visually.

Second rule: Use both halves of your brain. For example, if you're faced with...er...an abstract, logical problem, try thinking about it imaginative...er...try thinking about it imaginatively. Or if you're faced with a creative problem, try to analyse it. Think logically about it.

And don't ever say you *can't* solve a problem because your brain is just as good as anyone else's.

3. Read the text again and divide it into logical parts. Make a summary of the text.

4. **Read the following text. Is the information new to you? What facts do you find most interesting?**

Playing a musical instrument benefits your brain

When you listen to music, multiple areas of your brain become engaged and active. But when you actually play an instrument, that activity becomes more like a full-body brain workout. What's going on? Anita Collins explains the fireworks that go off in musicians' brains when they play, and examines some of the long-term positive effects of this mental workout.

Did you know that every time musicians pick up their instruments, there are fireworks going off all over their brain? On the outside, they may look calm and focused, reading the music and making the precise and practiced movements required. But inside their brains, there's a party going on.

How do we know this? Well, in the last few decades, neuroscientists have made enormous breakthroughs in understanding how our brains work by monitoring them in real time with instruments like fMRI and PET scanners. When people are hooked up to these machines, tasks, such as reading or doing math problems, each have corresponding areas of the brain where activity can be observed. But when researchers got the participants to listen to music, they saw fireworks. Multiple areas of their brains were lighting up at once, as they processed the sound, took it apart to understand elements like melody and rhythm, and then put it all back together into unified musical experience. And our brains do all this work in the split second between when we first hear the music and when our foot starts to tap along.

But when scientists turned from observing the brains of music listeners to those of musicians, the little backyard fireworks became a jubilee. It turns out that while listening to music engages the brain in some pretty interesting activities, playing music is the brain's equivalent of a full-body workout. The neuroscientists saw multiple areas of the brain light up, simultaneously processing different information in intricate, interrelated, and astonishingly fast sequences.

But what is it about making music that sets the brain alight? The research is still fairly new, but neuroscientists have a pretty good idea. Playing a musical instrument engages practically every area of the brain at once, especially the visual, auditory, and motor cortices. As with any other workout, disciplined, structured practice in playing music strengthens those brain functions, allowing us to apply that strength to other activities.

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The most obvious difference between listening to music and playing it is that the latter requires fine motor skills, which are controlled in both hemispheres of the brain. It also combines the linguistic and mathematical precision, in which the left hemisphere is more involved, with the novel and creative content that the right excels in. For these reasons, playing music has been found to increase the volume and activity in the brain's corpus callosum, the bridge between the two hemispheres, allowing messages to get across the brain faster and through more diverse routes. This may allow musicians to solve problems more effectively and creatively, in both academic and social settings.

Because making music also involves crafting and understanding its emotional content and message, musicians often have higher levels of executive function, a category of interlinked tasks that includes planning, strategizing, and attention to detail and requires simultaneous analysis of both cognitive and emotional aspects. This ability also has an impact on how our memory systems work. And, indeed, musicians exhibit enhanced memory functions, creating, storing, and retrieving memories more quickly and efficiently. Studies have found that musicians appear to use their highly connected brains to give each memory multiple tags, such as a conceptual tag, an emotional tag, an audio tag, and a contextual tag, like a good Internet search engine.

How do we know that all these benefits are unique to music, as opposed to, say, sports or painting? Or could it be that people who go into music were already smarter to begin with? Neuroscientists have explored these issues, but so far, they have found that the artistic and aesthetic aspects of learning to play a musical instrument are different from any other activity studied, including other arts. And several randomized studies of participants, who showed the same levels of cognitive function and neural processing at the start, found that those who were exposed to a period of music learning showed enhancement in multiple brain areas, compared to the others.

This recent research about the mental benefits of playing music has advanced our understanding of mental function, revealing the inner rhythms and complex interplay that make up the amazing orchestra of our brain.

5. Put 5 questions to the text and ask them to your groupmate.

6. Point out the most important parts of the texts and try to retell it.

7. Describe the picture. Answer the questions.

- How can students benefit from doing these different activities?
- How helpful might the activities be in preparing them for their future lives?

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UNIT 3. ARTIFICIAL INTELLIGENCE. ROBOTS

1. Read and translate the text. Analyze it and make a resume.

Artificial intelligence

Artificial intelligence (AI) is a branch of computer science that deals with machine intelligence. When we think of robots we often think of machines that resemble people, but these make up only a tiny proportion of what scientists would call robots. According to most definitions, a robot can be any machine or device that performs tasks usually performed by humans. From science fiction to science fact. Science-fiction writers used the idea of humanoid robots as early as the 1920s, before the age of electronic computers. In 1950, before AI even existed, the British mathematician Alan Turing laid the groundwork for the field when he described a test for machine intelligence—the so-called Turing test . The 1968 film 2001: A Space Odyssey showed a computer called HAL conversing intelligently with humans. In the real world no machine then could match HAL's intellect. Two years earlier, however, the Germanborn computer scientist Joseph Weizenbaum created a program called ELIZA that convinced many people they were talking to a real person via a computer rather than a computer itself. What ELIZA was actually doing was generating responses based on key words inputted by the participants.

Machine intelligence Language is one aspect of human culture that marks out our intelligence, and computers have not yet been able to match our skill with words. Something computers are better at, however, is data

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crunching – they are experts at memorizing huge quantities of data and performing alculations that would take us years. This makes them excellent problem solvers – and formidable opponents when it comes to games such as chess. Emotional and social intelligence cannot be as easily programmed and these more complex attributes are yet to be developed in machines. In a first step in 2000, Danish scientists built Feelix, a robot that could convey six different emotions –anger, happiness, sadness, fear, surprise, and a "neutral" emotion – through its facial expressions in response to physical contact. Creativity is another trait considered to be uniquely human. However, there are computer programs that can emulate creativity by, for example, composing music in the style of a famous composer such as Vivaldi. Machines can also learn. Rather than programming in all the necessary information, machines can be given basic programs that allow them to learn by trial and error. They can even un experiments and make discoveries – and in 2009 a robot called Adam, built by UK researchers, became the first machine to do so. It ran a series of experiments that confirmed the function of a specific yeast gene. When the robot's work was checked by scientists, the experimental results were verified. Humans and machines For many of us, trust in machine capabilities stops at human health and safety. Yet computer programs are regularly used to pilot planes to safety, and competitors in the DARPA Grand

Challenge (a race for selfdriving vehicles) have proved that intelligent cars can successfully negotiate traffic jams. Robots are also beginning to be used

for surgical operations, even for difficult procedures such as heart surgery. These surgical robots are not automata, but act as extensions of the surgeon's hands. They have cameras to relay view of the surgery site to the human

surgeon, who controls the cameras and instruments held by the robot's arms

from a remote console. Many robots are designed to carry out tasks that are too dangerous, difficult, or unpleasant for humans to do. For example, scientists are developing robots that can lift and manipulate heavy objects for use in the construction industry. Robots fitted with cameras and manipulating devices are being used by the emergency services and military   for   tasks   such as dangerous search-and-rescue operations and defusing bombs.

2. Put different types of questions to the text.
3. Recap the text.

4. Read the following facts and discuss them in groups. What other similar facts do you know?

- A CHESS-PLAYING COMPUTER

In 1996 Russian world chess champion Gary Kasparov played six rounds against Deep Blue, a chess-playing computer built by IBM, and won 4-2 –human triumphed over machine. However, in a rematch a year later Kasparov lost to an updated version of Deep Blue by 31/2-21/2, the first time a computer had beaten a world chess champion in match play. Deep Blue won because it was able to calculate a vast number of moves at each turn and select the best. Unlike Kasparov, Deep Blue was also completely unaffected by the emotional pressure of the match. The word "robot" was not in use until the 1900s, but people have been trying to make humanlike mechanical figures for centuries.

- EARLY MECHANICAL AUTOMATA

In the 13th century the Islamic
engineer Aljazari wrote *The Book of Knowledge of Ingenious Mechanical Devices* detailing some of the earliest examples of automata – humanoid machines. Scientists recently reconstructed some of these, including musical
figures designed to entertain party guests by banging drums and cymbals.
In the 18th and 19th centuries mechanical dolls and animals amused European audiences, and the Japanese made automata that served tea.

- EARLY ELECTRONIC ROBOTS

In World War II the British scientist William Grey Walter created the first electronic autonomous robots. Named "Elmer" and Elsie," they were Tortoises with Perspex shells and moved around in response to light.
Walter designed their control systems based on a greatly simplified version of the human brain.

5. Read and translate the text, taking from TED-performance of Keller Rinaudo, a CEO and co-founder of Zipline, building drone delivery for global public health customers. (He's also co-founder of Romotive, makers of the tiny robot, Romo.). Divide the text into logical parts.

A MINI-ROBOT POWERED BY YOUR PHONE

Your smartphone may feel like a friend -- but a true friend would give you a smile once in a while. At TED2013, Keller Rinaudo demos Romo, the smartphone-powered mini robot who can motor along with you on a walk, slide you a cup of coffee across the table, and react to you with programmable expressions**.**

So just by a show of hands, how many of you all have a robot at home? Not very many of you. Okay. And actually of those hands, if you don't include Roomba how many of you have a robot at home? So a couple. That's okay. That's the problem that we're trying to solve at Romotive -- that I and the other 20 nerds at Romotive are obsessed with solving.

So we really want to build a robot that anyone can use, whether you're eight or 80. And as it turns out, that's a really hard problem, because you have to build a small, portable robot that's not only really affordable, but it has to be something that people actually want to take home and have around their kids. This robot can't be creepy or uncanny. He should be friendly and cute.

So meet Romo. Romo's a robot that uses a device you already know and love -- your iPhone -- as his brain. And by leveraging the power of the iPhone's processor, we can create a robot that is wi-fi enabled and computer vision-capable for 150 bucks, which is about one percent of what these kinds of robots have cost in the past.

When Romo wakes up, he's in creature mode. So he's actually using the video camera on the device to follow my face. If I duck down, he'll follow me. He's wary, so he'll keep his eyes on me. If I come over here, he'll turn to follow me. If I come over here -- (Laughs) He's smart. And if I get too close to him, he gets scared just like any other creature. So in a lot of ways, Romo is like a pet that has a mind of his own. Thanks, little guy. (Sneezing sound) Bless you.

And if I want to explore the world -- uh-oh, Romo's tired -- if I want to explore the world with Romo, I can actually connect him from any other iOS device. So here's the iPad. And Romo will actually stream video to this device. So I can see everything that Romo sees, and I get a robot's-eye-view of the world. Now this is a free app on the App Store, so if any of you guys had this app on your phones, we could literally right now share control of the robot and play games together.

So I'll show you really quickly, Romo actually -- he's streaming video, so you can see me and the entire TED audience. If I get in front of

Romo here. And if I want to control him, I can just drive. So I can drive him around, and I can take pictures of you. I've always wanted a picture of a 1,500-person TED audience. So I'll snap a picture. And in the same way that you scroll through content on an iPad, I can actually adjust the angle of the camera on the device. So there are all of you through Romo's eyes. And finally, because Romo is an extension of me, I can express myself through his emotions. So I can go in and I can say let's make Romo excited.

But the most important thing about Romo is that we wanted to create something that was literally completely intuitive. You do not have to teach someone how to drive Romo. In fact, who would like to drive a robot? Okay. Awesome. Here you go. Thank you, Scott.

And even cooler, you actually don't have to be in the same geographic location as the robot to control him. So he actually streams two-way audio and video between any two smart devices. So you can log in through the browser, and it's kind of like Skype on wheels. So we were talking before about telepresence, and this is a really cool example. You can imagine an eight-year-old girl, for example, who has an iPhone, and her mom buys her a robot. That girl can take her iPhone, put it on the robot, send an email to Grandma, who lives on the other side of the country. Grandma can log into that robot and play hide-and-go-seek with her granddaughter for fifteen minutes every single night, when otherwise she might only be able to get to see her granddaughter once or twice a year.

So those are a couple of the really cool things that Romo can do today. But I just want to finish by talking about something that we're working on in the future. This is actually something that one of our engineers, Dom, built in a weekend. It's built on top of a Google open framework called Blockly. This allows you to drag and drop these blocks of semantic code and create any behavior for this robot you want. You do not have to know how to code to create a behavior for Romo. And you can actually simulate that behavior in the browser, which is what you see Romo doing on the left. And then if you have something you like, you can download it onto your robot and execute it in real life, run the program in real life. And then if you have something you're proud of, you can share it with every other person who owns a robot in the world. So all of these wi-fi–enabled robots actually learn from each other.

The reason we're so focused on building robots that everyone can train is that we think the most compelling use cases in personal robotics are personal. They change from person to person. So we think that if you're

going to have a robot in your home, that robot ought to be a manifestation of your own imagination.

So I wish that I could tell you what the future of personal robotics looks like. To be honest, I have no idea. But what we do know is that it isn't 10 years or 10 billion dollars or a large humanoid robot away. The future of personal robotics is happening today, and it's going to depend on small, agile robots like Romo and the creativity of people like yourselves. So we can't wait to get you all robots, and we can't wait to see what you build.

6. **Mark the most important information in the text. Make a plan and retell the text in your own words.**
7. **Speak on the central topic. Discuss the ideas.**
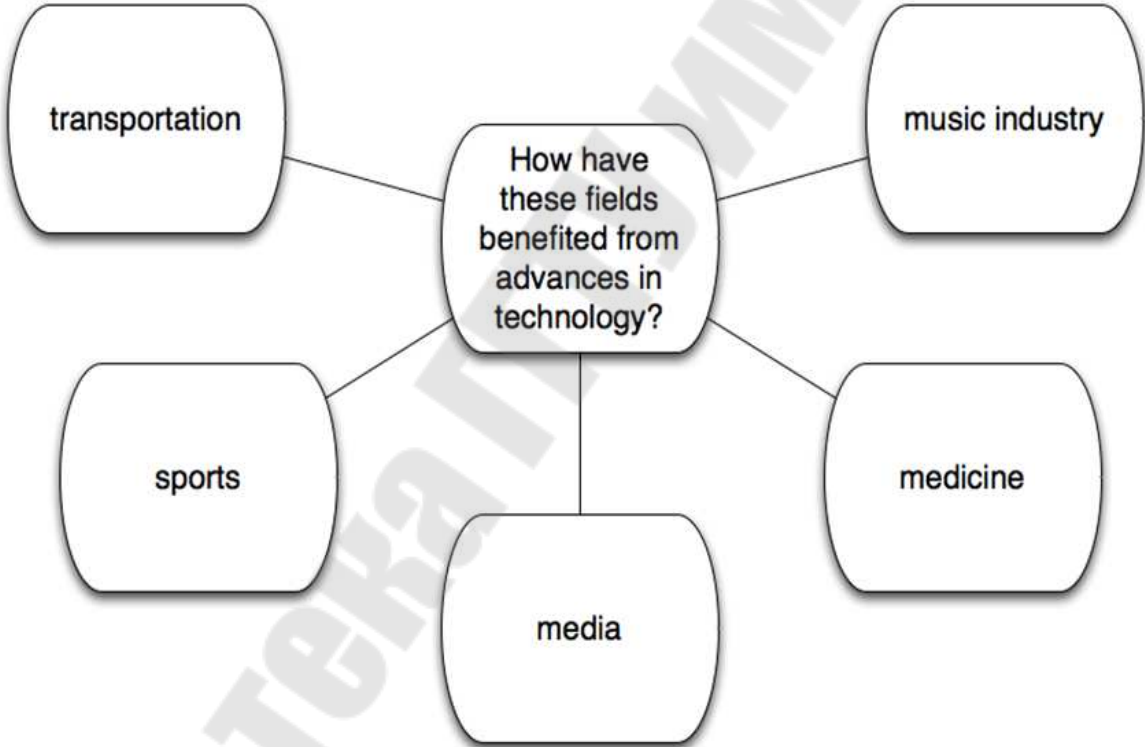
UNIT 4. SOCIETY. INFORMATION. FIRST COMPUTERS

1. Study new words and word-combinations.

computer literacy – компьютерная грамотность;

problem-solving device – устройство, обеспечивающее решение задачи;

be aware of – понимать, сознавать;

opportunity – возможность;

basics – основы;

application – применение; использование;

to restate – пересмотреть, переосмыслить;

significant – значительный;

achievements – достижения;

computing – вычисление; счет; работа на компьютере;

to embrace – охватывать;

dimension – измерение;

instruction – команда, инструкция, указание;

to direct the operation – направлять работу;

to process – обрабатывать;

subscription magazine – журнал по подписке;

data processing system – система обработки данных;

store manager – директор магазина;

to have much in common – иметь много общего.

2. Read and translate.

COMPUTER LITERACY

Informed citizens of our information-dependent society should be computer-literate, which means that they should be able to use computers as everyday problem-solving devices. They should be aware of the potential of computers to influence the quality of life.

There was a time when only privileged people had an opportunity to learn the basics, called the three R's: reading, writing, and arithmetic's. Now, as we are quickly becoming an information becoming society, it is time to restate this right as the right to learn reading, writing and computing. There is little doubt that computers and their many applications are among the most significant technical achievements of the century. They bring with them both economic and social changes. "Computing" is a concept that embraces not only the old third R, arithmetic's, but also a new idea — computer literacy.

In an information society a person who is computer-literate need not be an expert on the design of computers. I le needn't even know much about how to prepare programs which are the instructions that direct the operations of computers. All of us are already on the way to becoming computer-literate. Just think of your everyday life. If you receive a subscription magazine in the post-office, it is probably addressed to you by a computer. If you buy something with a bank credit card or pay a bill by check, computers help you process the information. When you check out at the counter of your store, a computer assists the checkout clerk and the store manager. When you visit your doctor, your schedules and bills and special services, such as laboratory tests, are prepared by computer. Many actions that you have taken or observed have much in common. Each relates to some aspect of a data processing system.

3. Answer the questions to the text.

1. What does "a computer-literate person" mean? 2. Are you aware of the potential of computers to influence your life? 3. What do the people mean by "the basics"? 4. What is the role of computers in our society? 5. What is "computing"? 6. What is a program? 7. Prove that we all are on the way to becoming computer-literate. 8. Give examples of using computers in everyday life.

4. Translate into Russian.

An information-dependent society; a computer-literate citizen; an everyday problem-solving device; to be aware; to influence the quality of life; to have an opportunity; to learn the basics; to learn computing; the most significant technical achievements; to embrace computer literacy; to prepare programs; to direct the operations of a computer; to be on the way of becoming computer-literate; to process information; to have much in common; a data processing system.

5. Rewrite sentences in Past Simple Tense.

1. Many people have an opportunity to use computers. 2. There is no doubt that computers solve problems very quickly. 3. Instructions direct the operation of a computer. 4. Computers bring with them both economic and social changes. 5. Computing embraces not only arithmetic's, but also computer literacy. 6. It is well known that computers prepare laboratory tests. 7. Those persons are computer literate and think of buying a new computer. 8. They receive a subscription magazine once a month. 9. My mother is ill and visits her doctor every other day. 10. Experts know much about how to prepare programs.

6. Read and translate the text paying attention to the new words below:

THE FIRST COMPUTERS

In 1930 the first analog computer was built by American named Vannevar Bush. This device was used in World War II to help aim guns.

Many technical developments of electronic digital computers took place in the 1940s and 1950s. Mark I, the name given to the first digital computer, was completed in 1944. The man responsible for this invention was Professor Howard Aiken. This was the first machine that could figure out long lists of mathematical problems at a very fast rate.

In 1946 two engineers at the University of Pennsilvania, J.Eckert and J.Maushly, built their digital computer with vacuum tubes. They named their new invention ENIAC (the Electronic Numerical Integrator and Calculator).

Another important achievement in developing computers came in 1947, when John von Neumann developed the idea of keeping instructions for the computer inside the computer's memory. The contribution of John von

Neumann was particularly significant. As contrasted with Babbage's analytical engine, which was designed to store only data, von Neumann's machine, called the Electronic Discrete Variable Computer, or EDVAC, was able to store both data and instructions. He also contributed to the idea of storing data and instructions in a binary code that uses only ones and zeros. This simplified computer design. Thus computers use two conditions, high voltage, and low voltage, to translate the symbols by which we communicate into unique combinations of electrical pulses. We refer to these combinations as codes.

Neumann's stored program computer as well as other machines of that time were made possible by the invention of the vacuum tube that could control and amplify electronic signals. Early computers, using vacuum tubes, could perform computations in thousandths of seconds, called milliseconds, instead of seconds required by mechanical devices.

GLOSSARY:

analog computer – аналоговый компьютер;

digital computer – цифровой компьютер;

to aim guns – наводить орудия на цель;

to figure out – вычислять;

at a fast rate – с высокой скоростью;

memory / storage – запоминающее устройство;

to store data and instructions – запоминать информацию и команды;

stored program computer – компьютер с занесенной в память программой;

binary code – двоичный код;

condition – режим, состояние, условие;

vacuum tube – электронная (вакуумная) трубка (лампа);

to amplify – усиливать;

to perform computations – выполнять вычисления.

7. Answer the questions to the text.

1. When was the first analog computer built? 2. Where and how was that computer used? 3. When did the first digital computers appear? 4. Who was the inventor of the first digital computer? 5. What could that device do? 6. What is ENIAC? Decode the word. 7. What was J. Neumann's contribution into the development of computers? 8. What were the advantages of EDVAC in comparison with ENIAC? 9. What does binary

coda mean? 10. Due to what invention could the first digital computers be built?

8. Make pairs of close-meaning words from the list below.
Verbs: to name, to complete, to calculate, to develop, to keep, to interprete, to communicate, to fulfill, to apply, to translate, to improve, to build, to call, to store, to communicate, to figure out, to perform, to use, to finish, to construct, to connect.
Nouns: speed, aim, storage, information, machine, significance, computation, data, device, rate, calculation, purpose, memory, importance.

9. Fill in the gaps with the words from the text.
1. The first digital computer could a lot of mathematical problems at a fast_____ 2. Vannevar Bush built the firsts _____ computer in 1930. 3. Babbage's analytical engine was designed to _____ data. 4. John Neumann invented a machine that was able to_____ not only data but also _____. 5. Neumann _____the idea of storing data in a _____. 6. Computers use two conditions for symbols. 7. The invention of _____made computers possible to control_____ and _____electronic signals. 8. Due to_____ computers could perform_____ much faster.

10. Translate sentences and word-combinations including:

A. The infinitive in the function of adverb. (обстоятельства)
1. Computers were designed to perform thousands of computations per second. 2. To make computers more reliable transistors were used. 3. They were applied to reduce computational time. 4. To integrate large numbers of circuit elements into a small chip, transistors should be reduced in size. 5. To use integrated circuit technology new computers were built. 6. Analytical engine was invented to store data.

Б. The infinitive in the function of definitive. (определения)
The problem to be solved; the work to be finished; the cards to be punched; calculations to be performed; the machine to be shown at the exhibition; the device to be provided with the necessary facts; computers to be used for data processing; efforts to increase reliability; electronics to connect systems and subsystems; the speed of response to depend on the size of transistor; computers to perform thousands of calculations per second;

vacuum tubes to control and amplify electric signals; these are circuits to use a large number of transistors; operations to be performed.

11. Describe

the two photographs. Compare and contrast them according to the plan:
- give a brief description (action, location)
- say what the pictures have in common
- say in what way the pictures are different
- say which kind of book you'd prefer
- explain why

You will speak for not more than 2 minutes. You have to talk continuously.

Photo № 1   Photo № 2

COMPARING AND CONTRASTING

Both photos show...
In both pictures the people are...
One similarity is that...
What both these pictures have in common is...
However, there are also some differences between the pictures.
The picture on the left is more... than the other one.
The situation shown in Picture A is more... than the situation in Picture B.
The people in the first picture are less... than the people in the other one.
This man looks... while the other one is rather...
The main difference is (that)...
Another important difference is that...
In contrast,...

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UNIT 5. LIVING WITH COMPUTERS

1. Read the introductory part of the article and answer the following questions.
1. Have computers made people's life easier?
2. Are processing characteristics considered to be the main ones? What are they?
3. What other PC characteristics are mentioned in the text?
4. Is storage capacity the most relevant feature of modern computers?
5. How do computers assist you?

LIVING WITH COMPUTERS

We use computers on daily basis, at school, at home, in the office. Computers have changed the way we work,making it easier. It is important for everyone to have at least basic knowledge of computers. Thanks to the computer, we can go to the library or shopwithout leaving our house. Generally,they provide people witheducation, entertainment,businessandstore valuable data for as long as needed. The following processing characteristics of a PC, which are referred to as The 3 C's, are considered to be the main ones, becausethe computer performs all processing by calculating, comparing and copyingthe data stored in its random access memory (RAM).First of all, the PC is fast. It can perform billions of calculations andgeometric measurements per second.It processes information at ex-tremely high ratesmatching one set of data with another one by search-ing, analyzing,copying, editing, displaying and deleting them for count-less purposes. Secondly, the PC is accurate.It performs various operations with precise results and no errors. Thirdly,

PCs are versatile.Theyare used in various fields of industry, business and leisure. They can communicate to share files of any sort with any PC at any destination. Storage capacity is another relevant feature of a computer. The storage capacity of a com-puter is measured in Mega Bytes, Giga Bytesand Tera Bytes. Multitask-ing is also an important characteristic for PC users. It enables them to ac-complish several tasks simultaneously such as downloading files, prepar-ing office documents and participating invideo conferences online –all at the same time.

2. Read several interesting first hand computer users' opinions on the value PCs have brought into their lives. Which ones do you like most and why?

1. My name is Melanie. Computers have made my life absolutely in-credible. I am from Canada and Imanaged to find my partner in Facebook, who lives in Australia. We have been together and happy for 2 years now.

2. I am Katie. Computers have helped my sister Linsey and me to look differently at our job. We are professional photographers and designers and we have never dreamt of all the software facilitiesavailable for imageeditingsuch as enhancing photos, creating high-quality graphics,and de-signing websites.

3. I amMr.Clarks, a writer. And for me, it is so much easier with com-puters now to make all sorts of editing like spelling mistakes, cutting andpasting instantly rather than using the typewriter for moving paragraphs and correcting mistakes, though the typewriterwill never get a virus or need any updates.

4. I am Mrs.Silvia Pears.I am a mother of a 6-year-old boy. My hus-band works hard and so do I. We hardly have any free time to spend with our son. So Sony play station, a smart phone and computer in this kind of 8situation becomeessential for our son to watch cartoons and play games. I see it is not the healthiest solution but do we have a better choice?

5. We are teaching at Cambridge University. Computer technology hasa deep impact oneducation by facilitating information representation, quick communication between teachers and students and organizing dis-tant learning courses. Students from different countries have access toall the necessary academic materials, get the core knowledge, interact with each other in online forums, download the tests fromstudents'resources,completethemand send the results back for the tutor to check.

6. I am Mr.Flunt, a programmer. Most users, in my view, get upset about the hackers` attacks that destroy their operating systems. In addition to this, it is getting more and more complicated to protectInternet users from unreliable web sites, phishingattacks and violence. I am not sure if computers have improved our lives.

7. We are Mr. and Mrs. Green. With computers andparticularly Skype,all the family have an opportunity for communicating withour daugh-ter who's now studying and living away from home in Oxford.

8. I am Mrs.Pot. In my opinion, people have become very much dependent onpersonal computers and digital mobile devices on the whole. They spend most of their freetime offline or online clicking dif-ferent applications, surfing the Internetand chatting in social networks. They prefer to have hundreds of friends online, get likes for their selfies instead of live communication.

9. I'm Mr. Fleet. Computers have changed my life completely. I work as a chief manager of the Chinese International Trade Company. Thanks to these intellectual devices, I can easily co-work and control my foreign partners at any destination.3.Mark the sentences as true or false.

3. Read the following statements and correct those which are not right.
1. All computer users are of positive opinion on computers.
2. Melanie has a successful experience of finding a partner in Insta-gram.
3. Designers and photographers have got wider possibilities with modern computers.
4. The writer thinks of the typewriter as a thing of the past.
5. Mrs. Silvia Pears regards multimedia gadgets as very useful for her son.
6. Teachers appreciate the role of computers in teaching.
7. The Internet is the safest global network.
8. Computers enabled people living in different countries to communi-cate easily. 9. Computers have made people rather insulated.
10. According to Mr. Fleet it's very convenient for the business part-ners to cooperate and coordinate the work of each other.

4. Which...
1. computer users speak only in favour of computers?
2. computer users are of a negative opinion about com-puters?
3. computer users see thecomputer as a beneficialand harmful device?
4. opinion do you find the most disputing?

5. opinion do you consider the most valuable?
6. opinionsdo you share?
7. opinions do not you support?

5. Check the meaning of the word combinations given in the text in bold, put them down in your vocabulary list and learn them, paying attention to the prepositions they go with. Then complete the sentences with prepositions where necessary.

1.Wi-Fi provides users____ the access ____the Internet.
2. Internet users have an opportunity ____ participating ____ online conferences.
3.Skype is one of the cutting-edge devices that eliminates distances between people and allows them to communicate ____ one another ____ any destination.
4. Computers have made a controversial impact ____ education.
5. Yesterday, we found a good instructive video about the use of com-puters surfing____ the Internetand downloadedit ____ YouTube.
6.For getting a visa you can easily complete ____ an online applica-tion form.
7.Today, the Internet is accessible ____ any timeand you can surf ____ a high rate.
10
8. It is getting more complicated to protectInternet users____ unreli-able web sites.
9.Young people are very much dependent ____ mobile devices.
10. In distant learning, students have a chance to interact____ one an-other in video conferences and forums.

6. Complete the text with the necessary words.
mark, cut, edit, copy, save, paste, delete
Today, I'm going to tell you about a few basic computer commands, which you can use for dif-ferent applications. The most typical is when us-ers want to ____ some text or graphics, I mean to make some changes in those, you should ____ a piece of information you wouldlike to change for a start. If you want to get rid of it you can either ____ it or just ____ it. If you want to add the same piece of text or image to another file, you should click such commands as ____ and then ____ to a new file. Then if you are happy with the redactions you have made not to lose them you need to

_____ the file under some name. Thank you for your attention! If you have further questions I will be glad to answer them all.

7. Comment on the following brainy quotes. Express your views on them. Useful language: in my opinion..., in my point of view..., I agree/disagree with the first statement, because...

a) *I think it's fair to say that personal computers have be-come the most empowering tool we've ever created. They're tools of communication, they're tools of creativ-ity, and they can be shaped by their user. Bill Gates*

b) *Computers are magnificent tools for the realiza-tion of our dreams, but no machine can replace the human spirit, compassion, love and understanding. Louis V.Gerstner,Jr*

c) *Your computer is a backup of your soul, a multi-layered, menu-driven representation of who you are, who you care about.Alan Turing*

8. Read and find synonyms (1-a):

1. Accuratea	A. To ease
2. Available	B. Precise
3. To communicate	C. To look for
4. Essentiald.	D. To interact
5. To provide	E. Accessible
6. Versatile	F. At the same time
7. To perform	G. Fundamental
8. To facilitate	H. To give
9. Simultaneously	I. To accomplish
10. To search for	J. Multipurpose

UNIT 6. ACCESSING THE INTERNET

1. Discuss the following questionsю
1. How important is the Internet in your life? Give examples.
2. What other activities can people do on the Internet? Make a list and discuss it with your group.

2. Study the following vocabulary:
- *to access websites/email*: to locate
- *to back up files*: *to make a copy of files in case of a computer problem*
- *to boot up*: to start a computer
- *to bookmark a webpage*: to mark a webpage for future reference
- *to browse websites*: to look at websites
- *a computer buff*: an expert computer user
- *to crash*: to suddenly stop working
- *to cut and paste*: to move text or images from one place in a document to another place
- *a desktop PC*: a computer that isn't portable and remains in situ on a desk
- *digital editing*: to edit digital materials like audio or video files
- *download (podcasts)*: to save a copy of a file from the internet to your own device
- *to enter a web address*: to type the address of a website into the address bar of your browser
- *a gadget*: a technological tool like a mobile phone or camera

- *to go online*: to start using the Internet
- *high-spec (laptop)*: powerful computer with top quality components
- *Internet security*: Internet safety
- *intranet*: a network of connected computers within an organisation that is not accessible by unauthorised visitors
- *to navigate a website*: to find your way around a website
- *operating system*: the software that tells the computer how to work
- *send an attachment*: send an email with an accompanying file
- *social media*: media used to interact with other people such as Facebook or Twitter
- *to surf the web*: to look at a series of websites one after the other
- *a techie*: somebody who has an interest in technology
- *to upgrade*: to obtain a more powerful or feature-rich computer or piece of software
- *video conferencing*: to see and hear people from different locations using the Internet
- *wireless hotspot*: a public place where you can access the Internet
- *wireless network*: a network where users can access the Internet without the use of fixed cables
- *word processing;* producing written texts on a computer

3. Scan the text and match the headings (a-d) with the paragraphs (1-4).
a. Components of the Internet.
b. The originof the net.
c. What the Internet is.
d. How the net works.

THE INTERNET

1. The Internet is a globalnetworkconnecting millions ofcomputers. The largest number of Internet users is in China, followed by the United States and India. In the early days, most people just used the Internet to search for information. Today the Internet helps many people communicate, work, learn, and have fun.

2. The Internet enables computers to send one another small packets of digital data. For that to work, they use a common 'language' called TCP/IP (Transmission Control Protocol / Internet Protocol). If you are on the net, you have an IP address. This address is a way to identify a

computer on the Internet. Packets of Internet data are transmitted through a variety of cables, routersand host computers on the way to their destination.

3. The Internet began in 1969 as ARPAnet, a U.S. Department of Defense project to create a computer network that could withstand a nuclear war. During the next two decades, the network that evolved was used mainlyby universities, scientists and the government for research and communications. The nature of the Internet changed in 1992, when the U.S. government offered Internet access to the general public. The number of users grew rapidly into the millions and then hundreds of millions. The main reasons for this massive increase were the huge growth of the personal computer market, the invention of the World Wide Web by Tim BernersLee in the early 1990s, and the widespread adoption of broad-band in the 2000s.

4. The Internet consists of multiple data systems. The most popular and important systems are:

- WWW, the World Wide Web, a collection of files or pages containing links to other documents on the Internet. Most Internet services are now integrated on the Web.

- E-mail, or electronic mail, for the exchange of messages and attached files. Mailing Lists are a combination of e-mail and discussion groups. Subscribe to a list and messages are distributed to your e-mail box.

- Instant messaging (IM), a system for sending public and private messages to other users in real time over the Internet. You can chat privately with a friend, family member or business colleague. The latest IM programs also incorporate telephone, video and file-sharing facilities and are becoming an alternative to traditional video conferencing programs. The most popular instant messaging services include Skype, WhatsApp, Viber, Telegram, etc. File Transfer Protocol (FTP), a system for transferring data files be-tween computers via the Internet.

- Video conferencing, a system that allows transmission of video and audio signals in real time, sousers can exchange data, talk and see one another on the screen. Some services also let you do video conferencing, such as Skype and Facebook Video Calling.

- VoIP (Voice over Internet Protocol), or Internet Telephone, a system that lets people make voice calls over the Internet.

4. Read the text again and decide if the following statements are true or false.

1. The Internet is a network of networks.
2. The largest number of Internet users is in the UK.
3. Computers need to use the same File Transfer Protocol to communi-cate with each other.
4. Every computer connected to the Internet is given a unique address or IP number.
5. The Internet began as a military experiment.
6. Thehuge growth of personal computer marketwas one of the rea-sons for rapid growth of Internet users.
7. Tim Berners-Lee invented a broadband technology in the early 1990s.8.Mailing Lists are based on programs that send messages on a certain topic to all the computers whose users have subscribed to a list.9.Many IM services now offer audio and video capabilities.

5. Complete the sentenceswith thewordsin boldfrom the text. You may have to change some words slightly.

1. By clicking on a ___, you might be taken to another website.
2. Traditionally, telecoms companies make most of their profits from.
3. It's possible to store a lot more ___on a DVD.
4. The ___will connect your computer to the Internet via your phone line.
5. With the e-mail we received some ___.
6. Mostpublic libraries provide free ___to the Internet for library members.
7. With___, you can watch live news and sport, download and share large files quickly.
8. In order to be able to connect to theInternet a computer needs an ___.

6. What Internet system from paragraph 4 should these people use?

1. I don't want to spend too much money on international phone calls, so I've found a cheaper way to talk to my friend from Canada.
2. I like receiving daily updates and headlines from newspapers on my computer.
3. I want to read people's opinions about current sporting events and express my views.
4. I'd like to check my students' draft essays on my computer and send them back with my suggestions.
5. I have designed a web page and want to transfer the data to my re-served web space.
6. I'd like to avoid flying to Hong Kong to attend the meeting but I want to see what's going on there.

8. Read and translate the text.

Types of Internet service

Once you've set up your computer, you may want to purchase home Internet access so you can send and receive email, browse the Web, stream videos, and more. You may even want to set up a home wireless network, commonly known as Wi-Fi, so you can connect multiple devices to the Internet at the same time.

The type of Internet service you choose will largely depend on which Internet service providers (ISPs) serve your area, along with the types of service they offer. Here are some common types of Internet service.

Dial-up: This is generally the slowest type of Internet connection, and you should probably avoid it unless it is the only service available in your area. Dial-up Internet uses your phone line, so unless you have multiple phone lines you will not be able to use your landline and the Internet at the same time.

DSL: DSL service uses a broadband connection, which makes it much faster than dial-up. DSL connects to the Internet via a phone line but does not require you to have a landline at home. And unlike dial-up, you'll be able to use the Internet and your phone line at the same time.

Cable: Cable service connects to the Internet via cable TV, although you do not necessarily need to have cable TV in order to get it. It uses a broadband connection and can be faster than both dial-up and DSL service; however, it is only available where cable TV is available.

Satellite: A satellite connection uses broadband but does not require cable or phone lines; it connects to the Internet through satellites orbiting the Earth. As a result, it can be used almost anywhere in the world, but the connection may be affected by weather patterns. Satellite connections are also usually slower than DSL or cable.

3G and 4G: 3G and 4G service is most commonly used with mobile phones, and it connects wirelessly through your ISP's network. However, these types of connections aren't always as fast as DSL or cable. They will also limit the amount of data you can use each month, which isn't the case with most broadband plans.

Choosing an Internet service provider

Now that you know about the different types of Internet service, you can do some research to find out what ISPs are available in your area. If you're having trouble getting started, we recommend talking to friends, family members, and neighbors about the ISPs they use. This will usually give you a good idea of the types of Internet service available in your area.

Most ISPs offer several tiers of service with different Internet speeds, usually measured in Mbps (short for megabits per second). If you mainly want to use the Internet for email and social networking, a slower connection (around 2 to 5 Mbps) might be all you need. However, if you want to download music or stream videos, you'll want a faster connection (at least 5 Mbps or higher).

You'll also want to consider the cost of the service, including installation charges and monthly fees. Generally speaking, the faster the connection, the more expensive it will be per month.

Although dial-up has traditionally been the least expensive option, many ISPs have raised dial-up prices to be the same as broadband. This is intended to encourage people to switch to broadband. We do not recommend dial-up Internet unless it's your only option.

Hardware needed

Modem

Once you have your computer, you really don't need much additional hardware to connect to the Internet. The primary piece of hardware you need is a modem.

The type of Internet access you choose will determine the type of modem you need. Dial-up access uses a telephone modem, DSL service uses a DSL modem, cable access uses a cable modem, and satellite service uses a satellite adapter. Your ISP may give you a modem—often for a fee—when you sign a contract, which helps ensure that you have the right type of modem. However, if you would prefer to shop for a better or less expensive modem, you can choose to buy one separately.

Router

A router is a hardware device that allows you to connect several computers and other devices to a single Internet connection, which is known as a home network. Many routers are wireless, which allows you to create a home wireless network, commonly known as a Wi-Fi network.

You don't necessarily need to buy a router to connect to the Internet. It's possible to connect your computer directly to your modem using an Ethernet cable. Also, many modems include a built-in router, so you have the option of creating a

Wi-Fi network without buying extra hardware.

Setting up your Internet connection

Once you've chosen an ISP, most providers will send a technician to your house to turn on the connection. If not, you should be able to use the instructions provided by your ISP—or included with the modem—to set up your Internet connection.

After you have everything set up, you can open your web browser and begin using the Internet. If you have any problems with your Internet connection, you can call your ISP's technical support number.

Home networking

If you have multiple computers at home and want to use all of them to access the Internet, you may want to create a home network, also known as a Wi-Fi network. In a home network, all of your devices connect to your router, which is connected to the modem. This means everyone in your family can use the Internet at the same time.

Your ISP technician may be able to set up a home Wi-Fi network when installing your Internet service. If not, you can review our lesson on How to Set Up a Wi-Fi Network to learn more.

If you want to connect a computer that does not have built-in Wi-Fi connectivity, you can purchase a Wi-Fi adapter that plugs into your computer's USB port.

Introduction to Internet safety

There's almost no limit to what you can do online. The Internet makes it possible to access information quickly, communicate around the world, and much more. Unfortunately, the Internet is also home to certain risks, such as malware, spam, and phishing. If you want to stay safe online, you'll need to understand these risks and learn how to avoid them.

Adopting a safer mindset

Computers can often give us a false sense of security. After all, no one can physically harm you through a computer screen. But to stay safe online, you'll want to take a more cautious approach. Here's one way to think about it: Treat the Internet as you would a shopping mall.

Most people don't consider a mall to be an especially dangerous place. You can go there to shop and meet up with friends. But there are also small things you may do to stay safe, even if you don't think about them very often. For example, you probably wouldn't leave your car unlocked or give your credit card number to a stranger.

Apply this same mindset whenever you're online. You shouldn't be afraid to use the Internet, but remember that it comes with many of the same risks you'd face in the real world. Throughout this tutorial, we'll show you how to prepare for these risks so you can be online without putting yourself in danger.

Hacker is a term used by some to mean "a clever programmer" and by others, especially those in popular media, to mean "someone who tries to break into computer systems."

1) Eric Raymond, compiler of The New Hacker's Dictionary, defines a hacker as a clever programmer. A "good hack" is a clever solution to a programming problem and "hacking" is the act of doing it. Raymond lists five possible characteristics that qualify one as a hacker, which we paraphrase here:

•	A person who enjoys learning details of a programming language or system

•	A person who enjoys actually doing the programming rather than just theorizing about it

•	A person capable of appreciating someone else's hacking

•	A person who picks up programming quickly

•	A person who is an expert at a particular programming language or system, as in "UNIX hacker"

Raymond deprecates the use of this term for someone who attempts to crack someone else's system or otherwise uses programming or expert knowledge to act maliciously. He prefers the term cracker for this meaning.

2) The term hacker is used in popular media to describe someone who attempts to break into computer systems. Typically, this kind of hacker would be a proficient programmer or engineer with sufficient technical knowledge to understand the weak points in a security system.

A cracker is someone who breaks into someone else's computer system, often on a network; bypasses passwords or licenses in computer programs; or in other ways intentionally breaches computer security. A cracker can be doing this for profit, maliciously, for some altruistic purpose or cause, or because the challenge is there. Some breaking-and-entering has been done ostensibly to point out weaknesses in a site's security system.

The term "cracker" is not to be confused with "hacker". Hackers generally deplore cracking. However, as Eric Raymond, compiler of The New Hacker's Dictionary notes, some journalists ascribe break-ins to "hackers."

A classic story of the tracking down of a cracker on the Internet who was breaking into U.S. military and other computers is told in Clifford Stoll's The Cuckoo's Egg.

8. Ask your partner what Internet service he /she uses and why?

Example: – Do you use e-mail? – Yes, I sometimes sendattachments by e-mail.

And you? – I just leave my e-mail while filling any application form.I prefer

using ... to stay connected with my family or friends. – Yes. It's very useful.
Personally I ...

- **To make your conversation more interesting and fresh use the following words and word-combination:**

<u>Accessing the Internet:</u>
I go/get online whenever I am free; I connect to the Internet through a high-speed connection; I have no download limit I am really into file sharing; I download files often; my connection offers a fast download speed; I like to stream videos; my system sends me notifications

<u>Spending Time Online:</u>
surf the Net/Web; spend time online; visit websites; join a website; become a member; sign uplog on to a website; sign in; username; password; a search engine; search for information

<u>Types of Websites:</u>
I write my own blog; I often publish blog-posts an online encyclopedia; the BBC is my favourite news site; Yahoo is an Internet portal site Google is my go-to search engine

<u>Keeping in Touch + Social Media:</u>
IG is my favourite social-networking site; social media are so popular these days; I never update my status; I sometimes share stories on my timeline
I use several instant messaging systems; we often chat online; I often send messages to friends send email; my email address is easy to remember; spam; junk mail;video conferencing; a web cam; an online forum; a chat room; a bulletin board; a message board; add a comment; the comments page

<u>Online Gaming:</u> play online games; role-playing games; online gambling
<u>Online Shopping:</u> online shopping isn't popular here; I often shop online an auction site; bid for an item
<u>Problems:</u> cyber crime; identity theft; spam/junk mail

9. DESCRIBE:
<u>a technology you like using</u>

- **what the technology is**
- **when you got it**
- **how often you use it**

a website you often browse.

- **what it is**
- **how long you have been using it**
- **give detailed information about the website**
- **and explain why you often browse this website.**

Model: I don't have many gadgets … just a computer … a laptop and my mobile phone … but I'll talk about my computer as it's so useful … it's funny really … 2 years ago I was still learning to use computers … how to use email … send attachments how to access websites … then I decided to do a digital editing course for video and photography … and so I bought the laptop when I started the course … my husband had a desktop PC but it was very slow so I decided to upgrade to a powerful one because we do a lot of video editing on the course … it's a high-spec laptop … very fast … the latest operating system … it boots up really quickly and it's fun to use so it makes working a pleasure … I've become a competent computer user now … if I didn't have it I daresay I'd have to spend more time at college using their computers … but on the positive side I suppose I'd read a lot more if I didn't have it … I probably waste a lot of time surfing the web … but hopefully I won't have to be without it …

10. Answer the following (final) questions on the topic "Accessing the Internet":

1) Do you enjoy using technology?
2) Do you use the Internet for your studies?
3) Do you have your own computer?
4) How often do you use security systems?
5) Are security systems important? Why?
6) Do you prefer to buy things online?
7) Is it comfy to buy things online?
8) How often do people use Internet in your country?
9) Is Internet dependence a real problem?
10) Are you dependent on the Internet? How much?
11) Are computer games important in people's lives?
12) What are the advantages of the Internet?
13) Can you name the main disadvantages of the Internet?
14) What can you say about junk mail?

15) When do you surf the Internet?
16) What kind of activities do you do online?
17) Are you a heavy Internet user?
18) Have you ever had any bids for an items?
19) What is the future of the Internet?
20) Can you imagine your life without a mobile phone today?
21) How many apps do you have on your mobile?

Task 4. Study the two photographs. In 1.5 minutes be ready to compare and contrast the photographs:

- give a brief description (action, location)
- say what the pictures have in common
- say in what way the pictures are different
- say which kind of book you'd prefer
- explain why

You will speak for not more than 2 minutes. You have to talk continuously.

Photo № 1   Photo № 2

Study the two photographs. In 1.5 minutes be ready to compare and contrast the photographs:

· give a brief description (action, location)
· say what the pictures have in common
· say in what way the pictures are different
· say which kind of job you'd prefer
· explain why

You will speak for not more than 2 minutes. You have to talk continuously.

UNIT 7. PROGRAMMING

1. Read the text and try to guess the meaning of the words in bold. Check your variants in the dictionary.

PROGRAM PLANNING

The programming process begins with a problem statement that helps you clearly define the purpose of a computer program. In the context of programming, a problem statement defines certain elements that must be manipulated to achieve a result or goal. A good problem statement for a computer program has three characteristics: 1. It specifies any assumptions that define the scope of the problem. 2. It clearly specifies the known information. 3. It specifies when the problem has been solved. In a problem statement an assumption is something you accept as true in order to proceed with program planning. The "known information" is the information that you supply to the computer to help it solve a problem. There are also variables(values that can change) and constants (factors that remain the same) in computer programs. Formulating a problem statement provides a minimal amount of planning, which is sufficient for only the simplest programs. A typical commercial application requires far more extensive planning, which includes detailed program outlines, job assignments, and schedules. To some extent, program planning depends on the language and paradigm used to code a computer program. The phrase programming paradigm refers to a way of conceptualizing and structuring

the tasks a computer performs. For example, whereas one programmer might focus on the steps required to complete a specific computation, another one might focus on the data that forms the basis for the computation. Quite a number of programming paradigms exist, and a programmer might use techniques from multiple paradigms while planning and coding a program. There are different program planning tools, such as flowcharts, structured English, pseudocode, UML diagrams, and decision tables, which are used to provide sufficient planning. Regardless of the tools used, when planning is complete, programmers can begin coding, testing, and documenting.

The process of coding a computer program depends on programming language you use, the programming tools you select, and the programming paradigm that best fits the problem you are trying to solve. Programmers typically use a text editor, a program editor, or a VDE to code computer programs. A text editor is any word processor that can be used for basic editing tasks, such as writing e-mail, creating documents, or coding computer programs. When using a text editor to code a computer program, you simply type in each instruction. A program editor is a type of text editor specially designed for entering code for computer programs. A VDE (visual development environment) provides programmers with tools to build substantial sections of a program by pointing and clicking rather than typing lines of code. A typical VDE is based on a form design grid that a programmer manipulates to design the user interface for a program. By using various tools provided by the VDE, a programmer can add objects, such as controls and graphics, to the form design grid. In the context of a VDE, a control is a screen-based object whose behavior can be defined by a programmer. In visual development environment, each control comes with predefined set of events. Within the context of programming, an event is defined as an action, such as click, drag, or key press, associated with the form or control. A programmer can select the events that apply to each control. An event usually requires the computer to make some response. Programmers write event-handling code for the procedures that specify how the computer responds to each event. A programmer's choice of development tools depends on what is available for a particular programming language and the nature of the programming project.

Text editors and program editors provide a fine tool set for programs with minimal user interfaces. A visual development environment is a powerful tool for programming software applications for GUI environments, such as Windows. Most GUI applications are "event-

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driven", which means that when launched, the program's interface appears on the screen and waits for the user to initiate an event. A computer program must be tested to ensure that it works correctly. Testing often consists of running the program and entering test data to see whether the program produces correct results. When a program doesn't work correctly, it is usually the result of an error made by the programmer. A syntax error occurs when an instruction doesn't follow the syntax rules, or grammar of the programming language. Syntax errors are easy to make, but they are usually also easy to detect and correct. Another type of program bug is a runtime error,which, as its name indicates, shows up when you run a program. Some runtime errors result from instructions that the computer can't execute.

Some runtime errors are classified as logic errors. A logic error is an error in the logic or design of a program. It can be caused by an inadequate definition of the problem or an incorrect formula for a calculation, and they are usually more difficult to identify than syntax errors. Programmers can locate errors in a program by reading through lines of code, much like a proofreader. They can also use a tool called debugger to step through a program and monitor the status of variables, input, and output. A debugger is sometimes packaged with a programming language or can be obtained as an add-on. Anyone who uses computers is familiar with program documentation in the form of user manuals and help files. Programmers also insert documentation calledremarks or "comments" into the programming code. Remarks are identified by language-specific symbols. A well-documented program contains initial remarks that explain its purpose and additional remarks in any sections of a program where the purpose of the code is not immediately clear.

2. Mark the following statements as True or False.
1. The programming process begins with coding.
2. A typical commercial application requires a minimal amount of planning.
3. A programmer might use techniques from multiple paradigms while planning and coding.
4. Programmers typically use a program editor to code computer programs.
5. A visual development environment provides programmers with tools to build substantial sections of a program by pointing and clicking.
6. Text editors and program editors provide a fine tool for programming software interfaces.

7. Syntax errors result from instructions that the computer can't execute.

3. Discuss the following questions.
1. What is a problem statement?
2. What is an assumption?
3. Does the problem statement provide sufficient planning to begin coding?
4. How does a programmer code a computer program?
5. What is a text editor and a program editor?
6. What is a VDE?
7. How does a programmer know if a program works?
 8. What can cause program errors?
9. How do programmers find errors?
 10. Do computer programs contain any special documentation?

4. Read and translate the text:

PROCEDURAL PROGRAMMING

The traditional approach to programming uses a procedural paradigm(sometimes called "imperative paradigm") to conceptualize the solution to a problem as a sequence of steps. A program written in a procedural language typically consists of self-contained instructions in a sequence that indicates how a task is to be performed or a problem is to be solved. A programming language that supports the procedural paradigm is called a procedural language. Procedural languages are well suited for problems that can be easily solved with a linear, or step-by-step, algorithm. Programs created with procedural languages have a starting point and an ending point. The flow of execution from the beginning to the end of the program is essentially linear – that is, the computer begins at the first instruction and carries out the prescribed series of instructions until it reaches the end of the program. An algorithm is a set of steps for carrying out a task that can be written down and implemented. An algorithm for a computer program is a set of steps that explains how to begin with known information specified in a problem statement and how to manipulate that information to arrive a solution. In a later phase of the softwaredevelopment process, the algorithm is coded into instructions written in a programming language so that a computer can implement it. To design an algorithm, you might begin by recording the steps you take to solve the problem manually. The computer also needs the initial information, so the part of your algorithm must specify how the computer

gets it. Next, your algorithm should also specify how to manipulate this information and, finally, how the computer decides what to display as the solution. You can express an algorithm in several different ways, including structured English, pseudocode, and flowcharts. These tools are not programming languages, and they cannot be processed by a computer. Their purpose is to give you a way to document your ideas for program design. Structured English is a subset of the English language with a limited selection of sentence structures that reflects processing activities. Another way to express an algorithm is with pseudocode. Pseudocode is a notational system for algorithms that has been described as a mixture of English and your favorite programming language. A third way to express an algorithm is to use a flowchart. A flowchart is a graphical representation of the way a computer should progress from one instruction to the next when it performs a task. Before finalizing the algorithm for a computer program, you should perform a walkthrough toverify that your algorithm works.To perform a walkthrough for a simple program, you can use a calculator, paper, and pencil to step through a sampleproblem using realistic "test" data. For more complex programs, a walkthrough might consist of a verbalpresentation to a group of programmers who can help identify logical errors in the algorithm and suggest ways to make the algorithm more efficient. The algorithm specifies the order in which program instructions are performed by the computer. Unless you do otherwise, sequential execution is the normal pattern of program execution. During sequential execution,the computer performs each instruction in the order it appears – the first instruction in the program is executed first, then the second instruction, and so on, to the last instruction in the program. Some algorithms specify that a program must execute instructions in an order different from the sequence in which they are listed, skip some instructions under certain circumstances, or repeat instructions. Control structures are instructions that specify the sequence in which program is executed. Most programming languages have three types of control structures: sequence controls, selection controls, and repetition controls. A sequence control structure changes the order in which instructions are carried out by directing the computer to execute an instruction elsewhere in the program. A sequence control structure directs the computer to the statements they contain, but when these statements have been executed, the computer neatly returns to the main program. A selection control structure, also referred to as a "decision structure" or "branch", tells a computer what to do, based on whether a condition is true or false. A simple example of a

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selection control structure is the IF...THEN...ELSE command. A repetition control structure directs the computer to repeat one or more instructions until certain condition is met. The section of code that repeats is usually referred to as a loop or "iteration". Some of the most frequently used repetition commands are FOR...NEXT, DO...WHILE, DO...UNTIL, and WHILE...WEND (which means "while ends"). All the first programming languages were procedural. The first widely used standardized computer language, FORTRAN, with its procedural paradigm set the pattern for other popular procedural languages, such as COBOL, APL, ALGOL, PL/1, PASCAL, C, ADA, and BASIC. The procedural approach is best suited for problems that can be solved by following a step-by-step algorithm. It has been widely used for transaction processing, which is characterized by the use of a single algorithm applied to many different sets of data. For example, in banking industry, the algorithm for calculating checking account balances is the same, regardless of the amounts deposited and withdrawn. Many problems in math and science also lend themselves to the procedural approach. The procedural approach and procedural languages tend to produce programs that run quickly and use system resources efficiently. It is a classic approach understood by many programmers, software engineers, and system analysts.

The procedural paradigm is quite flexible and powerful, which allows programmers to apply it to many types of problems. The downside of the procedural paradigm is that it does not fit gracefully with certain types of problems – those that are unstructured or those with very complex algorithms.

The procedural paradigm has also been criticized because it forces programmers to view problems as a series of steps, whereas some problems might better be visualized as interacting objects or as interrelated words, concepts, and ideas.

5. Indicate the paragraph where the following ideas are found in the text.
1. A program written in a procedural language contains the prescribed series of instructions.
2. An algorithm shows the steps how to manipulate the information to arrive at a solution.
3. There are different tools to express an algorithm.
4. To make sure that your algorithm works, you should verify it.

5. Program instructions can be executed in order they are listed or some instructions can be skipped or repeated.
6. Many problems in banking industry lend themselves to the procedural approach.

6. Answer the following questions:

1. What is proceduralprogramming?
2. What is an algorithm?
3. How do you write an algorithm?
4. What is the best way to express an algorithm?
5. How do you know if your algorithm is correct?
6. In what order does a computer perform program instructions?
7. Can the computer make decisions while it executes a program?
8. What are the most popular procedural languages?
9. What kinds of problems are best suited to the procedural approach?
10. What are the advantages and disadvantages of the procedural paradigm?

9. Read the text and try to guess the meaning of the words in bold. Check your variants in the dictionary.

OBJECT-ORIENTED PROGRAMMING

The abbreviation "OO", which stands for object oriented, is used to describe a programming paradigm as well as a variety of computer programming languages.

- **Objects and classes**

The object-oriented paradigm is based on the idea that the solution for a problem can be visualized in terms of objects that interact with each other. In the context of this paradigm, an object is a unit of data that represents an abstract or a real world entity, such as a person, place, or thing. For example, an object can represent a $10.99 small pepperoni pizza. Another one can represent a pizza delivery guy named Jack Flash. Yet another object can be a customer who lives at 22 Pointe Rd. The real world contains lots of pizzas, customers, and delivery guys. These objects can be defined in a general way by using classes. Whereas an object is a single instance of an entity, a class is a template for a group of objects with similar characteristics. For example, a Pizza class defines a group of gooey Italian snacks that are made in a variety of sizes, crafted into rectangular or round shapes, and sold for various prices. A class can produce any number

of unique objects. When taking the object-oriented approach to a problem, one of the first steps is to identify the objects that pertain to a solution. As you might expect, the solution to the pizza problem requires some pizza objects. Certain characteristics of pizzas provide information necessary to solve the problem. This information – the price, size, and shape of a pizza – provides the structure for the Pizza class. A class is defined by attributes and methods. A classattribute defines the characteristics of a set of objects. Each class attribute typically has a name, scope and data type. One class attribute of the Pizza class might be named "pizzaPrice". Its scope can be defined as public or private. A public attribute is available for use by any routine in the program. A private attribute can be accessed only from the routine in which it is defined. The pizzaPrice attribute's data type can be defined as "double", which means that it can be any decimal number. OO programmers often use UML (Unified Modeling Language) diagrams to plan the classes for a program. Although a programmer completes the overall program plan before coding, jump ahead to take a quick look at the Java code for the attributes in the Pizza class. The first line of code defines the name of the class. Each subsequent line defines the scope, data type, and name of an attribute. The curly brackets simply define the start and end of the class. Class Pizza { public string pizzaShape; public double pizzaPrice; public double pizzaSize; }

- **Inheritance**

The object-oriented paradigm endows classes with quite a bit of flexibility. For the pizza program, objects and classes make it easy to compare round pizzas to rectangular pizzas rather than just to square pizzas. Suppose you want to compare a 10-inch round pizza to a rectangular pizza that has a length of 11 inches and a width of 8 inches. The Pizza class holds only one measurement for each pizza – pizzaSize. This single attribute won't work for rectangular pizzas, which might have a different length and width. Should you modify the class definition to add attributes for pizzaLength and pizzaWidth? No, because these attributes are necessary only for rectangular pizzas, not for round pizzas. An OO feature called "inheritance" provides flexibility to deal with objects' unique characteristics. In object-oriented jargon, inheritancerefers to passing certain characteristics from one class to other classes. For example, to solve the pizza problem, a programmer might decide to add a RoundPizza class and a RectanglePizza class. These two new classes can inherit attributes from the Pizza class, such as pizzaShape and pizzaPrice. You can then add specialized characteristics to the new classes. The RectanglePizza

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class can have attributes for length and width, and the RoundPizza class can have an attribute for diameter. The process of producing new classes with inherited attributes creates a superclass and subclasses. A superclass, such as Pizza, is any class from which attributes can be inherited. A subclass (or "derived class"), such as RoundPizza or RectanglePizza, is any class that inherits attributes from a superclass. The set of superclasses and subclasses that are related to each other is referred to as a classhierarchy. Java uses the "extends" command to link a subclass to a superclass. The statement class RectanglePizza extends Pizza means "create a class called RectanglePizza that's derived from the superclass called Pizza". class RectanglePizza extends Pizza { double pizzaLength; double pizzaWidth; }

- **Methods and messages**

An OO program can use objects in a variety of ways. A basic way to use objects is to manipulate them with methods. A method is a segment of code that defines an action. The names of methods usually end in a set of parentheses, such as compare() or getArea(). A method can perform a variety of tasks, such as collecting input, performing calculations, making comparisons, executing decisions, and producing output. For example, the pizza program can use a method named compare () to compare the square-inch prices of two pizzas and display a message indicating the best pizza. A method begins with a line that names the method and can include a description of its scope and data type. The scope-public or private-specifies which

parts of the program can access the method. The data type specifies the kind of data, if any, that the method produces. The initial line of code is followed by one or more lines that specify the calculation, comparison, or routine that the method performs.

A method is activated by a message, which is included as a line of program code, sometimes referred to as a "call". In the object-oriented world, objects often interact to solve a problem by sending and receiving messages. For example, a pizza object might receive a message asking for the pizza's area or price per square inch.

Polymorphism, sometimes called "overloading", is the ability to redefine a method in a subclass. It allows programmers to create a single, generic name for a procedure that behaves in unique ways for different classes. Polymorphism provides OO programs with easy extensibility and can help simplify program code.

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8. Choose the ending for each sentence out of the two or three given.

1. The statement "class RectanglePizza extends Pizza" means

a) create a class called Pizza that is derived from the superclass called RectanglePizza.

b) create a class called RectanglePizza that is derived from the superclass called Pizza.

2. Inheritance refers to passing certain characteristics from one a) method to another method.

b) class to other classes.

c) class to a superclass.

3. A public attribute

a) can be accessed only from the routine in which it is defined. b) is available for use by any routine in the program.

c) can't be created in a class which contains private attributes.

4. A class attribute

a) defines the characteristics of a set of objects.

b) is available for use by any routine in the program only if it is private.

5. The process of producing new classes with inherited attributes creates

a) only a superclass.

b) a superclass and subclasses.

6. In the object-oriented world, objects

a) don't interact.

b) often interact to solve a problem by sending and receiving messages.

9. Vocabulary practice 1. Which word does not belong to the group?

a) class, object, function, method;

b) overloading, inheritance, polymorphism, lambda expression; c) static, private, protected, public;

d) Smalltalk, Prolog, C++, Java;

e) Boolean, String, Multivalued, Double;

f) overclass, class, subclass, superclass.

10. Fill in the missing words choosing from the variants given.

1. ... allows programmers to create a single, generic name for a procedure that behaves in unique ways for different classes.

a) inheritance b) paradigm c) polymorphism

2. The OO paradigm defines a(an) ... as a unit of data that represents an abstract or real-world entity.
a) method b) object c) class d) attribute
3. Which type of diagrams are often used to plan the OO classes for a program?
a) HTML b) UML c) XML d) Flowchart
4. Which of the following items is not a typical feature of an object-oriented language?
 a) polymorphism b) inheritance c) classes d) relationships
5. In the context of OO, a class attribute ... .
 a) defines the characteristics of a set of objects; b) defines the behavior of an object; c) is used to determine if an object exists; d) is another name for an object.
6. The set of superclasses and subclasses that are related to each other is referred to as ... .
 a) a class hierarchy b) a set of independent classes c) a set of classes with a common parent

11. Transform the following sentences without any change in meaning. Use the prompts as they are given (words in brackets, parts of sentences).
1. For the pizza program, objects and classes make it easy to compare round pizzas to rectangular pizzas rather than just to square pizzas. (comparison)
 2. A method begins with a line that names the method and can indicate a description of its scope and data type. (describe)
3. The abbreviation "OO" is used to describe a programming paradigm as well as a variety of computer programming languages. (description)
4. In the object-oriented world, objects interact to solve a problem by sending and receiving messages. (interaction)
5. When taking the object-oriented approach to a problem, one of the first steps is to identify the objects that pertain to a solution. (identification)
6. A basic way to use objects is to manipulate them with methods. (manipulation)

12. Fill in the gaps in the text.
The object-oriented paradigm is based on the idea that the solution to a problem can be visualized in terms of objects that ___ with each other. An

object is a single instance of an entity. Programmers can use a ___ as a template for a group of objects with similar characteristics. Classes can be derived from other classes through a process called ___. The set of superclasses and subclasses that are related to each other is referred to as a class ___. OO programmers often use ___ Modeling Language diagrams to plan the classes for a program. Objects interact to solve problems by exchanging ___ which initiate an action, process, or procedure. OO programmers can create ___ to define what happens once an action is initiated.

13. Answer the following questions:
1. What is the basic focus of the objected-oriented paradigm?
2. What's the difference between an object and a class?
3. How do I define the classes I need to solve a problem?
4. How do I code a class when writing a program?
5. How flexible are classes for defining different types of objects? 6. What is inheritance?
7. How do I code a subclass?
8. How does an OO program use objects?
9. What can a method do?
10. What does a method look like when it has been coded in Java?

14. Read the text and try to understand it. Check new words in the dictionary.

OBJECT-ORIENTED LANGUAGES AND APPLICATIONS
Computer historians believe that SIMULA (SIMUlation LAnguage) was the first computer language to work with objects, classes, inheritance, and methods. SIMULA was developed in 1962 by two Norwegian computer scientists for the purpose of programming simulations and models. SIMULA laid the foundation for the object-oriented paradigm, which was later incorporated into other programming languages, such as Eiffel, Smalltalk, C++, and Java. The second major development in object-oriented languages came in 1972 when Alan Kaye began work on the Dynabook project at the Xerox Palo Alto Research Center (PARC). Dynabook was a prototype for a notebook-sized personal computer, intended to handle all the information needs of adults and children. Kaye developed a programming language called Smalltalk for the Dynabook that could be easily used to create programs based on real-world objects.

Dynabook never became a commercial product, but Smalltalk survived and is still in use today. Smalltalk is regarded as a classic object-oriented language, which encourages programmers to take a "pure" OO approach to the programming process. As the object-oriented paradigm gained popularity, several existing programming languages were modified to allow programmers to work with objects, classes, inheritance, and polymorphism. The concept for the Ada programming language originated in 1978 at the U. S. Department of Defense. The first versions of Ada were procedural, but in 1995, the language was modified to incorporate object-oriented features. A similar transformation took place with the C language in 1983, except that the object-oriented version earned a new name – C++. Hybrid languages,

such as Ada95, C++, Visual Basic, and C#, give programmers the option of using procedural and object-oriented techniques. Java is one of the newest additions to the collection of object-oriented languages. Originally planned as a programming language for consumer electronics, such as interactive cable television boxes, Java evolved into an object-oriented programming platform for developing Web applications. Java was officially launched by Sun Microsystems in 1995 and has many of the characteristics of C++, from which it derives much of its syntax. Like C++, Java can also be used for procedural programming, so it is sometimes classified as a hybrid language. The object-oriented paradigm can be applied to a wide range of programming problems. Basically, if you can envision a problem as a set of objects that pass messages back and forth, the problem is suitable for the OO approach. The object-oriented paradigm is cognitively similar to the way human beings perceive the real world. Using the object-oriented approach, programmers might be able to visualize the solutions to problems more easily. Facets of the object-oriented paradigm can also increase a programmer's efficiency because encapsulation allows objects to be adapted and reused in a variety of different programs. Encapsulation refers to the process of hiding the internal details of objects and their methods. After an object is coded, it becomes a "black box," which essentially hides its details from other objects and allows the data to be accessed using methods. A potential disadvantage of object-oriented programs is runtime efficiency.

Object-oriented programs tend to require more memory and processing resources than procedural programs. Programmers, software engineers, and system analysts can work together to weigh the tradeoffs between the OO approach and runtime efficiency.

15. Put the letters in the following words into the correct order.
1. migradap
2. papharoc
3. quchetine
4. fifecynice
5. angatdavidse
6. tulenpasacion

16. Fill in the blanks choosing from the variants given.
1. The process of hiding internal details of objects and their methods is called ... .
a) encapsulation c) inheritance b) polymorphism d) object-oriented
2. Smalltalk, Eiffel, Java, and ... are all programming languages that support the object-oriented paradigm.
a) C b) C++ c) Fortran d) Ada
3. ... is NOT a typical feature of an object-oriented language.
a) polymorphism c) classes b) inheritance d) relationships
4. Object-oriented programs tend to require ... memory and processing resources than procedural programs.
a) less b) more
5. Hybrid languages, such as Ada95, Visual Basic, and ..., give programmers the option of using procedural and object-oriented techniques.
a) C b) C++ c) C#
6. If you can envision a problem as a set of ... that pass messages back and forth, the problem is suitable for the OO approach.
   a) classes   b) objects

17. Fill in the gaps in the text.
The OO paradigm allows programmers to hide the internal details of objects and their methods. This process, called ___, allows objects to be easily reused, modified, and repurposed. Computer historians believe ___ was the first programming language to work with objects, classes, inheritance, and methods. It is a language called ___. Recently many procedural languages have been given OO capabilities. ___, which originated at the Department of Defense, was originally a procedural language, but now includes OO features. The C language was modified into a language called___, and again modified into C#. Recent versions of ___ Basic also offer programmers the option of working within the object-oriented paradigm. Speaking.

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18. Discuss the following questions.

1. How did object-oriented languages originate? 2. Which object-oriented languages are popular today? 3. What kinds of applications are suitable for object-oriented languages? 4. What are the advantages and disadvantages of the OO paradigm?

19.   Read the article and express your opinion on the problem.

Human Factors

Today's programming languages provide programmers with sophisticated tools for coding and testing software. Why then, are computers and computer software so often characterized as being difficult to use? Programmer and user interface designer Alan Cooper offers an explanation and solution in his book "The Inmates Are Running the Asylum". According to Cooper, programmers don't intentionally create bad technology products. "Programmers aren't evil. They work hard to make their software easy to use. Unfortunately, their frame of reference is themselves, so they only make it easy to use for other software engineers, not for normal human beings". Cooper suggests that it is possible to create intuitive, easy-to-use technology products by devoting more time to developing detailed product specifications with the assistance of an "interactive designer" who is familiar with the psychology and habits of a typical computer user. Clare-Marie Karat, a psychologist and IBM researcher developed The

Computer User's Bill of Rights

1. The user is always right. If there is a problem with the use of the system, the system is the problem, not the user.

2. The user has the right to easily install software and hardware systems.

3. The user has the right to a system that performs exactly as promised.

4. The user has the right to easy-to-use instructions for understanding and utilizing a system to achieve desired goals. 5. The user has the right to be in control of the system and to be able to get the system to respond to a request for attention.

6. The user has the right to a system that provides clear, understandable, and accurate information regarding the task it is performing and the progress toward completion.

7. The user has the right to be clearly informed about all system requirements for successfully using software or hardware.

8. The user has the right to know the limits of the system's capabilities.

9.The user has the right to communicate with the technology provider and receive a thoughtful and helpful response when raising concerns.

10. The user should be the master of software and hardware technology, not vice-versa. Products should be natural and intuitive to use.

Karat agrees with Cooper's comments about programmers being unable to understand the people who use their software. She says, "The profile of the people who use systems has changed, while the system, and the culture in which they have developed, have not adjusted ... The engineers and computer scientists who design hardware and software know little about the needs and frustrations of consumers." Some efforts to simplify operating system software have created another band of disgruntled users who complain that important features are now "hidden" because of feedback from novice testers who considered such features too advanced or confusing. Some controls, such as those for setting up networks, are not easy to understand, but could be crucial for a successful installation. Hiding those controls because they might confuse beginners has only caused advanced users to become frustrated.

Who is right? Can technology be simplified, yet remain powerful enough to accomplish complex tasks? A branch of ergonomics called Human Factors, or Human-Computer Interaction (HCI), focuses on factors that make computers easy or difficult to use.

20. Let's discuss. What do you think?
1. Can you think of a specific instance when you have become frustrated with a software user interface?
2. Is it possible to make computer software significantly easier to use?
3. Would you agree that programmers do not understand the viewpoint of a typical computer user and consequently produce bad software?

21. Final test. Do the tasks in the following test.
1. Which of the following types of editors provide tools to create programs by pointing and clicking ...?
a) programming editor b) VDE c) GUI d) control editor
2. Most programming languages include control structures known as ... .
a) sequence b) selection c) repetition d) all of the above
3. During ... execution, the computer performs each instruction in the order that appears.
4. A class is a template for a group of objects with similar characteristics. (True/False)

5. The ... paradigm is based on the idea that the solution for the problem can be visualized in terms of objects that interact with each other.

6. OO programmers often use ... diagrams to plan the classes for a program.

7. A(n) ... is a graphical representation of the way a computer should progress from one instruction to the next when it performs a task.

8. A(n) ... is a set of steps for carrying out a task that can be written down and implemented.

9. The set of superclasses and subclasses that are related to each other is referred to as a class ... .

10. In an OO program, objects send and receive ... to initiate actions, which the programmer defines by creating a(n) ... .

11. A(n) ... control structure tells a computer what to do based on whether a condition is true or false.

12. A(n) ... is a segment of code that defines an action.

13. The process of passing certain characteristics from a superclass to a subclass is referred to as ... .

14. A(n) ... attribute is an attribute that is available for use by any routine in a program.

15. Which of the following is NOT an example of a repetition command? a) FOR...NEXTb) WHILE.....WHEND c) DO.....WHILE d) IF....THEN

16. In a problem statement, a(n) ... is something that you accept as true in order to proceed with program planning.

17. A program written in a(n) ... language typically consists of self-contained instructions in a sequence that indicates how a task is to be performed or a problem is to be solved. a) object-oriented b) procedural c) event-driven d) functional

18. Smalltalk, Eiffel, Java, C++ are all programming languages that support the object-oriented paradigm. (True/False)

19. FORTRAN is considered a good choice for object-oriented programming. (True/False)

20. Which of the following terms refer to the way a computer programmer conceptualizes and structures the tasks that a computer performs ...?

a) programming paradigm c) object-oriented design b) algorithm development d) logical architecture Projects.

22. Choose and perform one of the projects given.

1. Programming computer games is a complex task. A central program ties together numerous aspects of the game, such as characters, scenery,

buildings, monsters, weapons, treasure, food, and sounds. To appreciate the complexity of game programming, play a computer game. Make a list of the objects you encounter during the first five minutes of the game. You might have to stop and restart the game several times to complete your list. Don't forget to include the title screen, introductory music, video, and so on. (Don't include the time it takes you to watch the video in your five-minute viewing period.) Expand your list of objects by adding descriptions of what happens to the objects. Take a screenshot of the game during your observation period. Submit your list and screenshot. Indicate the name of the game you observed on the screenshot. Follow your instructor's guidelines for printed or electronic documents.

2. The computer game industry is hot and employs professionals from a wide variety of career fields, including programmers, artists, musicians, narrators, writers, producers, accountants, photographers, videographers, historians, military science, and physicists. Think about your career field. How would a professional in your career field fit into a computer game development team? What aspect of the game would they work on? Jot down your thoughts, and then go online and search for information about computer game development. What can you learn about jobs in the computer game industry for people with skills in your chosen career field? Submit your findings in a format of your choice. You can write a one-page summary or get creative and work up a brochure or 30-second radio spot.

23. Speak on the topic and discuss the ideas:

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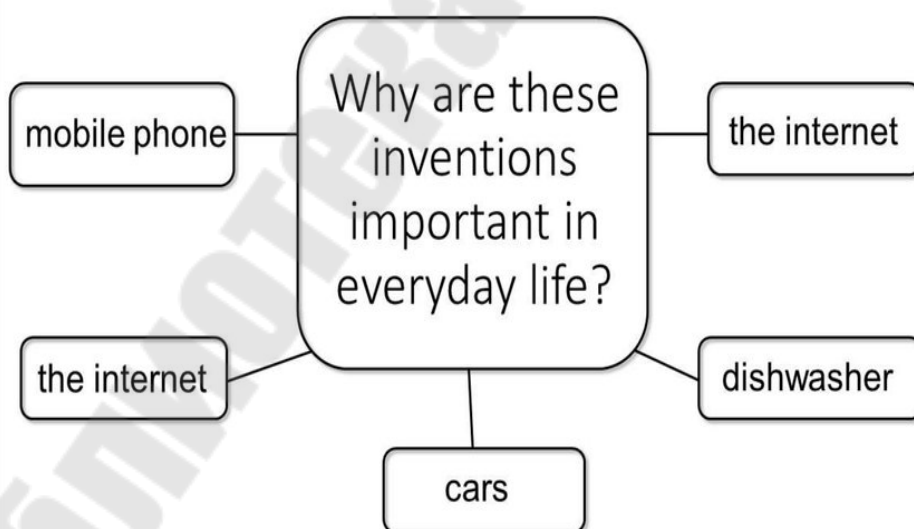
24. Describe the inventions. Are they still popular? Why?

1)
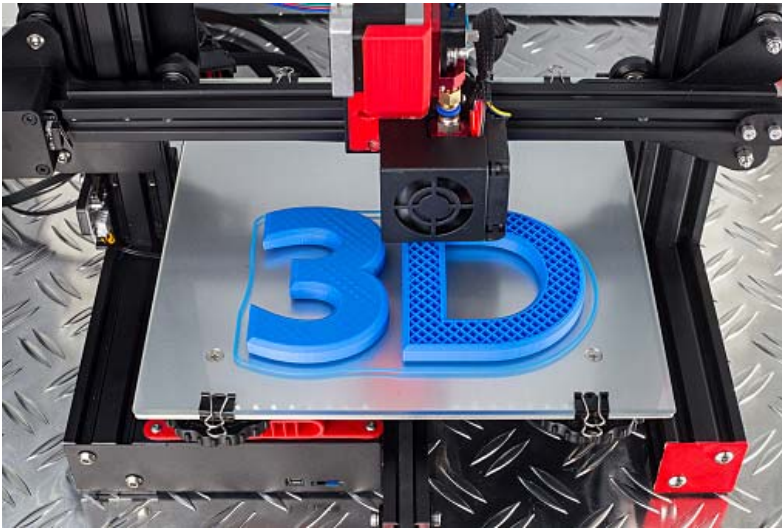
2)

3)

UNIT 8. E-MAIL PROTOCOLS
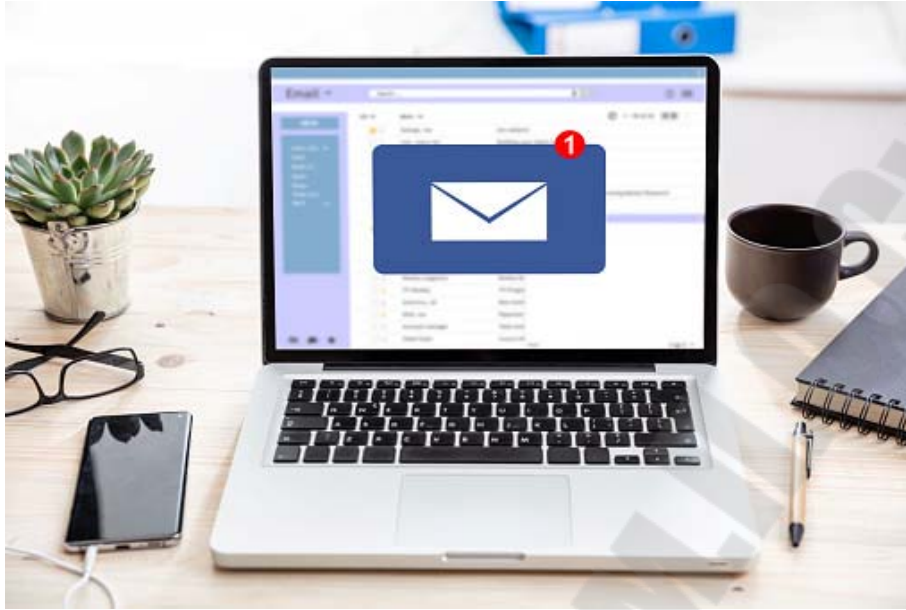
1. Discuss with your partner the following questions

• What do you know about e-mail?

• What are the reasons for sending written messages electronically?

2. Skim the text to check your ideas.

E-MAIL PROTOCOLS
by Marshall Brain and Tim Crosby

E-mail has become an extremely popular communication tool. According to Darwin Magazine: Prime Movers, the first e-mail message was sent in 1971 by an engineer named Ray Tomlinson. Prior to this, you could only send mes-sages to users on a singlemachine. Tomlinson's breakthroughwas the ability to send messages to other machines on the Internet, using the @ sign to designatethe receiving machine.An e-mail message has always been nothing more than a simple text mes-sage--a piece of text sent toa recipient. In the beginning and even today, e-mail messages tend to be short pieces of text, although the ability to add attachments now makes many messages quite long. You've probably already received several e-mail messages today. To look at them, you use some sort of e-mail client. Many people use well-known, stand-alone clients like Microsoft Outlook, Outlook Express, Eudoraor Pegasus. People who subscribe to free e-mail services like Hotmail or Yahoo use an e-mail client that appears in a Web page. If you're an AOL customer, you use

AOL's e-mail reader. No matter whichtype of client you're using, it generally does four things:

• Shows you a list of all of the messages in your mailbox by displaying the message header. The header shows you who sent the mail, the sub-ject of the mail and may also show the time and date of the message and the message size.

• Lets you select a message header and read the body of the e-mail message.

• Lets you create new messages and send them. You type in the e-mail address of the recipient and the subject for the message, and then type the body of the message.

• Lets you add attachments to messages you send and save the attach-ments from messages you receive.Sophisticated e-mail clients may have all sorts of bells and whistles, but at the core, this is all that an e-mail client does.Machines on the Internet can run software applications that act as servers.There are Web serv-ers, FTP servers, telnet servers and e-mail servers running on millions of ma-chines on the Inter-net right now. These applications run all the time on the server machine and they listen to specific ports, waiting for people or programs to attach to the port. The simplest possible e-mail server would have a list of e-mail accounts (e.g. John Smith's might bejsmith), a text file for each account in the list (e.g. the server would have a text file in its directory named JSMITH.TXT). The server would format those pieces of information and appendthem to the bottom of the JSMITH.TXT file. There are several other pieces of information that the server might save into the file, like the time and date of receipt and a subject line; but overall, you can see that this is an extremely simple process.

As other people sent mail to jsmith, the server would simply append those messages to the bottom of the file in the order that they arrived. The text file would accumulate a series of five or 10 messages, and eventu-ally you would log in to read them. When you want-ed to look at your e-mail, your e-mail client would connect to the server ma-chine. In the simplest possi-ble system, it would: ask the server to send a copy of the JSMITH.TXTfile, ask the server to erase and reset theJSMITH.TXT file. Then save the JSMITH.TXT file on your local machine. Parsethe file into the separate messages (using the word "From:" as the separator). Show you all of the message headers in a list. When you double-clicked on a mes-sage header, it would find that message in the text file and show you its body. As you can see, this is a very simple system. Surprisingly, the real e-

mail system that you use every day isn't much more complicated than this. For the vast majority of people right now, the real e-mail system consists of two different servers running on a server machine.One is called the SMTP serv-er. The SMTP server handles outgoing mail. The other is either a POP3 serveror an IMAP server, both of which handle incoming mail. Whenever you send a piece of e-mail, your e-mail client interacts with the SMTP server to handle the sending. The SMTP server on your host may have conversations with other SMTP servers to deliver the e-mail. Let's assume that you want to send a piece of e-mail. Your e-mail ID is brain, and you have your account on yahoo.com. You want to send e-mailto jsmith@mindspring.com. You are using a stand-alone e-mail client like Outlook Express.When you set up your account at yahoo, you told Outlook Express the name of the mail server --mail.yahoo.com. When you compose a message and press the Send button, here's what happens:1. Outlook Express connects to the SMTP server at mail.yahoo.com using port 25.2. Outlook Express has a conversation with the SMTP server, telling the SMTP server the address of the sender and the address of the recipient, as well as the body of the message.3. The SMTP server takes the "to" address (jsmith@mindspring.com) and breaks it into two parts: the recipient name (jsmith) and the domain name (mind-spring.com). If the "to" address had been another user at yahoo.com, the SMTP server would simply hand the message to the POP3 server for yahoo.com (using

a little program called the delivery agent). Since the recipient is at another domain, SMTP needs to communicate with that domain.4. The SMTP server has a conversation with a DNS. Itsays, "Can you give me the IP address of the SMTP server for mindspring.com?" The DNS replies with the one or more IP addresses for the SMTP server(s) that Mindspring oper-ates.5. The SMTP server at yahoo.com connects with the SMTP server at Mind-spring using port 25. It has the same simple text conversation that your e-mail client had with the SMTP server for Yahoo, and gives the message to the Mind-spring server. The Mindspring server recognizes that the domain name for jsmith is at Mindspring, so it handsthe message to Mindspring's POP3 server, which puts the message in jsmith's mailbox.If, for some reason, the SMTP server at Yahoo cannot connect with the SMTP server at Mindspring, then the message goes into a queue. The SMTP server on most machines usesa program called sendmailto do the actual send-ing, so this queue is called the sendmail queue. Sendmail will periodically try to resend the messages in its queue. For example, it might retry every 15 minutes. After four hours, it will usually send you a piece of

mail that tells you there is some sort of problem. After five days, most sendmail configurations give up and return the mail to you undelivered.The SMTP server understands very simple text commands like HELO, MAIL, RCPT and DATA. In the simplest implementations of POP3, the server really does maintain a collection of text files --one for each e-mail account. When a message arrives, the POP3 server simply appendsit to the bottom of the recipient's file. When you check your e-mail,your e-mail client connects to the POP3 server using port 110. The POP3 server requires an account name and a password. Once you've logged in, the POP3 server opens your text file and allows you to access it. Like the SMTP server, the POP3 server understands a very simple set of text com-mands like USER, PASS and etc.Your e-mail client connects to the POP3 server and issues a series of com-mands to bring copies of your e-mail messages to your local machine.You can see that the POP3 server simply acts as aninterface between the e-mail client and the text file containing your messages. And again, you can see that the POP3 server is extremely simple. You can connect to it through telnet at port 110 and issue the commands yourself if you would like to. As you can see, the POP3 protocol is very simple. It allows you to have a collection of messages stored in a text file on the server. Your e-mail client (e.g. Outlook Express) can connect to your POP3 e-mail server and download the messages from the POP3 text file onto your PC. Many users want to do far more than that with their e-mail, and they want their e-mail to remain on the server. The main reason for keeping your e-mail on the server is to allow users to connect from a variety of machines. With POP3, once you download your e-mail it's stuck on the machine

to which you downloaded it. If you want to read your e-mail both on your desk-top machine and your laptop (depending on whether you're working in the office or on the road), POP3 makes life difficult.IMAP is a more advanced protocol that solves these problems. With IMAP, your mail stays on the e-mail server. You can organize your mail into folders, and all the folders live on the server as well. When you search your e-mail, the search occurs on the server machine, rather than on your machine. This approach makes it extremely easy for you to access your e-mail from any machine, and re-gardless of which machine you use, you have access to all of your mail in all of your folders.Your e-mail client connects to the IMAP server using port 143. The e-mail client then issues a set of text commands that allow it to do things like list all the folders on the server, list all the

message headers in a folder, get a specific e-mail message from the server, delete messages on the server or search through all of the e-mails on the server.Most e-mail clients have some way to cache e-mail on their local machine. For example, the client will download all the messages and store their complete contents on the local machine. The messages still exist on the IMAP server, but you now have copies on your machine. This allows you to read and reply to e-mail even if you have no connection to the Internet. The next time you establish a connection, you download all the new messages you received while discon-nected and send all the mail that you wrote while disconnected. Your e-mail cli-ent allows you to add attachments to e-mail messages you send, and also lets you save attachments from messages that you receive. Attachments might include word processing documents, spreadsheets, sound files, snapshots and pieces of software. Usually, an attachment is not text. Since e-mail messages can contain only text information, and attachments aren't text, there's a problem that needs to be solved. In theearly days of e-mail, you solved this problem by hand, using a program called uuencode.The uuencode program assumes that the file contains binary information. It extracts 3 bytes from the binary file and converts them to four text characters. What uuencode produces, therefore, is an encodedversion of the original binary file that contains only text characters. In the early days of e-mail, you would run uuencode yourself and paste the uuencoded file into your e-mail message.Considering its tremendous impact on society, having forever changed the way we communicate, today's e-mail system is one of the simplest things ever devised. There are parts of the system, like the routing rules in sendmail, that get complicated, but the basic system is incredibly straightforward.

3. Find and learn Russian equivalents for the following words and expressions:
1) bells and whistles (informal)
2) e-mail client
3) sendmail queue
4) encode

4. Find and learn English equivalents for the following words and expressions:
1)заголовок сообщения

2)текстовое сообщение

2)автономный, отдельный, не входящий в систему

3)служба доставки сообщений

4)агент передачи (электронной) почты

5. Find and learn English and Russian definitions for the following commands.

1)VRFY 2)EXPN 3)VERB 4)RETR 5)DELE 6)TOP 7)RCPT TO 8)EHLO

6. Find and learn English and Russian definitions for the following abbreviations:

1)AOL 2)**Ошибка! Недопустимый объект гиперссылки.** 4) IMAP 5)POP 6)DNS 7)TLS 8)SSL

7. Translate the following sentences into Russian.

1. Headers contain tracking information for an individual email, detailing the path a message took as it crossed mail servers.

2. Theuuencodecommand takes the namedSourceFile(default standard input) and produces an encoded version on the standard output.

3. A class and package is provided which allows TeX pictures or other TeX code to be compiledstandaloneor as part of a main document.

4. To check what is currently sitting in thesendmailmailqueueuse thesendmail-bp command.

5. Internet Message Access Protocol(IMAP) is a protocol for e-mail re-trievaland storage.

8. Answer the following questions and think over five more questions, which you could ask your partner about.

1) How e-mail gets from your computer to a friend halfway around the world?

2) What is a POP3 server, and how does it hold your mail?

3) What the simplest possible e-mail server would look like in order to get a basic understanding of the process?

4) If all of your e-mail is stored on the server, then how can you read your mail if you are not connected to the Internet?

9.

UNIT 9. DATABASES

1. Discuss with your partner the following questions.
• What do you know about databases?
• What are the reasons for using databases?

2. Skim the text to check your ideas.

HOW DATABASES WORK

People have kept track of information and data in many ways. Sometimes it was by using an elaborate file system, a ledger, or even a box. As computers be-come more popular and less expensive, many people find it easier to store infor-mation on the computer. The most common way to store large amounts of infor-mation with a computer is by using a database (DB) --a structured collection of records or data that is stored in a computer system. The structure is achieved by organizing the data according to a database model. You can think of a database as an electronic filing system. A collection of information organized in such a way that a computer programcan quickly select desired pieces of data.In the early days of computing, a database generally consisted of a single file that was divided into data blocks that in turn consisted of records and fields within records. The COBOL language was (and is) particularly suited to reading, processing, and writing data in such files. This flat file database model is still used for many simple applications including "home data managers." However, for more complex applications where there are many files containing interrelated data, the flat file model proves inadequate. In 1970, computer scientist E. F. Codd proposed a relational model for data

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organization. In the relational model, data is not viewed as files containing rec-ords, but as a set of tables, where the columns represent fields and the rows indi-vidual entities(such as customers or transactions). Relational databases usually also enforce referential integrity. This means preventing changes to the database from causing inconsistencies. For example, if table A and table B are linked and a record is deleted from table A, any links to that record from records in table B must be removed. Similarly, if a change is made in a linked field in a table, rec-ords in a linked table must be updated to reflect the change. During the 1980s, the dBase relational database program became the most popular DBMS on per-sonal computers. Microsoft Access is now popular on Windows systems, and Oracle is prominent in the UNIX world. Beginning in the 1980s, SQL (Struc-tured Query Language) became a widely used standard for querying and manipu-lating data tables, and most DBMS implement SQL.

90All computer databases are made up of tables. These tables contain records and each record is made up of some number of fields,columns and rows which are designed to provide an organized or arranged mechanism for managing, stor-ing and retrieving information. A field is a single piece of information; a record is one complete set of fields; and a file is a collection of records. For example, a telephone book is analogous to a file. It contains a list of records, each of which consists of three fields: name, address, and telephone number. An alternative concept in database design is known asHypertext. In a Hypertext database, any object, whether it is a piece of text, a picture, or a film, can be linked to any other object. Hypertext databases are particularly useful for organizing large amounts of disparateinformation, but they are not designed for numerical analysis.To access information from a database, you need a database management system (DBMS). This is a collection of programs that enables you to enter, or-ganize, and select data in a database. Increasingly, the term databaseis used as shorthand for database manage-ment system.Databases are useful as one can manipulate data, update records in bulk, perform complex calculations and retrieve records that match particular criteria.The collected information could be in any number of formats (electronic, printed, graphic, audio, statistical, combinations). There are physical (pa-per/print) and electronic databases. A database could be as simple as an alphabet-ical arrangement of names in an address book or as complex as a database that provides information in a combination of formats.For instance, bibliographic databasesprovide a descriptive record of an item, but the item itself is not provided in the database. Information about the

item is provided, including such things as author, title, subject, publisher, etc. The information provided is called a citation. Sometimes a short summary or ab-stract of the item is provided as well. Examples of bibliographic databases in-clude the GALILEO database Social Sciences Abstracts, or the Internet Movie Database on the World Wide Web. A full-text databaseprovides the full-text of a publication. For example, Research Library in GALILEO provides not only the citation to a journal article, but often the entire text of the article as well. "Col-lege Source Online" offers full-text of 20,000 collegecatalogs, so rather than having to request a catalog from several colleges to make comparisons, you can gather information from all colleges you're interested in at one time.Some databases provide numericinformation, such as statistics or demo-graphic information. Examples of these are (link will open in a pop-up window) Census Bureau databases and databases containing stock market information. You can also find databases that collect only imageinformation (EBSCOhost image collection), audioinformation (MP3 or wav files), or a combinationof any of the above types. CNN's site has a search option that provides access to news articles and the original video and audio files that accompanied them. Me-ta-databasesare databases that allow one to search for content that is indexed by other databases. GOLD is an example of this kind of database. If you find a cita-

91tion for an article in one of the bibliographic databases and want to determine if the article is available in full-text in another database, you could do a search for the journal in GALILEO in Journals A-Z to get a list of all the databases that in-dex that specific publication.There are thousands of different types and manufacturers of computer da-tabases. A few common examples are Microsoft's Access, Oracleand MySQL. Some computer databases are completely free, while others cost tens of thou-sands of dollars. Databases are used around the world by nearly every business in the twenty-first century, including vast government databases that contain huge amounts of information about citizens.If you're familiar with spreadsheets like Microsoft Excel, you're probably already accustomed to storing data in tabular form. It's not much of a stretch to make the leap from spreadsheets to databases. Just like Excel tables, database ta-bles consist of columns and rows. Each column contains a different type of at-tribute and each row corresponds to a single record. For example, imagine that we were building a database table that contained names and telephone numbers. We'dprobably set up columns named

"FirstName", "LastName" and "Tele-phoneNumber." Then we'd simply start adding rows underneath those columns that contained the data we're planning to store. If we were building a table of contact information for our business that has 50 employees, we'd wind up with a table that contains 50 rows. Databases are actually much more powerful than spreadsheets in the way you're able to manipulate data. Here are just a few of the actions that you can perform on a database that would be difficult if not impossible to perform on a spreadsheet: •Retrieve all records that match certain criteria

•Update records in bulk

•Cross-reference records in different tables

•Perform complex aggregate calculations

You can correlate information from multiple tables in a database by creating foreign key relationships between the tables.

3. Find and learn Russian equivalents for the following words and expressions:1)flatfiledatabase 2)interrelated data 3)relational model 4)manipulating data table 5)access information 6)data bulk 7)physical database 8)numeric information=numerical information 9)pop-up window 10)candidate key

4. Find and learn English equivalents for the following words and expressions:

1) целостность ссылочных данных, ссылочная целостность

2) отразить изменения 3) обращаться с запросом к базе данных 4)система управления базами данных, СУБД 5) библиографическая база данныхе 6)полнотекстовая база данных 7) графическая информация 8)суммарные вычисления 9)внешний ключ 10)таблица.

5. **Translate the following sentences into Russian.**
1. Some can manipulate only one collection of data-a table---at a time; these database programs are called flat-file database managers.
2. When a firewall detects suspicious activity, it sends an alert in the form of a pop-up window or email to notify the computer's user or the network man-ager that someone might have tried to break in.

3. When a calculation uses an aggregate function, it's called an aggregate calculation which you create by defining a new calculated field.

4. In the context of relational databases, a foreign keyis a referential constraint between two tables.

5. Referential integrity is a relational database concept in which multiple tables share a relationship based on the data stored in the tables, and that rela-tionship must remain consistent.

6. Answer the following questions.

1. What is a database?
2. What is a research database?
3. What isthe difference between a database and the Internet?
4. If a database is so much like a spreadsheet, why can't we just use a spreadsheet?
5. What is DBMS?
6. What is a Database system?
7. The DBMS acts as an interface between what two components of an enterprise-class database system?
8. What are the advantages of DBMS?
9. What are the disadvantagesin File Processing System?
10. Describe the three levels of data abstraction?
11. Who is MySQLnamed after? What does it stand for?
12. Why are there so many database models?
13. Are there undiscovered new models?
14. Is there an ultimate data model?

7. Read and translate the text. Make a resume of the text.

The language of computers

Round fifty years ago, people hadn't heard of computers. And today we cannot imagine our life without them.

Computer technology is the fastest-growing industry in the world. The first computer was the size of a <u>minibus</u> and weighed <u>a ton</u>. Today, its job

can de done by a chip the size of a <u>pinhead.</u> And the revolution is still going on. Very soon we'll have computers that we'll wear in our watches or even in our glasses and earrings. Such <u>wearable</u> computers are being developed
in the USA.

Japan's biggest mobile - phone company has just released its cleverest
product so far, the i - mode, a mobile – phone that allows you to surf the Internet as well as make calls. People are already using their phones to check the news, follow the stock market and download the latest jokes, buy cinema tickets and manage their bank accounts.

The next generation of computers will be able to talk and even think for themselves. They will contain electronic 'neural networks'. Of course, they'll be still a lot simpler than human brains, but it will be a great step forward. Such computers will help to diagnose illnesses, find minerals, understand and control the world's money markets, identify criminals and control space travel.

Computer revolution is changing our life and our language, too. We are constantly making up new words or giving new meanings to old ones. Most of computer terms are born in Silicon Valley, the world's top computer-science Centre. Luckily, most computer words are easy to learn and many of them are so colourful.They often make us smile when we first hear them such as snail- mail (traditional post rather than Internet-based mail) or wysiwyg (what-you-see-is-what-you-get). The computer industry is full of young people who think of themselves as very different from traditional business-people in suits.

 It is a world that avoids heavy scientific-sounding language in favour of words that are simple, fresh, and playful. Above all, it is a culture that promotes user-friendleness in everything, including its language. This means using simple familiar words to describe technical concepts. For example, it is surely nicer to talk about a mouse, rather than an X-Y position indicator, which is what a computer mouse was originally called.

One reason why computer words are so user-friendly is that many are metaphors, for instance "a computer menu" offers you a list of things to choose from, just like a menu in a restaurant. "A computer virus" spreads quickly and causes harm in the same way as viruses spread disease among people. "The computer memory" holds information, just like people's memories do.

10.   Read an abstract and find out the meaning of the word "Spam".

A special metaphor: *spam*

Some metaphors are quite unique. Perhaps the most colourful computer metaphor is spam. Spam is the trade name of an American brand of tinned

cooked meat, widely used during the Second World War when fresh meat was hard to obtain. Because people had to eat so much of it, it became the object of many jokes. In the computer world, spam is he Internet equivalent of "junk mail". It refers to messages that we have not asked for and do not want such as advertising. Such messages may be sent to thousands of people at the same time. This process is called spamming, and people who cause it are known as spammers. Spamming is very much disliked by Internet users, and spammers may find themselves flooded by angry email messages known as flames (another computer metaphor).

11.   Can you explain the meaning of the word spam?
12.   Look at the pictures. Make up your own story according to them.

UNIT 10. WEB-DESIGN
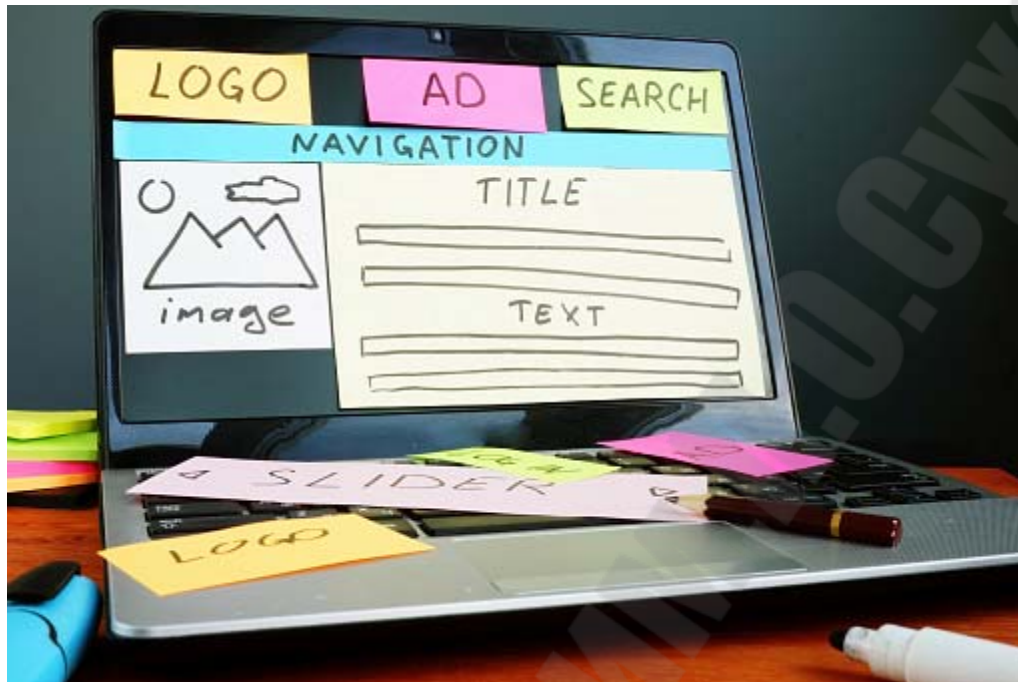
1. Read and translate the text.

WHAT IS WEB DESIGN?

Design is the process of collecting ideas, and aesthetically arranging
and implementing them, guided by certain principles for a specific purpose. Web design is a similar process of creation, with the intention of presenting the content on electronic web pages, which the end-users can access through the internet with the help of a web browser.

Elements of Web Design

Web design uses many of the same key visual elements as all types of design such as:

- <u>Layout:</u> This is the way the graphics, ads and text are arranged. In the web world, a key goal is to help the view find the information they seek at a glance. This includes maintaining the balance, consistency, and integrity of the design.

- <u>Colour:</u> The choice of colours depends on the purpose and clientele; it could be simple black-and-white to multi-coloured design, conveying the personality of a person or the brand of an organization, using web-safe colours.

- <u>Graphics:</u> Graphics can include logos, photos, clipart or icons, all of which enhance the web design. For user friendliness, these need to be placed appropriately, working with the colour and content of the web page, while not making it too congested or slow to load.

- <u>Fonts:</u> The use of various fonts can enhance a website design. Most web browsers can only read a select number of fonts, known as "web-safe fonts", so your designer will generally work within this widely accepted group.

- <u>Content:</u> Content and design can work together to enhance the message of the site through visuals and text. Written text should always be relevant and useful, so as not to confuse the reader and to give them what they want so they will remain on the site. Content should be optimized for search engines and be of a suitable length, incorporating relevant keywords.

Creating User-Friendly Web Design

Besides the basic elements of web design that make a site beautiful and visually compelling, a website must also always consider the end user. User-friendliness can be achieved by paying attention to the following factors.

- Navigation: Site architecture, menus and other navigation tools in the web design must be created with consideration of how users browse and search. The goal is to help the user to move around the site with ease, efficiently finding the information they require.

- Multimedia: Relevant video and audio stimuli in the design can help users to grasp the information, developing understanding in an easy and quick manner. This can encourage visitors to spend more time on the webpage.

- Compatibility: Design the webpage, to perform equally well on different browsers and operating systems, to increase its viewing.

- Technology: Advancements in technology give designers the freedom to add movement and innovation, allowing for web design that is always fresh, dynamic and professional.

- Interactive: Increase active user participation and involvement, by adding comment boxes and opinion polls in the design. Convert users from visitors to clients with email forms and newsletter sign-ups.

Toronto web design professionals create excellent User Interface (UI)
Design for a satisfying web experience. They use critical planning and analysis for the design and they pay attention to individual client specifications, converting the intricate process into a simple and elegant piece of art.

2. **Make a plan of the text.**
3. **Retell the text using your plan and vocabulary from the test.**

4. **Read and translate the text.**

THE WEB DESIGNER MISSION

To be the most accessible and inspiring voice for the industry, offering cutting edge features and techniques vital to building future-proof online content you are reading this then there is a good chance you know what CSS is. We like to call it the king of styling, but Cascading Style Sheets in 2018 have so much more to offer than simple styling. This issue we decided it was time to show off some of the immense talents that CSS has to offer and give an insight into some of the lesser-known but still essential elements that anyone needing to sharpen up their skills really needs to know. So what is on offer? We kick off with eight pages all about CSS animation. This takes you from storyboarding through to implementing a simple project, while passing transitions, key frames, performance and SVG animation along the way. Want to know the ins and outs of CSS Grid? Then head to page 52 as we take you through the basics and beyond, and offer a few tips along the way. Not as sexy as animation but just as important is optimisation. Head to page 58 to get quick and easy tips to lighten the code load and get faster-loading sites. CSS preprocessors let you extend CSS and make it even more powerful. We take a closer look at the very popular preprocessor Sass and show how to use it to style your sites. Everyone likes rules and best practices when it comes to code, so on page 72 Ahmed Abuelgasim delves into CSS methodologies and how to use them. Elsewhere, CodePen engineer Cassidy Williams shows off CSS art skills, and we look to the future with Houdini. Enjoy.

5. **Make u and role-play the dialogue about Web designer's mission.**
6. **Read and translate the text.**

Keeping up with the web industry

Web Designer recently caught up with Christian Heilmann at Reasons to Although there is definitely value in social media, there is an issue with the amount of noise it generates. On Twitter, the problem is exacerbated by the fact that the timeline is not in sync any longer. It's just a random presentation of what might be interesting for you, which means you miss a lot. I've got 64,000 followers on Twitter, and yet I get all my resources via RSS feeds. I can't find much on Twitter because it gets lost in the noise. The other problem that social media has caused is that instead of learning from each other, people try to create resources that get the most

likes or retweets. We try to shortcut a lot. The priority is to make a cool headline that will get shared. I've blogged since 2005, and my blog posts are always long. This used to work, but now people just zone out. We've become less patient with learning. We've seen too many things come and go, and it feels like the investment in learning is not worthwhile given the speed of changes in the market. It's not all bad, though. There's a lot of good stuff happening on Slack groups. And, although it's not easy to use, I'd recommend trying Mastodon, which is like a more organised Twitter. There are also a lot of learning resources on GitHub. There are training courses you can take on other platforms, but GitHub is where people are channelling a lot of their efforts now. It also tends to get the most edits, so content there is generally up-to-date. If you want to get started, taking part in open source projects is the best way. Helping with a typo or a bit of documentation, or making a demo for a product and asking the owner if they want to have it on the GitHub repo is a great way to get your name known. People publish great things as open source but often don't have time to show the implementations or write documentation. Although these platforms provide a good place for people to get involved in the industry, we need to work on being more welcoming to newcomers. The web industry is not accepting of people who don't speak the right language. People and tutorials hide behind massive terms and clever-sounding messages. This could be a natural thing. When you're an expert and you want to talk to other experts, sooner or later you develop a defined lingo, and that's fine. But starting with this lingo and overwhelming newcomers that want to learn something is annoying. People are repeating the same sentences that they don't even understand, just trying to fit in with the crowd. Because of this peer pressure, newcomers often don't dare to speak up when they don't understand. I love that, as somebody who is in the know, I can do that for them. I interfere and say, "OK, but what does that mean?" I'm happy to pretend (or sometimes be honest) that I don't know things, just to be an example for other people so they might find the courage to do the same. This is a particular problem with new technologies and buzz phrases. People make a lot of money by saying half-clever things about a technology rather than showing what it can be used for. Everything is Blockchain right now. 90 per cent of people on the planet can't explain what Blockchain is. "We're using Blockchain for that" – of course. The

same way we used 'the cloud'. Being on the bleeding edge is interesting, but we're chasing our own tails a bit and not giving new technologies enough time to mature and become useful. I want to see more products being created with these technologies. I'm currently working on a W3C proposal for Machine Learning in the browser. It would mean you could do facial recognition, audio recognition and similar 'AI' tasks on your own machine, rather than having to send it to Amazon, Google or Microsoft to get it analysed there. That way the privacy of your own data is much more given. There's an open standard for the file format but not an open standard for the access to it. That's something we're proposing right now, and that's what I want to see much more of. Everybody sells their current solutions as magic rather than explaining them. I know graffiti painters who learned how to paint on canvas first because they need to know the craft before they can do the art. They are stunning at what they do as they chose to subvert the original art. We're not patient enough right now to learn the ropes before calling ourselves experts.

7. What's the main idea of the text? What is your idea about the process of keeping up with the web industry?

8. Read and translate the text.

Decoded Design

With extensive experience in crafting digital landscapes, Code and Theory defines the relationship brands have with their customers across multiple channels. Connecting design and technology, Code and Theory creates user experiences that reinvent how companies can digitally transform.

Dan Gardner, the CEO of Code and Theory, co-founded the agency in 2001 with his childhood friend Brandon Ralph. Dan and Brandon were working in the digital department of Draft, where they quickly realised that the full potential of digital did not exist in CD-ROMs, and so they left to form their own agency. As a recent graduate of the University of Buffalo, Dan had received a BFA in Computer Art, while Brandon had dropped out of NYU to work full time. Realising that their ideas were not being put into practice, they decided to start their agency to create transformative digital experiences and products. Initially working out of a one-bedroom apartment on the Lower East Side in New York City, they then moved into

a Wi-Fi-less, abandoned floor of a downtown office building. Today, they are headquartered on the 62nd floor of the World Trade Center and have additional offices in San Francisco, London and Manila. Code and Theory craft new digital experiences. This level of understanding is reflected in the name Dan and Brandon chose for their agency, as Dan explains: "The name came first from a desire to play in the area where creativity and technology intersect. We wanted to imply our digital focus without being exceedingly overt and having a '.com' in the middle of our name. Code and Theory was a novel idea in 2001, so it wasn't hard to get the domain. Our name really speaks to why the agency was formed and our approach to creativity, through strategy and technology." The website that Code and Theory currently maintains speaks volumes about not only the approach the agency takes to digital design, but also its skills with today's digital tools. Michael Treff (President) explains the importance of maintaining powerful and informative site: "It's what guides the first impression when someone is lookingin to us,so we think it's very important. Not only is the website a window into our agency, employees, culture, work and clients, but we also receive a lot of inquiries on our site from prospective clients, job candidates and press. Truthfully, we spend so much more time on our clients' work and their websites than we do our own, but I don't think that's unique to a company like ours, where we put our heart and soul in to our clients' initiatives and strive for continuous improvement. That said, we have been working to overhaul our site and hope to launch a new one soon." As an agency, Code and Theory has been able to use its reputation across the marketplace to enjoy a steady stream of clients. "We're fortunate enough to have built a very good reputation in the industry over the years, so we receive a lot of referrals from current or former clients as well as inbound inquiries on our site," says Dan. "Additionally, we proactively identify verticals, clients, and most importantly new challenges that we want to work with, as well as participate in RFPs (requests for proposals)and pitches." With a diverse portfolio of work and clients, Code and Theory has been able to choose which clients they work with. The selection process is detailed, involving a deep dive into the client's needs in order to understand how the project benefits both the potential client and Code and Theory. "Typically, we're very selective to ensure that the relationship with the client is a true fit and that we genuinely connect with the company and the work," explains Michael. "We are also very realistic about our capabilities and resources, so we won't take on any piece of work just for the sake of new business. That being said, we've been

extremely fortunate to work with clients who trust us with work that has allowed us to challenge and expandour core capabilities, and we've been able to hire into those new projects. "We like to think of ourselves as ambitious, since we do aim pretty high. Not to say we won't ever take on smaller projects, but they are usually a stepping stone into a larger engagement or, more often than not, a project or challenge we feel very passionate about." Passion coupled with a deep understanding of today's digital communications channels means Code and Theory has been able to forge a reputation as not only technical experts but also a group of like-minded individuals that shape the digital landscapes we all traverse every day. Dan explains their typical approach to each unique account they work on: "As a digital-first creative agency, we help our clients across the board to drive change and thrive in a time of digital disruption – so there really isn't one project that encompasses who we are as a company. Built upon a history of using digital as the catalyst for larger organisational change, the projects that enable us to take on thought provoking questions that engage the development to four capabilities are the ones that define who we are. The types of work we have put out are intentionally very broad across verticals and expressions. We believe that broadness characterises us more than any singular piece of work." As no two accounts are the same, Code and Theory is nothing if not flexible in its approach to each commission it takes on. David DiCamillo (Partner, Operations) explains how they manage a varied portfolio of clients: "Timelines and process vary greatly depending on the scope of a project. However, every single one of our projects is structured around a tight and dedicated interdisciplinary team we call 'Pods'. "The Pods consist of, but are not limited to, skills such as Creative Strategy, Production, Content Strategy, Experience Strategy, Interaction Design, Visual Design, Data/ Analytics and Technology. When the project requires additional scale or speciality outside the Pod, we add Flex Resources based on the requirements of the project phase. Within a Pod, we designate someone as the Directly Responsible Individual (DRI) to help drive leadership and vision across the team to prevent 'design by committee' decision making, as well as ensure accountability for project success." David concludes: "Depending on the scale and complexity of a project, the time consuming part can vary. Sometimes that is more in the strategic upfront to identify or solve the problem, or sometimes it could be in the technology if there is some complexity or scale in the digital expression of the solution. Most importantly, we don't let process dictate an outcome to get to success – we use process as a facilitator to success."

As an agency that creates digital communication assets that both fulfil their client briefs and also advance the digital environment, Code and Theory has a varied toolset it wields with absolute confidence, as Chris Delia (Group Creative Director) explains to Web Designer: "Our product design work is strictly done in the Sketch app, while we prototype in InVision or Principle based on the fidelity of the prototype that we need to create. Sketch actually slowly worked its way into our design process a few years ago, after putting it through a lot of testing. There was a kind of breaking point with Sketch through one particular software update in which almost everything we were waiting for was implemented all at once, so we immediately switched over to Sketch. "Prior to Sketch, we were using Photoshop or InDesign for our responsive design work, which sometimes caused friction between projects and designer taste. Both Photoshop and InDesign did the job just fine, but neither were truly built for modern digital design needs. There was a grey area missing in the tools we were in need of that Sketch filled for us. There are a number of reasons why we are sticking with Sketch, but what stands out the most is how much more productive we have become as a team since using it. It has greatly streamlined designing across platforms, to exporting assets, to working faster with developers. Unlike the Adobe suite of products, Sketch was built specifically for what we do in the product design space." Chris concludes: "We have also done away with the time-consuming style guide process. which used to eat up a lot of time and money, by adopting Zeplin app into our process, which has cut the style guide production time down by 90 per cent. For content creation, we will use the Adobe suite. This is anything from photo composites, touch-ups, GIF creation, video effects, etc. For 3D we use Cinema 4D and SketchUp. That said, we are a company that embraces change and improvement, so we are always open for an evolution in tools." Using the latest tools to advance its vision for a client is commonplace across Code and Theory. Chris continues: "Whether we are considering tightly coupled or decoupled architectures, there is a growing tendency for websites to embed more of their logic on the client side. As such, the frontend technologies have to not only accommodate for advanced animations, interactions and responsive or fluid design in an increasingly complex device or browser environment, but they also have to account for more elaborate rules and flows. "JavaScript is evolving quickly to be on par with these expectations: ES6 is introducing advanced notions, such as collections, promises, advanced inheritance, etc. that bring it closer to more traditional languages. This is all meant to allow for more complex

experiences, which in turn means that these technologies will be more prevalent in the future. Frameworks such as AngularJS and React are already used by most major sites, in order to capture data from different sources and render the right experience for the user. Others, such as Three.js or D3.js, help developers create visually engaging experiences with advanced visual effects." Mobile digital devices have clearly had a profound impact on digital communications. Laurent Pierre (CTO) explains how Code and Theory approaches these technologies: "As a pioneer in mobile and responsive design across industries, Code and Theory was among the first companies to design and deliver large scale, responsive experiences in publishing (Los Angeles Times , the largest fully responsive newspaper in the United States), e-commerce (Moda Operandi, the first fully responsive luxury shopping experience targeted at high-net-worth clients), and mobile video consumption (MobiTV, at the time the largest white-label mobile video provider). "To us, responsive design is about more than just responding to the user's device. Leveraging what we know about a user, we layer onto their experience mechanisms of adaptation that present the content, services, product offerings and resources most relevant to them." As an agency that doesn't stand still, Code and Theory always has an eye on the future, as Dan outlines: "Powerful processing and accessible cloud computing have also allowed us to utilise artificial intelligence in various experience formats. Computer vision, machine learning, natural language processing, etc. are now all available for us to use at the mobile device level, and in turn we are able to create more tailored experiences for the user by bringing together a more contextually coheren experience. The access to readily available tools such as Google Cloud ML services and TensorFlow allow us to train our own models and are tools to help us to solve problems and create new ways for our applications to interac with users. "And finally, there has been a great innovation in the creative development realm where tools such as Cinder, open Frameworks and TouchDesigner are paving the way to create all sorts of new physical and device based experiences. These software programs, along with hardware micro-controllers and sensors, allow us to create things that connect the digital and physical world in ways we have not been able to before." Code and Theory is a multifaceted agency that clearly understands what digital communications means today. Not content with following trends, this agency actively creates agile spaces that consumers now move through. An appreciation of the link between great design, storytelling and a command of the latest tools ensures the brands it works

with are able to innovate, astonish and understand their customers with well-crafted messages. As Dan concludes, Code and Theory is a business that constantly pushes at the envelope of what digital design means today: "We continue to look at ways we can service our clients from the perspective of 'the user' and marrying that to business opportunities, so our agency's only limitation is our own creativity and not just tactical capabilities. "Change is the constant, so we don't expect tomorrow's Code and Theory to be the same as today's, and that is what excites us. As for exciting up coming projects, you'll have to wait and see"

 "To us, responsive design is about more than just responding to the user's device. Leveraging what we know about a user, we layer on to their experience mechanisms of adaptation that present the content, services, product offerings and resources most relevant to them" LaurentPierre Chief Technology Officer.

9. Make up a plan of the text.

10. Skip the text, remaining the most important information.

11. Analyze the text that you transformed and retell it.

12. Look at the pictures and describe them.

13.   Make up a story according to the last two pictures.

1)

2)

PART 2. BEING A PROFESSIONAL ENGINEER

UNIT 11. WRITING A PERFECT CV

1. Answer the following questions:

1. How did you first find out about your current job (e.g. from a newspaper advert)?

2. Did you send a Curriculum Vitae (CV) or fill in an application form? What information did you give?

2. In this lesson, we'll discuss what your CV should include and how to describe your experiences in this document.

Curriculum vitae is a Latin phrase which means course of life. A **CV,** as it's commonly called, does indeed show where you've been and where you would like to go.

Your CV is like a biography of your professional life that someone can read and understand quickly. It contains the highlights in an easy-to-read format.

personal details e.g. name, title, etc.	Mr Benjamin Turner
work experience	Head of Finance, Holly Hills Hospital
educational background	MSc Finance, first class honours
skills	proficient in statistical software
references	Mrs Linda Holmes, former supervisor

3. How do you sum up work experience in just a few sentences?
■ Your employment descriptions should **highlight** the **positive contributions** you
make or made as an employee.
On your CV, you should also include your **position** or **position title**, your **duration of employment** and a brief **summary of your role**.

Consider highlighting:	For example:
quantifiable achievements	I increased quarterly sales by 5%.
responsibilities	I oversaw feedback line. our customer
general accomplishments	I secured new clients.

4. CV style: short and sweet
■ Thoroughly planned well-organised trips and events for corporate clients.
■ You may have noticed that the writing style in a CV is very **concise**.
■ We typically use **short**, **active sentences** and even drop **pronouns**.
■ The boxes below show how CV writing differs from our usual way of communicating.
5. Not CV-appropriate
■ At Comet Corporate Travel I had to plan trips and events from start to finish for corporate clients. I'd develop the itinerary and make sure everything was perfect!
6. Key features of CV-style writing include: short, **condensed sentences**; **limited use of pronouns**; using the **past simple**; beginning sentences with an **action verb**; and using **descriptive phrases and words**.
7. Employment experience:
CV style up close
■ Office of Foreign Affairs
Training and Learning Manager
■ Facilitated new employee induction.
■ Evaluated and analysed professional learning needs.
■ Implemented new professional development opportunities,including a technology skills seminar and lunch-and-learn series.
■ Key features of CV-style writing include: short, **condensed sentences**; **limited use of pronouns**; using the **past simple**; beginning sentences with

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an **action verb**; and using **descriptive phrases and words**. **Why is this effective?**

■ Verbs like **facilitate, evaluate, analyse** and **implement** are **specific** and **show leadership** and **skill**.

■ This description provides a **thorough** picture of the role and highlights achievements and projects that were put into practice.

■ It offers a mix of **general responsibilities** and **specific examples of achievements**.

8. Below are some other sections that can be included in your CV.
These sections aren't always necessary, but most people will include at least one of these so their CV is more than just their employment and education history.

skills	Can you build databases? Or plan events? Do you have any certifications?
hobbies and interests	This section can highlight that you are a well-rounded individual.
references	Pick professional references who can vouch for you at work.

9. Fill in the gaps with the action verbs from the CV.
1. _____ a calendar system that resulted in increased articipation in and satisfaction with team meetings.
2. _____ a team of 6 people and coordinated all major projects that the team was responsible for.
3. _____ multiple team-building events, from idea conception to travel arrangements.
4. Designed and _____ materials for both the marketing and product departments.
5. Planned and _____ events that helped to improve inter-departmental communication.
WORDS to insert: **developed, planned, coordinated, implemented, managed.**

10. If you're applying for a job abroad, make sure you find out what the typical expectations of a CV are before sending off your application.

■ Also consider any **special requirements** that **specific industries** have.

■ Sometimes, **job adverts** also **specify** what you should include on your CV.

For example:

■ A CV in the UK does not usually include a photograph.

■ An American CV doesn't usually include a date of birth.

■ A CV for an academic job should include papers, publications and conference attendances.

■ Some jobs in the USA might ask for a **resume**, which tends to be shorter than a CV.

11. Study the following CV.

Elizabeth Jane Bow

PERSONAL DETAILS

19 Elgar Road Malvern WO5 3BC

UNITED KINGDOM

Tel +44 (0)1844 4654763

elbow@xmail.com

PERSONAL OBJECTIVE

To be an essential part of a creative team which develops exciting marketing campaigns for the corporate world.

CURRENT OCCUPATION

Dec 2009–present, Marketing Assistant

Assistant to MD of small marketing consultancy. Administrative duties and giving support to a busy team of six people.

PREVIOUS EMPLOYMENT

Sept 2007–Dec 2009, secretarial temp. with London agency

General duties including receptionist and administration responsibilities.

Summer 2006, Volunteer worker with local environmental organization.

QUALIFICATIONS

2007 July   Introductory Cert. in Business Management (4-week course), Roswell Management Training

2004–2007 BA in Business Studies (specialism in Marketing), Leeds University

SKILLS

Languages: French (fluent) and German (basic) Computers: Word, Excel, PowerPoint

INTERESTS
netball, rock climbing, adventure travel
REFERENCES
Nigel Habersham MBA, Marketing Solutions, Suite 122, Malvern Way Rd., Worcester, WO4 4JB
Stella Taylor, Talented Temps, 12 Waldorf St., London, SW1 2QQ

12. Read the CV. Which section gives you the following information?
1. What Elizabeth would like to do in the future:
2. Her education:
3. Her contact information:
4. Her jobs in the past:
5. People who will tell an employer about Elizabeth:
6. Other abilities she has:
7. What she does in her free time:
8. What job she is doing at the moment:

13. Match the words in bold in the CV to definitions 1–6.
1. always doing something:
2. producing new and interesting ideas:
3. person who helps (other people) for no money:
4. very important and necessary:
5. things you do as part of your job (2 words): ,
6. creating a positive reaction:

14. Work with a partner. Decide how Elizabeth would answer these questions in an interview. Use the information in her CV to help you.
1. Where are you from exactly?
2. What would you like to be doing five years from now?
3. Do you have experience of working with groups of people?
4. What was your job before you became a Marketing Assistant?
5. Have you done any other kind of work?
6. Since your university degree, what other training have you done?
7. How good is your German?
8. What do you like doing in your free time?
9. Who can I contact to find out more about you?

15. Look back at the text and choose words that you could use to describe the following.
1. Your personal career objectives:
2. Your current or previous jobs:

16. Look back at the text and choose three words that you could use in your day-to-day work.

17. Work with a partner. Discuss these questions.
1. How similar is Elizabeth's CV to a CV from your country? Are there any differences?
2. What is your personal career objective? Can you say it in one sentence?

18. Look at all the images and speak on the topic "A Perfect CV"

UNIT 12

GOING THROUGH AN INTERVIEW – THE BEST ANSWERS

1. Answer the following questions:
- How do you usually prepare for a job interview?
- When was the last time you had a job interview? How did you feel before it?

2. Read the text below. Translate it and analyse.

There are certain things you should do before **attending** a job interview. As well as finding **referees** and **researching the company**, you should also **make sure** that you have read the job description carefully. That way, you can **tailor** your answers to match what the employer is **looking for**. You should also have an idea about what kind of projects the company currently has **on the go**, as well as any that are **in the pipeline** if you can find out.

You should also tell the interviewer how the job fits into your **career path**. This shows that you are interested in your own career and that you have considered applying for the job carefully. An employee with clear career goals is **an asset for the company**. **Tied in to this**, you should also ask about **training opportunities** and **prospects for promotion**. Show that you want to develop within the company.

How would you feel about having a job interview?

Many companies hold job interviews in English. Job interviews are one of the more stressful experiences in life. There are some tips for you!

- **Show that you are motivated**

Make sure your prospective employer knows that you are motivated for the job you are going for.

I was thrilled when Jenny told me this role was open.

I'm ready to work hard to make sure I fit into the company culture.

- **Sell yourself . Don't boast**

There is a fine line to tread between selling yourself by telling your prospective employer about your career achievements and boasting about what you have done. You should give examples of concrete achievements in previous jobs and stick only to the facts.

In my current role, I have increased sales of children's books by 10% in the last two quarters.

I manage a team of three people which has really helped me to improve my communication skills.

- **Give relevant information**

Research the company before your interview so you know what they are looking for and what is **important to** them. There is no point in only telling them about your **sales figures** when the job you are **going for** is about media relations. I have worked on **publicising** new products for that market before and I know that they achieved higher than expected sales figures.

- **Don't use big, empty words**

Showing your **proficiency** in English is all very well, but by using **empty phrases** such as my communicative skills are excellent, you are not telling the **prospective employer** anything about yourself. As we said before, use **concrete examples**. My **communicative skills** were really put to the test when I worked for two months in our Dubai office and I was able to meet so many different people from all over the world in such a short time.

- **Provide references**

Before your interview you should check that your **previous employer** is happy **to provide a reference.** If you haven't had a job before, **a professor at university** can also provide a reference.

3. Read the text again and divide it into logical parts. Try to remember the major information.

4. **Role-play the dialogue with your classmates.**

   - Why are you the ideal candidate for this position?

   - Having read the job description, I know I have the skills and experience to fulfil your expectations.

   - Can you give me an example of when you had excellent team work skills?

   - I work in a team of four people at the moment and we often collaborate on projects. Most recently, I was able to take the lead on one of our projects which…

Use some new expressions:

> *On a fee basis – на платной основе*
> *Remuneration – вознаграждение*
> *Perks – льготы*
> *Salary supplements – доплаты к зарплате*

5. **Discuss what you think of the interviewee's answers to the questions in the dialogue. Could you improve them in any way?**

6. **Read and translate the text. Try to point out and memorize the main points.**

BODY LANGUAGE WHILE BEING INTERVIEWED

When was the last time you went to an interview? How did it go? There are lots of things to remember and prepare. However, one important thing to think about is your Body Language* as it can really help you get the job. With a good understanding of body language in interviews, you can communicate the right messages, and even understand what the interviewer is saying or thinking. Just to help you, here are our top tips on how to use body language in interviews. Turn over for more information.

When entering the interview room, smile, keep your shoulders back, and walk with confident steps, maintaining direct eye contact with the person you're going to meet.

Smile when you're introduced to the interviewer, but don't hold it for too long – about 2-3 seconds is fine. Smiling will make you appear confident and friendly. Laugh if the interviewer makes a joke but try not to laugh at your own jokes.

Maintain eye contact for around 70% of the time. This will show that you're confident and interested. However, avoid staring too much as it might make the interviewer feel uncomfortable. Try looking at different parts of the interviewer's face every two seconds: their eyes, nose, mouth, forehead…

Nodding your head while listening is another way to show that you're paying attention and understanding what the interviewer is saying. While nodding, use a few phrases to show that you're following what the interviewer is saying, such as "yes", "I see" or "ah huh".

One way to calm your nerves is through breathing. Just before the interview, take 10 deep breaths to calm you down. Breath in for 3 seconds, hold your breath for another 3 seconds, then exhale for 3 seconds. Repeat this 10 times. During the interview, experts also recommend inhaling when the interviewer asks you a question, then speaking while exhaling. This will help keep you calm, and give you a strong confident-sounding voice.

Try to keep a positive look on your face so you appear interested. Also, listen carefully to what the interviewer is saying, and comment on the information or ask questions.

When possible, keep your palms facing up to show that you're open, trustworthy and interested. Research has shown that if we can't see the other person's open palms, we subconsciously become suspicious of them.

Use hand gestures while speaking so you appear credible and confident. However, be careful not to overdo it or it could look like your hands are dancing.

Try to keep your hands under control. Touching or scratching a part of your body (particularly the face) can be seen as a sign that you're under stress or nervous. And a quick touch to the ear or nose can be interpreted as a sign that you're lying.

Some companies have CCTV cameras in the waiting areas and may use them to watch you before the interview; or they might ask the receptionist to report back on what you were doing. So, if you arrive early for the interview or you have to wait, be aware of your body language.

Mirroring involves copying what someone does with their body. For example, if the interviewer places a hand on their leg, you should do the same (but not too obviously). Experts have shown that mirroring someone can make them like you, or even think that you're more honest and

trustworthy. However, be careful – if the other person knows about this technique, they might notice you doing it.

Finally, if you have a phone interview, smile, stand up and walk around while you're talking. This will make you sound friendly and confident.

While sitting, you need to appear relaxed and confident. So, avoid fidgeting, and don't bounce your legs up and down. Also, avoid fiddling with things or tapping your fingers as they're all signs of boredom, discomfort or nervousness.

When sitting, if you lean back, you could appear lazy or arrogant; and if you lean forward too much, you might appear aggressive. The ideal posture is to sit with your back straight and your shoulders back a bit, leaning in very slightly. Sit with your legs slightly apart to give the impression of self-confidence and try to angle your knees and feet so they're pointing towards the interviewer.

Speak calmly and explain things slowly and carefully. Also, smile when possible so your voice sounds warm and friendly. When responding, or making a comment, pause for a while to show you're thinking about what the interviewer has said. In terms of pitch, your voice shouldn't be too high- or low-pitched. To get the perfect tone, do some humming exercises before the interview to relax your voice: mmm… mmm… mmm… mmm…

At the end of the interview, smile, shake the interviewer's hand and thank them for their time, which maintaining eye contact the whole time. Also, say how interested you are in the position. Try to avoid guessing what they think of you. Even if the interviewer appears cold and distant, it doesn't mean they don't like you or think you're perfect for the job. So, always leave on a positive note.

7. **Study the following questions and answers that you may face during your interview. Translate the text.**

BEST ANSWERS WHILE BEING INTERVIEWED

Q 1. Tell me about yourself?
Sample Answer: I am loyal, hard-working, professional and conscientious and, having studied the job description for this role in detail, I feel the attributes I possess are a strong match. Whilst at work, I am someone who

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takes pride in delivering each task to a high standard and I achieve this by working closely with other people within the team. I also make sure I obtain a clear brief from my manager or supervisor as to what they want to me to achieve whilst working in the role I am employed. If successful, I am looking forward to learning the role quickly and getting to know as much about your products and services, so I can start contributing and making a positive impact within the organization.

Q2. Why do you want to work for our company?

Sample Answer: Having researched your company you are clearly a leader within the industry and I feel I would be able to excel within the role and put all of my skills, qualities and experience to good use. Whilst studying your company online, it is clear to see you have strong and exciting plans for the future and I would like to be a part of your journey through the role I am being interviewed for today. Finally, it is also clear that you support your employees, so they can excel within their roles. There's lots of positive comments online about your company and, if I am successful at interview, I would feel quite proud to have your name on my CV/resume.

Q3. When have you provided excellent customer service?

Sample Answer: Whilst working in a previous role, I received a call from an unhappy customer. The lady was clearly upset, and she started to complain about the poor service she had received from our company. It was my job to make sure I listened to the customer in order to get to the bottom of the complaining, resolve it quickly to the satisfaction of the customer and to also prevent it from happening again. I asked the lady to tell me in detail what had happened.

Whilst she was talking, I listened carefully and took notes. Then, once she had time to explain the problem, I apologised to her and explained what I was going to do in order to put the situation right. Basically, the customer had ordered a product from our website and she had been sent the wrong goods. I immediately dispatched the correct goods on a fast track delivery service and also refund the initial payment due to the inconvenience caused. The end result was the customer was extremely satisfied with the service I provided, and she went on to leave a positive review online.

Q4. Why do you want to leave your job?

Sample Answer: My employer has been fantastic, and I have had a great time whilst there and I have learned a huge amount whilst working alongside some great people. However, I feel it is time to move on and work for an organization like yours who has exciting plans for the future. I also want to work somewhere where my skills are put to the test. I have

gained so many invaluable experiences whilst I have been there, and I will leave my organization on positive terms.

Q5. What's your biggest weakness?

Sample Answer: I don't have many weaknesses, but there is one I have been aware of for some time, and that's the fact that I find it hard to say no to people. In the past, I have literally taken on so many tasks that I get a bit overwhelmed, and I've been learning to take on fewer tasks to make sure they are all done to the right standard. Having said that, from an employer's perspective, I think my weakness is attractive because I will always do a good job for you and I will be the first person to put my hand up if you need a volunteer!

Q6. Tell me about a time when you demonstrated strong customer service skills?

In a previous job, I was managing a project for a very important client who brought in a lot of revenue for the business. He was a particularly difficult client to work with, but I knew it was important to provide outstanding client/customer service at all times because it was in the best interests of the business. During one particular project, he brought forward the deadline significantly and this meant I needed to work late into the evening each night in order to get things completed, and to also respond to his many email requests. During one particular evening, between the hours of 19:00 hours and 23:00 hours, I responded to 32 email requests directly from the client which were relating to the project. At all times whilst dealing with the client I was professional, courteous and I went above and beyond what was required to deliver the best possible service I could.

Q7. Tell me about a time when you managed multiple tasks all at once?

Sample Answer: In my previous job, I had a situation one day where the Managing Director required multiple tasks to be completed within a very short time frame. A situation occurred whereby a key member of staff was off sick, so somebody needed to step up and get the work done in super-fast time. The tasks involved: organizing an important meeting for the following day; taking notes and recording minutes for another meeting that afternoon and also collating sales data for the next day's meeting and briefing my Managing Director. I set about creating a plan for each task based on the priority and importance. The following days meeting was organized first of all. I booked the meeting room, sent out invitations and created the meeting agenda. I then planned for the meeting that afternoon

by reading the meeting notes from the previous meeting to make sure I was fully briefed and aware of the action points and agenda. Following the meeting, I wrote up my notes before starting work on the collation of sales data. It became apparent that I would not finish the collation of data in time for 5pm, so I briefed my manager that I would stay late and send over the figures as soon as they were ready. He was happy with my suggested resolution.

Q8. What's your biggest achievement in life so far and why?

Sample Answer: It would have to be my A-Level results and how I improved throughout the two year study period. To be honest with you, some people didn't expect me to do particularly well in a couple of the subjects, but I knew that if I worked hard, dedicated quality time to study, and also immersed myself in the subject, I could do well. My results have had such a positive impact on my attitude to work and study in general, and I now have the self-belief that I can go a long way and achieve my long-term career plans.

Q9. Explain a situation you were in when you handled a customer complaint?

Sample Answer: Recently, we received a complaint via email from a customer who had ordered some goods from our website that ended up being faulty. I immediately took control of the situation and contacted the customer by both email and telephone to explain I would be the point of contact for the complaint. The customer was clearly angry and upset at the situation. I listened to their concerns and demonstrated empathy during the call. I managed to persuade the customer to give me the opportunity to resolve the situation for them, which they agreed to. After I had got to the bottom of the situation, I apologized to the customer and detailed very clearly the steps I was going to take in order to resolve it. I asked our warehouse team to dispatch the new goods on a priority delivery service and arranged for a courier to also pick up the faulty goods to save the customer having to do it themselves. I then arranged to call the customer the day after the goods were delivered to check they were happy with the service and goods they had received. When I spoke to the lady on the phone, she thanked me for sorting out the problem quickly and to her satisfaction.

Whenever dealing with customers, or potentially problematic situations, I can be relied upon to sort things out quickly and will always take responsibility for a situation.

Q10. What are your strengths?

Sample Answer: I believe I have a number of key strengths and qualities that would be highly useful within this role. To begin with, I am highly organized and can plan tasks effectively in order to make sure they are successful. I also have the ability to work alone as well as part of a team. I am a strong communicator, both face-to-face and via email. I set myself high standards and feel I can be a positive role model for your company. Finally, one of my key strengths is that I can be relied upon to deliver my work to a very high standard. I fully understand it is important for you to employ an admin assistant who can be left alone to get on with their work and deliver the tasks you need doing. I feel strongly that if you employ me within this role, I will work hard to perform my duties competently and professionally at all times.

Q11. What would you do if you didn't get on with someone in your team?

Sample Answer: Although I have never found myself in this type of situation, I feel I could handle it maturely and professionally. I understand that sometimes we can't get on with everyone, but I would always try my best to be friendly, professionally and helpful with anyone I worked with. If there was someone I didn't get on with, I would first of all go out of my way to try and make friends as this would be beneficial to the team environment. I would also look at my own actions to see if I were doing anything that was potentially contributing to the situation. If I had tried absolutely everything, and we still didn't get on, I would always be friendly and professional as the goals and aims of the organization must always come first.

Q12. Tell me about a time when you worked as part of a team?

Sample Answer: In my previous job I volunteered to work with 5 other members to complete a difficult project that had fallen by the wayside due to a contractor going out of business. The task required all 5 of us to work closely together to integrate a new software system with the client's website. We only had four days to complete the task in accordance with the specification and the client's requirements. Time was of the essence and we needed to work hard to get everything done to a professional standard. We started out by reading the client brief carefully and then I decided to take the lead and allocate specific tasks based on each team members capabilities and area of expertise. We then set timescales for each team member to reach, which would ensure the task got completed in time.

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Throughout the four-day working period, we all supported each other as and when required in order to motivate each other through regular communication. The end result was the project was completed on time and to a high standard, much to the satisfaction of the client.

Q13. When did you have to complete a difficult task whilst under pressure?

Sample Answer: In my current role as customer service representative, I am required to work under pressure on a daily basis. Recently, I was presented with a situation where two members of staff had gone sick leaving me with only three other staff members to manage the shop during a busy Saturday. During the morning we were due to take a stock delivery which meant that I had to perform many tasks without taking a break. During the day I dealt with two customer complaints, took delivery of the stock, served customers whilst others took their break and also dealt with a fire alarm actuation. I am often required to perform under pressure and thrive in such conditions. I always adapt well to situations like these and ensure that I still maintain a high level of professionalism at all times.

Q14. Describe a stressful situation at work and how you handled it?

One particular day at work, a client called me directly and started shouting abuse at me down the telephone. She was complaining that she'd been charged twice for some work we had carried out for her. After she had the time to vent her frustrations, I set about resolving the situation for her. I logged on to our computer system, identified the error and refunded back the second payment straight away. I then apologized and explained that the error had been unintentional, which she accepted. Whenever there are stressful situations at work, I feel I am at my best. I always remain resilient during stressful situations and focus on what I want to achieve. Dealing with stress at work is all part and parcel of everyday life and I would always be determined to see things through to a successful resolution.

Q15. When have you shown flexibility at work?

Sample Answer: In my previous role as a sales assistant in a small electronics shop, I frequently worked at the checkout. On occasion, we would have customers entering the shop minutes before closing time. Sometimes, these customers would quickly find the item they were looking for, purchase it, and leave. In some cases, customers were less aware of our opening and closing times, and would therefore take their time in the shop. While the shop was meant to close, I would make sure not to rush the customers, since it was important that they had the most comfortable experience possible. Often, this meant that I wouldn't close the shop until

five or ten minutes past closing time. However, I made sure that stock checks and other procedures were carried out with the utmost care. I did this to ensure that, not only were customer experiences as pleasant as possible, but also to maintain safety and security in the shop once it had closed.

Q16. Describe a time when you worked alone on a project or task for a long period of time?

Sample Answer: In my last job I was seconded for a 4-week period to the data capturing office as an important job needed to be done for the company and they felt I was the right person to undertake the task. Basically, the business had received an information request from the official auditing office. The request was for sensitive company data that needed to be delivered within 28 days. I listened carefully to the brief and took notes. I then sat in an office, on my own, for literally 5 days a week for the 28-day period carefully and meticulously collecting the data. I actually quite enjoyed working on my own and found it easier to concentrate when there were no other distractions around me. The job required me to concentrate intently all day, carefully dissecting the information needed before collating it into an excel spreadsheet. At the end of each day, I would create a back-up of my work as I did not want to lose it because I was working towards a strict deadline. If the deadline was missed, the company would have been fined a large sum of money. At the end of the 28day period I managed to successfully complete the task to the satisfaction of my senior managers. I can be relied upon to work along, and concentrate intently for long periods of time if required.

Q17. What was the last piece of professional development you undertook?

Sample Answer: I actually studied an online customer care course through the website Udemy.com. I wanted to brush up on my customer service skills before applying for this job and I learned some useful modern-day techniques for improving customer service and also upselling when the opportunity arises. I see personal development as an important aspect of my role and would always take onboard feedback relating to my performance in a positive way as I like to continually develop in my work.

Q18. Tell me about a time when you overcame conflict in a team?

Sample Answer: Whilst working within a team there were two work colleagues who clearly did not like each other. Their dislike for each other was, in my opinion, starting to have a negative impact on team performance, and so I decided to step in and resolve the conflict for the

sake of the organization. I asked both of them to meet me in private one afternoon and I explained to them in a confident manner that I had serious concerns about their constant bickering and apparent dislike for each other. I gave them both two specific examples where I felt their actions were having a negative impact on the team's performance, and if they didn't take responsibility for resolving it quickly, I would talk to my manager about the issues. I then suggested a way forward that involved them both speaking openly and honestly about how they both felt and stated I would mediate the meeting to help seek a resolution. We agreed to hold the meeting there and then, and after an few initial uncomfortable moments and discussions, they eventually both agreed to put their differences behind them and move forward in a harmonious manner for the benefit of the team. Finally, I suggested to them they should seek to work together on a project in order to build up a rapport and strong working relationship, to which they both agreed to. Six months later, you would not have been able to tell they previously had issues and they worked very well together on various company projects and tasks.

Q19. Where do you see yourself in 5 years' time?

Sample Answer: In five years' time, I see myself progressing within the company to the point where not only am not only well-respected in the role, but I've also taken on further responsibilities. I believe that, in five years' time, I will have proven myself as an invaluable member of the team. I would also take great pleasure in assisting the training and development of newer colleagues who occupy a similar role.

Q20. What are your salary expectations?

Sample Answer: Having conducted some research online, I understand the average salary of leader within this industry is J18,000 to 25,000. Whilst I do believe I am worth the higher band of salary, I understand that I have a responsibility to prove to you I can excel within this role. On that basis, I feel a fair salary would be J21,000 and I feel confident you would be impressed with my strong work ethics and performance based on the salary. NOTE: The salary range indicated within the above response is an estimate. Please ensure you carry out your own research from within you own industry based on the salary of your chosen role.

Q21. Do you have questions for the panel? QUESTION – Who is your greatest competitor and how could I help you in this role to better them? QUESTION – What are the plans for the company over the next few years? QUESTION – If I am successful today at interview,

what is the first thing you would need to me to concentrate on in the role?

Situation. Start off your response to the interview question by explaining what the 'situation' was and who was involved. Task. Once you have detailed the situation, explain what the 'task' was, or what needed to be done. Action. Now explain what 'action' you took, and what action others took. Also explain why you took this particular course of action. Result. Explain to the panel what you would do differently if the same situation arose again. It is good to be reflective at the end of your responses. This demonstrates a level of maturity and it will also show the panel that you are willing to learn from every experience.

8. **Brainstorm more questions which often come up in job interviews. Don't think about salary questions yet.**

9. **Discuss how you would answer these tricky interview questions with your teacher or classmates:**

   1) What is your greatest weakness in a professional environment?

   2) Why are you leaving your current job?

   3) Where do you see yourself in five years' time?
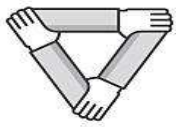
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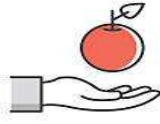
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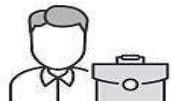
COLLABORATIVE ENTREPRENEUR EMPLOYEE FINANCING
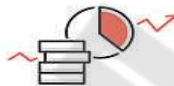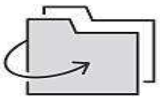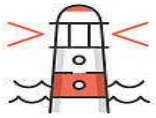
RECEIVE RAISING INITIATOR INVESTMENT

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UNIT 13.

TO BE IN A TEAM

1) Study the following advice on how to introduce yourself while in a team:

- When meeting with a new team it's important **to introduce yourself.** In the meeting try to stick to **the agenda.** Remember to ask someone to take minutes of the meeting so that you have a record of what happened. In team meetings you need to communicate well, listen to other people and treat everyone with respect.

Helpful adjectives : focused, innovative, concentrated, persistent self-starter, assertive, lucky, hardworking, determined, energetic, enthusiastic, courageous, forward-thinking, dynamic, decisive, honourable, helpful, loyal, persuasive, resourceful, skilful, upbeat, trustworthy, wise, competent, driven, result-driven.

- When it's your first time meeting with the team you will need to introduce yourself before the meeting starts. Give your name and tell the team a little about your backgroundand experience:

Model: My **background** is in social media marketing and advertising. I have 5 years' **worth of experience** working in **human resources.**

- **You should also mention your job title and responsibilities:**

Model: I'm **the Head of Content** for our online team. My **responsibilities** include managing client accounts. I **have been tasked** with reviewing our recruitment policies. I **oversee** all of our company's finances.

- **It is also important to say what you would like to discuss in the meeting:**

Model: Today I **will update** you **on our sales** for the year. There are **a number of points** I would like to raise today.

2) **Special Tips:**
- ✓ Meetings are great but remember: no one has all the time in the world!
- ✓ It's important to try to keep meetings short but at the same time they should be well-organised.
- ✓ The best way to organise a meeting is to have an agenda and to stick to it.
- ✓ The agenda shows the topics of the meeting and the order in which they will be discussed.

3) **Insert the right prepositions:**
1. This morning, I want to update you _____ our progress since last week.

    a. for   b. on   c. in   d. at
2. My background is _____ software development.

    a. at   b. on   c. with   d. in
3. I have 10 years' worth _____ experience in the industry.

    a. of   b. with   c. on   d. at
4. I have held positions _____ a number of multinational companies.

    a. in   b. for   c. at   d. on

4) **Be sure to know if the agenda was sent before the meeting.**

Sometimes you will announce the agenda at the beginning of the meeting.
Model: Have you all had a chance to read the agenda?
Model: I will distribute the agenda now.

Here are some other useful phrases:

Moving on to the next item…
Let's look ahead to what else is on the agenda…
Let's start with the first itemon the agenda…
Can we turn our attention to the next point on the agenda?

5. **Fill the gaps in the sentences to complete the phrases from the previous slide.**
1. Has everyone had the _____ to read the agenda?

2. Can we _____ our attention to the first _____ on the agenda?
3. Let's move _____ to the next item.
4. Does everyone have a _____ of today's agenda?
5. Ok, shall we _____ a _____ at what's next?
6. Let's _____ at the _____ with item number one.

a. look b. on c. top d. start e. chance h. take i. copy f. turn g. point

6. Read and translate the text paying attention to the new words below:

Team-building events

My girlfriend recently went on a team- building weekend. She went to a cottage in the countryside to play games and go on nature trails with her colleagues. She came back tired and angry. 'I never want to see those people again,' she said. So the weekend didn't work – rather than help her form alliances and work closely with her colleagues, three days of forced 'enjoyment' made her hate her colleagues more than ever. So what went wrong? 'Team-building exercises usually *fail when there is no focus – when the organizers don't set clear goals and don't have a good idea of what they want to achieve,' explains Jason Sindall, an HR specialist. Sindall suggests that if you really want to develop teamwork in a company you should carefully plan your team-building events so that participants will be *challenged and will have to trust their colleagues in order to succeed. He suggests going to a team-building specialist who can organize tailor-made weekends for your company. One such specialist is a company called Go Ape. Go Ape is an *assault course with a difference. The mile-long course runs through the forest and is high up in the trees. Up there you have to cross high wires, crawl through *tunnels, swing on ropes, and cross rope bridges. The course takes about two and a half hours to complete and is completely safe. You are given clear instructions before you are allowed to start and are attached by a *harness, so even if you fall you cannot hurt yourself. After the course has been completed Go Ape provides food and drink for the participants to give everyone a chance to share their experiences.

Sindall says, 'the Go Ape experience is an excellent team-building event – it's great fun and everyone feels that they have achieved

something. It also *encourages people to look after each other. You can do the course alone, but it's much better if you help your colleagues through it.

People all face different challenges – some people hate the heights, some hate the tunnels. So they need to rely on each other for *support and encouragement.'

If swinging through the trees is not your thing, Sindall suggests trying a company called Chillisauce. Chillisauce provides a range of team-building events. 'Chillisauce days are designed to improve team working, and increase communication skills and confidence – they take the team members out of their usual roles and give them challenging new tasks and different ways of working together.' Their website confirms this – Chillisauce offers a range of different events to suit all tastes. You can go boat racing, take part in *blindfolded driving, or solve a crime using the techniques seen on Crime Scene Investigation. The choice seems endless. 'These are real team-building activities,' explains Sindall. 'Think about blindfolded driving – you have to put your trust in a colleague. And with the Crime Scene activity, you can't solve the crime by working alone.' So whether you want to swing through trees or solve a crime, there are plenty of choices out there for great team-building activities. Just make sure that they are well planned and that they encourage your staff to rely on each other.

Glossary
achieve = to reach a goal / aim
assault course = where soldiers have to run between objects and test their strength and fitness
blindfolded = when a piece of cloth has been put on your head to cover your eyes
challenged = when your ability to do something is tested
encourage = to make someone more likely to do something or give them confidence to do something
fail = not succeed
harness = ropes that are attached to your body
support = help
tunnels = a passage under the ground

7. **Work with a partner and discuss these questions.**
1. What is a team-building weekend?

2. Have you ever been on one? What was it like?

3. What makes a good team-building weekend?

8. Read the text quickly. Compare your answers in 1 to the information in the text.

9. Read the text again quickly and choose the best title for the article.

1. Teaming-building weekends never work

2. Team-building activities can be fun

3. Choose your team-building activities carefully

10. Match 1–10 to a–j. Then look back at the text to check your answers.

1. form   a   challenges

2 . work   b your trust in a colleague

3. set   c all tastes

4. develop   d confidence

5. look   e   clear goals

6. face   f   on each other

7. rely   g   closely with colleagues

8. increase   h teamwork

9. suit   i   an alliance

10. put   j after each other

11. Match the phrases from 4 to definitions 1–10. Then look back at the text to check your answers.

1. deal with things you find difficult:

2. agree to work with other people to achieve something together:

3. improve the way a group of people work together:

4. make people feel more certain of their abilities:

5. take care of other people:

6. trust other people:

7. make clear or fix the outcome of something:

8. have belief in someone or something:

9. spend a lot of time working with other people:

10. be right / acceptable for everyone:

12. Work with a partner. Make a new sentence for each phrase in 4.

13. Read the text again and answer these questions in your own words.

1. What did the author's girlfriend think of her team-building weekend?

2. What can cause team-building exercises to fail?

3. What does a team-building exercise need to include in order to develop teamwork?

4. What are the differences between the Go Ape and Chillisauce team-building activities?

5. How do the Go Ape and Chillisauce activities help build teams?

14. Work with a partner. Discuss these questions

1. Which team-building weekend would you prefer – Go Ape or an event with Chillisauce? Why?

2. Is it usual for companies in your country to send staff on team-building activities?

3. Do you think it's a good idea for companies to spend money on team-building weekends, or would it be better to use the money for something else? If so, what should they use it for?

15. Read 8 different situations. Answer the questions to each of them.

People talking

NARRATOR: **One. Read about these two friends talking. What kind of document is the man filling in?**

WOMAN: You're not really going to fill that in, are you?

MAN: Yes, why not?

WOMAN: Well, I think it's **a waste of time.**

MAN: It may be, but it doesn't cost anything, look. Anyway, as you're here you can help me. Right, now the first bits are name and address and so on, so I'll do those later. Right, now what **about personality**? How would you describe me? Serious? **Reliable**?

WOMAN: Serious and reliable? **Hardly**! Put down 'silly and unreliable'.

MAN: I can't do that, those aren't the **alternatives**. What about '**fashionable**'?

WOMAN: In those shoes? Ha-ha!

NARRATOR: **Two. Read about the woman talking about a man called Bill. Why can't she describe him?**

WOMAN: Well everyone says he's a really nice guy, you know, intelligent, friendly. But even though I've been doing work for him since, what, November, I've only met him once. The problem is that the...the first time I met him I hardly **paid**

him any attention because he'd just **joined the company** and my meeting was with Laura - w...we were introduced but I thought he was just one of Laura's very many assistants, you know? Um...then Laura left and ... er... **he took over**. And then for months we only ever communicated by...by letter or fax –and ...um...you know, **the odd phone call**. And on Tuesday **I'm due to meet** him again about six months after that first meeting and, do you know. I can't even remember what he looks like!

NARRATOR: **Three. Read about man talking about a friend called Jane. What is Jane's greatest fault?**

MAN: Oh, yeah, we go way back, I've known Jane for years. **We've fallen out from time to time** -that...that's not surprising because we're both quite **strong characters**. She has her **views** and I have **mine** - and we don't usually agree! But still we do **get on surprisingly well**. The problem is that she goes on trying **to convince you**, even though it's **obvious** that you're never going to **agree with** her. I mean, her...her **frankness** I don't mind, that's **reasonable** most of the time. Er...and there **used to** be times when she wouldn't talk to me for days when she thought **I'd won one of our arguments**.

NARRATOR: **Four. Read about the woman talking. When must the work be finished?**

WOMAN: You told me it would be ready on Friday, but it's now Monday and you still haven't finished.

MAN: Well, I'm sorry but there have been other calls on my time, you know.

WOMAN: All right, but you did **promise.** Look, the point is that the deadline is in two days' time and if everything isn't ready by then, then, well, I'm the one **that's going to be in trouble**.

MAN: I'm sorry. It'll be on your desk first thing tomorrow. I promise.

NARRATOR: **Five. Read about man talking. Who is he speaking to?**

MAN: It's very nice, very good. Who's that person on the right? It looks like me - oh it is me! I don't have such a long nose surely? Well, even if you think I do, I...I don't mind. I'm really quite flattered that you've included me. Um...listen, what I'd love to do is show it to Mrs Maycock - **if you don't mind** me borrowing it for a day or two. Would that be...um...would that

be OK?

NARRATOR: **Six. Read about this man talking to a friend. Why is he late?**

WOMAN: Here you are! You said you'd be here at half past.

MAN: I'm sorry I'm so late. I was running late all afternoon and then I...well, then I had this call just as I was leaving. It was Gary and he went on and on and I **couldn't get him to stop.** Anyway, by the time he did stop it was...well, it was already half past and it takes **at least** ten minutes to get here. I'm sorry; I would have been here earlier if it hadn't been for Gary.

NARRATOR: **Seven. You're staying at a friend's flat. What does she want you to do?**

WOMAN: Oh, hello, you're up already. Sleep well? I'm just going out to the supermarket. I've left the breakfast things on the table, there's coffee in the flask and the milk's in the fridge. I **should be back in an hour** or so. **See you later** . . . Oh, um...I nearly forgot. Tony may phone - he wanted me to give him Chris's phone number, which is on a yellow PostNote next to the phone. So if he calls, can you let him have it? See you!

NARRATOR: **Eight. You're sitting in a restaurant when you overhear this conversation. How many pizzas are ordered?**

WAITRESS: Are you ready to order?

ALAN: Er...yes, I'd like a pizza with ham and mushrooms.

BRENDA: Um...I...I'll have one with tuna and anchovies, please.

CHARLIE: Just a plain one for me, please.

DEBBIE: Um**...I don't feel like pizza**. What kind of fresh pasta do you have today?

WAITRESS: Er...today's special is home-made spaghetti with tomato and mushroom sauce.

DEBBIE: Oh **that sounds nice**. I'll have that please.

ALAN: Um...**I'm going to change my mind** . . . C...can I have the same as her **instead** please?

CHARLIE: Yes, me too. Sorry.

WAITRESS: That's all right. So that's...um . . .

16. Speak on the topic and discuss all the ideas:

get a university education

start their own business

What might people have to consider when deciding on a career path?

work as a volunteer to help people who are suffering

learn a trade through an apprenticeship

work abroad to get new experiences

UNIT 14.
PRESENTATIONS, CONFERENCES, MEETINGS

1. Read, translate and analyse the text.

Dos and don'ts: presentation

Here are some tips for a stand-up presentation (one person talking to an audience).

1) Find out about the audience: how many people there will be, who they are, why they will be there, and how much theyknow about the subject.

2) Find out about the venue and the facilities: the room, the seating plan, the equipment, etc.

3) Plan the content and structure, but don't write the complete text of the presentation.

4) Write notes on sheets of paper, not on cards.

5) Try to memorize the first five sentences of your talk.

6) Prepare visual aids: pictures, diagrams, etc.

7) Rehearse your presentation (practice it so that it becomes very familiar).

8) Start on time. Don't wait for latecomers.

9) Plan how long you're going to spend on each point and keep to these timings.

10) Don't labour a particular point (spend too long on something).

11) Don't digress (talk about things that have nothing to do with the subject), unless you have a particular purpose in mind.

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12) Finish on time. Don't run over. It looks bad if you don't have time to finish all your points and answer questions.

13) Project your voice to the back of the room, but don't shout. Don't ask if people at the back can hear. Check your volume of you voice beforehand.

14) If you use microphone don't hold it too close to your mouth.

15) Speak in a natural tone of voice. Don't speak in a monotone. Vary the pitch (level) of your voice.

16) Make eye contact: look at each person in the audience for about a second, before moving on the next person. Don't concentrate on just one or two people.

17) Don't speak to the equipment or the screen: face the audience at all times.

18) Smiling is fine at appropriate moments, but not too much.

19) Use gesture (hand movements)to emphasize key points.

20) Stay more or less in one place: don't move around too much.

21) Avoid mannerism (ways of moving and speaking which you do repeatedly without realizing).

2. Read the text and do the exercise after it.

Conference vs. Presentation

Depending on your field of work, you might attend lots of different kinds of meetings. Some meetings are just for managers and some are for the whole team. Do you already know the difference between **a presentation** and a **conference**? A conference is a large meeting of people who discuss one subject or a related group of subjects. When you give a presentation, you present your ideas to a group of people. The meeting should have **a schedule**. This can also be called **an agenda**. This is the running order of the meeting and will detail the topics of discussion.

3. Fill in the gaps in the text using the new vocabulary from the text.

1. A lot of people get nervous before they give a _____ .

2. It was a huge _____. There were people attending from all over the world.

3. It's a good idea to make sure the meeting has a detailed _____.This ensures that the meeting will be organised.

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4. How often do you go to meetings? Do you have to travel for meetings? Discuss your experiences. Use the following words:

An agenda/schedule, a conference, presentation, one-on-one meeting, video-meeting, client meeting, weekly meeting.

5. Imagine you are meeting with a new team tomorrow morning. You want to introduce yourself to the team and then you are going to give a short presentation.

The minutes are a written record of what happened at the meeting.

■ **Normally, at the beginning of the meeting, someone is chosen to keep minutes.**

■ **This person is responsible for writingdownwhat is discussedat the meeting, and also who says what.**

6. Here are some tips to help you keep more successful minutes. ■ Remember: it is not your job to write everything down: only the most essential information.

■ **Always include the name of who was speaking**

■ **Consider making a templateand use it for every meeting**

■ **Finish the meeting with at least 3 action points:**

■ **Hamza to contact… regarding… ■ Josie to review… ■ Ali to ask… about…**

7. Read the example main body below. What are some of its strengths and weaknesses?

First of all, I want to address the holiday entitlement within our company. All full-time employees are currently entitled to 5 weeks holiday a year. Now, this might surprise you but currently only half of our workforce actually take their full holiday entitlement each year.

Now, if only half of our workforce actually take their full holiday

entitlement each year, surely this is a good thing? Doesn't this

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mean we have more working hours from our employees? Actually, this is not the case. I would like to draw your attention to the graph on the handout you have in front of you. As you can see in Figure 1, when employees don't take their full holiday entitlement this is actually really bad news for the company. It has a negative effect on their productivity throughout the year. At this point, I would like to check if anyone has any questions?

So, this negative effect on productivity can be noted in all employees who don't or can't take their full holiday entitlement. This is why it is of vital importance that we address this issue and encourage our employees to take their full holiday entitlement.

8. Read and analyze the information about assigning tasks.

During or after a meeting, you might need to assign a task to someone. It is important that you do this clearly so they understand what they need to do. We can use the phrase "is to" with their name and a task to do so.

Model: Morgan **is to** order new stationery for the office

Jarryd **is to** speak with our new clients.

Sandra **is to** call the catering company.

Thomas **is to** organise the next meeting.

9. Think of the last meeting you went to. What was discussed? What tasks were assigned? Use the tips below to help you:

1) Who was there

2) What was the meeting about

3) Who said what?

4) Who was to do what?

10. Your new colleague will go to their first meeting in the company tomorrow. They are a bit nervous. What tips can you give them? What should they do at the meeting?

11. Lets play a game "How good is your memory?" Introduce imaginary people at the meeting using each letter of the alphabet for the next name. Before you introduce the next person you must remember the names of all the people who came before!

Example: This is Anne from France, this is Bill from Ireland, this is Clare from Italy, this is Daniel from The Netherlands…

12. Role-play the dialogue – a conference call. Insert the following phrases into the empty gaps:
1. a couple of people
2. I sent you
3. in some heavy traffic
4. find the document
5. Monday morning deadline
6. for six hours
7. who don't know
8. on the new system
9. the old one
10. in our Singapore branch
11. at page six
12. on the front page

The conference call: getting feedback

George: good morning, everyone. George, here.
    Thanks for joining us. I know you're all busy so I'll try to keep it as brief as I can. Before we start, I'd just like to take a roll call. Patrick?

Patrick: Hi.

George: Hi, Patrick. For those of you (1)____, Patrick is the sales manager in our London branch.

Patrick: Hi, everyone.

George: Dave?

Dave: Morning.

George: Morning. Dave's the marketing manager (2)

_____ .

Dave: Hi!

George: Judy? [Silence] Judy? [silence] OK, I'm sure she'll be joining us soon. Frank? [Silence] Frank? [Silence] Well, there seem to be (3)

_____ missing. Anyway, as you know, the main aim today is to get your feedback on the new IT system that we've had installed. However, before we do that, I'd just like to go through a couple of things on the information guide (4)_____on how to use the

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new system. Did you all get a copy?

All: Yes.

Judy: Hi everyone! It's Judy here. Sorry I'm late. I got caught up (5)_.

George: Hi, Judy. No problem. Thanks for joining the call. Judy is the managing director of our New York branch.

Judy: Hi!

George: We were just going through the information guide.

Patrick: Hi, Patrick here. Erm, I can't seem to (6) _____ , did you send it by e-mail?

George: Yes, Patrick. Patrick: When was that? George: Last Friday!

Patrick: Oh…

George: So, as I was saying, if you could just...

Patrick: Erm... would you mind sending it out again, please?

George: OK, Patrick, hold on a sec. Now, while he's waiting for that, if you could all just look (7)_ .

Judy: Six? I'm sorry, but the document I've got only goes up to page three. Am I missing some pages?

Dave: Dave here. The one I've got only has two pages. Are you sure we've got the same document? What's (8)_?

Judy: Judy here. Mine says "Implementing the New System".

Dave: Oh, that's strange because mine's like a sales report or something like that.

George: Look, people, I think there's been some confusion here. Let's just forget about the information guide for now. Erm, Patrick, why don't you give us your feedback (9)___ ?

Child: Daddy! Michael ate my biscuit!

Patrick: [whispering to the child] Not now. I'm on the phone. go and play with your brother. [to the callers] Sorry, I'll just close the door.

George: OK, Patrick, why don't you kick things off?

Patrick: Well, actually, we haven't used the new system yet. We've still been using (10)_____.

George: But I asked you to spend last Friday trying it out.

Patrick: I know, but we're in the middle of a project. We couldn't afford to miss any time as we had a (11)_____ Sorry!

George: Judy, what's your experience been of the new system?

Judy: I'm sorry but I can't hear you very well. Could you

speak up, please?

George: I said, could you tell us about your experience of the new system?

Judy: Oh, yes, well, we turned it on for a bit early last week, but it crashed and we were without any power (12)_, so we didn't sort of turn it on again after that. Then,... [fades out].

13. Answer the questions.
1. Who is Patrick?
2. Who is Dave?
3. What's the main aim of the call?
4. What does George want to do first?
5. Who is Judy?
6. What is Patrick's problem with the guide?
7. What problem has Dave got with the guide?
8. What's the title on the document that Judy has?
9. Why couldn't Patrick try out the new system?
10. What happened to Judy when they turned on the new system?

14. Role-play the dialogue – a conference call. Insert the following phrases into the empty gaps:
1. I've got a flight to catch
2. let's move onto the second item
3. could have on the marketing department
4. in the long run
5. from that point of view too
6. for sending our products
7. how much the product
8. come up with a plan
9. and to the point as possible
10. costs are pretty low
11. stop interrupting one another
12. we're bringing out next month

THE CONFERENCE CALL: GETTING OPINIONS
Karl: Right, we're all connected, so let's get started. As you know there are two items on the agenda. Firstly, I'd like to get your opinions on relocating the factory back to the UK; and secondly, I'd like your thoughts on the

launch party for the new brand of trainer (1)_____. We'll deal with these two points in order. Now, as you know, you each get about 20 seconds to give your opinion without interruption. There'll be some time afterwards to give any follow-up comments. Once I've heard from all of you, I'll sit down and analyse your ideas and hopefully (2)_____. OK?

All: Yes.

Karl: OK, Dave has agreed to take the minutes. So, let's start with item number one on the agenda. Please make your comments as brief (3)_____ . Right, Alisha, let's start with you, what do you think of the idea of relocating the factory?

Alisha: Well, personally, I'm not sure it'd be such a great idea. I mean, (4)_____ at the moment and if we bring production back here…

Dave: Sorry to interrupt but, Dave here, remember, the government has promised to introduce tax breaks for companies who relocate…

Alisha: Could I just finish?

Karl: Dave, no interruptions, please!

Bob: Bob here, but don't you think we should be looking at the impact this (5)_____?

Karl: Bob, just stick to the topic for now, please.

Alisha: Look, as I was saying, I think it's going to end up costing us a lot more (6)_____ . And besides, if we shift things back here, we'll be subject to much stricter environmental regulations, so it's going to be much more expensive (7)_____ So, I think…

Dave: Dave here. Once again, please remember that with the tax breaks the government are going to introduce, and with increases in shipping costs (8)_____ from the Far East all the way back here, I think it'll end up being cheaper to have the factory here in the UK.

Bob: Besides, it'll be good for our brand to be "British" again. I think it'll go down well with people round here – you know, giving jobs to local people and all that.

Alisha: Honestly, I think people are more concerned about (9)_____ is going to cost them than any feelings of patriotism because…

Bob: I wouldn't be too sure about that, I mean…

Dave: And with those tax breaks…

Karl: Look, look, people, this is all great, but could you just (10)____. Jennifer, you haven't said anything yet. What do you think? [silence] Jennifer? Hello?

Jennifer: Oh, hi, yes, sorry. I'm just on my way to the airport. (11)_____ .

Karl: So, Jennifer, could you give us your opinion on the idea of re-locating the factory?

Jennifer: Yes, well, erm, I think it would be a good idea because we could, erm, we could save a lot of money.

Karl: Right, well, erm, I think that takes care of the first item. So, (12)_____on the agenda. As you know, we need to come up with a plan for the launch party for…

15. Answer the questions.

1. How effective is the meeting? What is good or bad about it?
2. What are the two items on the agenda?
3. How long does each participant have to give their opinion?
4. Why does Alisha think it's better to keep the factory where it is?
5. What does Dave say the government has promised to do for companies who relocate?
6. Why does Alisha say it'll be more expensive to move back to the UK?
7. Why does Dave say it's going to be more expensive to stay in the Far East?
8. Why does Bob say it'll be good for their brand?
9. What is Jennifer in the middle of doing when she calls?
10. What does she think of the proposal?

16. How many expressions can you think of for giving opinions?

Make a list. For example: I think… In my opinion…I'm convinced that… I'm sure that… It's my firm belief that… I'm absolutely sure that… Without a doubt, the best thing would be to…

17. Now, use the expressions to give your opinions on the following ideas.

Working from home.

Moving abroad to find a job.

Accepting a job in a foreign country.

Having a factory located in another country (in the Far East, for example).

18. Look at the pictures and compare them. What is the main topic? Point out the main similarities and differences.

1)

2)

COMPARING AND CONTRASTING

Both photos show...
In both pictures the people are...
One similarity is that...
What both these pictures have in common is...
However, there are also some differences between the
pictures.
The picture on the left is more... than the other one.
The situation shown in Picture A is more... than the
situation in Picture B.
The people in the first picture are less... than the
people in the other one.
This man looks... while the other one is rather...
The main difference is (that)...
Another important difference is that...
In contrast,...

UNIT 15. TIME AND SCHEDULE

1. **Do you excel at multitasking?** A lot of technology promises to help

us multitask and manage our time more effectively. However, researchers claim that our growing dependence on technology can have adverse effects, especially on our concentration.

2. **Define what the terms multitasking and time management mean to**

 you: *time, balance, pressure, concentration, deadline*.

3. **Discuss in a class the following questions:**

When you have lots of different jobs, which do you do first?
How do you decide?

4. **Read and translate the text.**

My tips for time management and busy schedules

Over the years I have tried to improve my time management skills and do my work more efficiently. I have developed routines and these help me a lot. Today, I'm going to share them with you. Everyone works differently

and so you might not like some of them – that's OK. But maybe there are one or two you can use. The power of lists I always make a to-do list at the beginning of the day. At the top I write things I must do first. Then lower down the list, I write things I'd like to do today but they aren't urgent. 1-
_____   .   I

try to reach the bottom of the list every day but this doesn't usually happen.

Anyway, I can always put them on my list tomorrow.

Prioritize

As I said, on my list I put the most important *tasks first – I prioritize them. They aren't always the most enjoyable, but I like to do them first and early in the day. Then I can do more relaxing and interesting tasks later in the day, perhaps after lunch.

Get it right the first time

It's easy to work quickly through the first tasks, but if I don't do them well the first time, they usually return to my desk. When that happens, you have to start again and this uses up time. 2_____

Avoid distractions

I work on my computer a lot and I also use the Internet, so my distractions include visiting websites like *Facebook, MySpace, Twitter,* other blogs, news pages … the list never ends. I also like to work with music or listen to the radio, but I turn this down when I need to concentrate on something complicated. I try to keep my favourite distractions as a reward for finishing a larger, more important task.

Start

Don't wait to start tasks you don't want to do. 3_____ The best solution is to

START! When you start, it's always easier and better, and remember the reward when you finish!

A big task is lots of little tasks

When I have a big project over many days, I like to separate it into lots of little projects and write these on my list.

Sleeping, eating, and exercising

After a good night's sleep I always work better. 4_____I also have an exercise routine. Usually this is after work, but I also do exercise during the day. For example, if I exercise at lunchtime, the afternoon at work is more effective.

Take breaks when you need them

This is really difficult to do when you have a long list and some deadlines. But when it gets really busy at work, you still need to make time for relaxation. 5_____

Find a park away from the noise. Spend five minutes doing something relaxing, like making some tea and *chatting to a colleague – or even writing a blog! That's how I relax.

5. Read this list of tips for time management. Tick (✓) the tips you do.

1. Write everything on a list and do the most important task first.
2. Always do the most interesting tasks in the morning.
3. Do a good job so you won't need to repeat the task.
4. Never listen to music when you work.
5. Give yourself a reward when you finish a task.
6. Leave boring tasks for other people to do.
7. Always get lots of sleep and exercise.
8. Work at work or relax at home. Never mix them.

6. These sentences are missing from the text. Match a–e to gaps 1–5 in the text.

a The longer you wait, the worse the task is.
b A good breakfast is also essential.
c As I do each task, I delete it.
d Go for walk at lunchtime.
e So get it right the first time.

7. Match the words in bold in the text to definitions 1–7.

1. something nice you receive for good work:
2. put in order of importance:
3. difficult with lots of different parts:
4. things that stop you giving attention to something:
5. a regular way of working:
6. quickly and in an effective way:
7. think carefully about something:

8. Complete these sentences with some of the words from task 5.

1. Turn the music down. I can't with all that noise!
2. There are too many for people who use the Internet at work. For example, I often play games or chat to friends.
3. I like to all my jobs each day, but it's hard to know what is most important.
4. At the end of a hard day, my is a piece of chocolate!
5. This exercise is very I don't understand it.

9. Look back at the text and choose three words that you could use in your day-to-day work.

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10. Discuss as a class.
1 How good are you at time management? What could you improve on?
2 What tools do you use to help manage your time, e.g. a diary, a calendar on your computer, automatic reminders?
   3 Do you write a blog? Would you like to? What about?

11. You're going to be asked a series of questions about your multitasking and time management skills. Be honest with your answers and we will review the results at the end of the quiz!

12. Read the text. Pay attention to the new words. Translate the text.

Multitasking and technology

As technology has advanced, so has our ability to multitask. Now we can send emails on the road, or have video phone calls with friends in another country while preparing our dinner! We are able to use numerous pieces of technology **simultaneously.** We can watch a film on our laptop whilst keeping one eye on our smartphone waiting for an all-important email **notification** to arrive. However, recent research has unveiled that increased media and technology usage may be having **detrimental** effects on our cognitive and emotional well-being. Scientists in England have discovered that people who use multiple pieces of technology at one time may suffer from reduced grey matter density in specific areas of the brain. This **ground-breaking** research is the first study to discover a connection between brain structure and multitasking on different media devices.
Technology has greatly benefitted us as humans, it allows us constant access to current information as well as the ability to be **perpetually** in contact with our wider network of friends and family. Technology can enable our learning and development, as well as our communication. This **continual** stream of available information can provide stimulation but it may also **hinder** us.
In science, researchers speak about the difference between **deep attention** and **hyper attention mode**. Hyper attention mode **correlates** with an animosity towards boredom and routine. People who are **predisposed** to hyper attention mode have a preference for simultaneously interacting with various forms of information

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communication. They require high levels of stimulation and may become impatient. Teenagers and young adults are frequently stereotyped as being happier in hyper attention mode. Many young people have never known a life without laptop computers, tablets and smartphones as they were born into a technologically advanced world. Today, young people are competent in managing a life that involves multitasking in hyper attention mode.

The opposite of hyper attention mode is deep attention mode. Deep attention mode **denotes** the ability to focus one's attention on a single stream of information, whilst having the ability to ignore any outside stimulus. A typical example of deep attention mode could be spending several hours curled up in an armchair completely **transfixed** in a book.

A **much-maligned** aspect of our interaction with technology, especially when it comes to simultaneous usage of different pieces of technology, is that we are somehow losing our ability to act in deep attention mode. Deep attention mode is better suited to work or tasks that involve high degrees of concentration. As we adapt to operating in hyper attention mode, there is a growing general **consensus** amongst researchers that this inability to focus for prolonged periods of time could lead to problems, specifically in terms of our feelings of happiness and fulfilment.

A recent scientific study unearthed startling results about human's attention span and tech gadgets. The study found that increased use of technology shortens our attention span. This means that the more time we spend in hyper attention mode, the more difficult it becomes for us to enter deep attention mode. In turn, this can lead to feelings of unhappiness and a constant **craving for stimulation**. Additional side effects of the inability to concentrate in deep attention mode could have an impact on learning, social skills, and our ability to relax and unwind. If we are always searching for stimulation then will we ever feel truly satisfied?

13. Answer the following questions:
1. Do you use technology to multitask in any of the ways described?
2. Do you think the continual streams of information available to us helps or hinders our ability to multitask?
3. What does it mean if something is much-maligned?
4. What is described as muchmaligned in the text?
5. Can you give three other examples of this phrase in use?

6. Is losing our ability to enter deep attention mode a cause for concern? Why or why not?

14.   Look at the picture. What does the word AGENDA mean? What does it include? What's your agenda for today?

15.   **Look at the picture. What is this woman doing? Make up your story.**

UNIT 16. BEING REMOTE

1. Read and translate the text.

ONE YEAR INTO our all-remote existence, executives at white-collar companies are realizing two things. One is that they're pleased (stunned, even) by how productive employees have been. They'd worried that "work from home" would turn into "Netflix and chill." Instead, their people are killing it: Deliverables are being delivered, milestones milestoned. But companies have run into a serious problem. They have lost serendipity. Sure, colleagues are connecting on video chat. But it's all very planned and formal; there are no how's-it-going encounters at the coffee station. This is a shame, because those chance run-ins help cement a sense of togetherness, and they can engender new ideas too—like when the VP of HR eats lunch next to a salesperson and casually mentions a new market that winds up being worth millions.

So now people are wondering: Could software replicate some of that office magic? Various startups are giving it a shot. One is Teamflow, a browser-based app that lets you set up a virtual office that you view from above, in 2D, sort of like a cartoony Ikea floor plan. You can set up different rooms and fill them with furniture icons (or even weird memey images, if you want a MySpace vibe). When employees log in, their faces appear in tiny round video streams. You drag your icon around the virtual

office to hang out "near" others, and voice-talk to them too; the closer your icon is to a colleague, the louder they sound. Move farther away for peace and quiet. It sounds kooky. Frankly, it looks kooky. But early users tell me it replicates many of the dynamics of in-person hanging out. "This really streamlined my life," says Rafael Sanches, the cofounder of Anycart, a food-shopping service. We met recently inside his company's Teamflow space. The little video icons for Sanches and me were perched at his virtual desk; three engineers were clustered together, chatting, in the corner of the office. Sanches dragged his icon over to say hello to them, then zipped back over to me. "I do this all the time," he says. He'll plant himself near groups of employees, where they'll work together, sometimes in silence, other times chitchatting. Sanches will also frequently invite an employee to wander off to a corner to talk one on one. He likes the fact that other employees can see that he's meeting with someone individually; it replicates some of the quasi-public nature of conversation in a real office. "Socially, the engineers know I'm still there, like I'm around," he notes. He's not vanishing into private Zoom calls with people. The whole thing felt oddly gamelike. That makes sense, because video games pioneered the art of letting far-flung people hang out online. Some workers have even playfully used games as meeting places during the pandemic. When the author and artist Viviane Schwarz was working on a project last year, she met her team inside Red Dead Redemption 2, a cowboy fighting game. They'd sit around a virtual campfire and talk shop (while also watching out for danger: "Was that gunshots?"). Some new copresence apps, like Bonfire and Remotely, riff explicitly off game aesthetics and let you hang out with workmates as avatars in a 3D environment. One thing you can see, in all these remote experiments, is that audio beats video. Zoom-staring into a webcam is wearying. So most of these apps actively downplay full-screen video, and users seem to like that. Pragli, another virtual-meeting startup, gives users a choice to connect with audio or video, and its cofounder, Doug Safreno, estimates that people use the audio-only method twice as often as video. Consider this the revenge of the oldschool telephone call: Turns out we just want to talk. And, more subtly, to listen. Many of these apps allow for a bit of the ambient eavesdropping that happens in an office, where you can look across the room and see that two colleagues are talking—maybe even get a sense what they're

discussing—without fully tuning in. This semiprivate, semipublic nature of office chat helps give a team a proprioceptive sense of itself, one that's too often missing in our remote world of one-on-one calls. An office has power dynamics, for good and for ill; part of how we navigate a job involves keeping tabs on how others interact. Is your manager talking to the boss a lot? Maybe it means your team is in trouble? Or that you're impressing the head honcho? We gather intelligence, chew it over with colleagues, become more connected. One benefit of the physical office, in other words, is that it lets us low-key creep on each other. It turns out we might want some of that even in our software.

2. **Put different types of questions to the text.**
3. **Comment your favourite points of the text.**

4. **Work with a partner and discuss these questions:**
1. **Do you like working in an office?**
2. **Would you prefer to work from home?**
3. **What are the advantages and disadvantages for a company if their employees work from home?**

5. **Read and translate the text. Pay attention to the new words after it.**

Remote working

Do you dream of never having to make that long journey to work again? In today's business world laptop computers, mobile phones, and VoIP (Voice over Internet Protocol) technology means more and more companies are *encouraging their employees to work at home. Remote working or tele-working has many benefits for businesses and employees. Companies save money on *premises and *bills and see increasing *productivity; while workers see reduced stress levels because they no longer have to travel to work and can spend more time with their families. But as with everything there are two sides to the story. We spoke to two people who have tried working from home with mixed success.

Simon Smith. Two years ago my company decided to start a remote working scheme and it was an immediate success. The first week was difficult – I found it difficult to **get down to** work with family and television **putting me off**, but once I got into a routine it was fine. In fact,

I noticed straight away I got more done. On the days I was working from home I would **get up** at the same time as when I was going to work, but instead of spending time on the train I was getting onto the system and getting things done. On the days I did go into work for meetings I would look forward to it. Work became more of a social place – a chance to catch up with colleagues. I even found managing my staff easier – employees were set clearer targets so it was simple to monitor them and believe it or not their absenteeism has reduced too. Before the remote system was introduced, I was leaving the house before eight in the morning and getting home after eight at night. My children were growing up without me. Now I can still get all my work done, but be a family man too.

Christine Carter

Our remote working system came in a year ago and I hate it so much I am now looking for a new job. The company moved to smaller premises to save money and this means that we have to *take it in turns to come into the office. I come in on Wednesdays and Thursdays. I have to share a desk with two other people, which means I can never find anything and there are always dirty cups on my desk. Work has become less personal – it's not my office, it's just an office. Also my husband and my boss don't know where the *boundaries are. My husband thinks because I'm at home all day I can do the housework and the cooking. He doesn't seem to understand I am still working even if I am not going to work. And my boss phones me at all hours. Whether it's 7.00 a.m. or 9.00 p.m. she still expects me to turn on the laptop and deal with a problem. She thinks because I work from home I am always at work. I really hope I get a new job soon, I don't want my home to be my office, I want it to be a place where I can switch off and relax.

Glossary:
absenteeism = being frequently away from work or school, especially without good reason
bills = pieces of paper telling you how much you have to pay for services or products you have bought
boundaries = a real or imagined line that shows the edge or limit of something
encourage = to make someone more likely to do something
premises = the land or buildings used by an organization
productivity = the rate at which work is done

remote working = when people do their work at home using a computer that is connected to their company's computer system
take it in turns = when people do the same thing, but not at the same time – they do it one after the other

6. Read the text again and answer these questions in your own words.
1. Why was the first week difficult for Steve?
2. How did not needing to travel by train make a difference?
3. Why doesn't Christine like her office?
4. Why does she criticize her husband and her boss?

7. Match the phrasal verbs in bold in the text to definitions 1–10.
1. to get out of bed:
2. to develop into an adult:
3. to begin; to make a start:
4. to solve a problem, perform a task:
5. to start the flow of electricity, gas, water, by moving a switch, button, etc.
6. to take someone's attention away from what they should be doing:
7. to work on and finish a task or tasks:
8. to feel excited about something that is going to happen:
9. to talk about and find out about other people's latest news:
10. to stop thinking about something or paying attention to something:

8. Student A you are going to read about Simon Smith. Student B, you are going to read about Christine Carter. Read your section of the text. Then tell your partner if the person enjoys remote working or not.

9. Look back at the text and choose three words that you could use in your day-to-day work.

10. Work with a partner and discuss these questions.
1. Is your opinion about remote working more similar to Simon or to Christine? Why?
2. Do a lot of people in your country work from home? Why? / Why not? Will this change in the future?
11. Look at the picture. What is going on? What are the advantages and disadvantages of working remotely?

1)

2)

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3)

UNIT 17. HOW TO BE SUCCESSFUL. GOOD LEADERS

1. Read the text and do the tasks after it.

Seven ways to fast track success

1. Optimism: Simply put, if you do not believe that some things can get better, you will bave no reason to try wholebeartedly. The idea of 'positive psychology' has been around at least since the 1950s and we are in the grip of it once more, but don't let that put you off. Aside from some of the overblown claims and simplicities, learning how to reframe your tbinking into a positive cast of mind is a useful skill.

2. Openness: The curse of clever people is they too readily analyse new information and categorise it into their existing schemas and frameworks. In this way they can be blind 10 nuances and nuggets that can change their lives. The curse of stupid people is that they don't bother analysing new information in the first place. The result in both cases is a kind of content and complacent maintenance of the status quo.

3. Self-efficacy: This is a concept pioneered by psychologist Albert Bandura and relates to one's belief that you can do something or achieve something. People who believe they can successfully complete a training course or diet are more likely to do so than those without this self-belief. Self-efficacy is not just about positive self-talk (though this can help) but

also about engaging in action steps set out, to provide tbe proof to yourself that you really can do it.

4. Vision: Vision has received bad press because it has been overused and devalued in numerous vision statement". However, vision is creating something akin to a mental movie in which you can see yourself doing whatever it is you seek. Can you see yourself acting and interacting with the other people in this desired domain? Are you succeeding? The other point to make is 1 am not advocating some form of visual goal-setting. The purpose of envisaging is to create some active engagement that may lead to other opportunities as you act.

5. Playfulness and risk: Children will often test their toys to destruction, or use them in 'inappropriate' ways. It means coming to an idea without preconceptions to see it for what it is. It is a bit like throwing away the instruction manual. The Zen Buddhist term for this concept is Shoshin.

6. Flexibility: This is perhaps best summed up by Groucho Marx's quote: 'These are my principles and if you don't like them. don't worry. rYe got others!' It means most diamonds have flaws as well as brilliance and it depends on how you hold them up to the light as to what you will see.

7. Persistence: I'll bet the most important things you've done in your life involved a degree of risk that met with resistance from some quarters. It i~ amazing how many people fail simply because they lose the courage of their convictions. II's therefore important to recognise that giving in is ultimately your choice and yours alone.

2. Choose the correct letter, A, B, C or D.

1. The author believes that 'positive psychology'

A. has been around for too long.

B. is effective if caution is taken.

C. is far too simple to be good.

D. detracts because of overblown claims.

2. It is suggested that the difference between the most and the least intelligent people relates to ....

A. their analysis or non-analysis of information.

B. their blindness to nuances and life-changing nuggets.

C. the different ways that they change and hope.

D. one group being more content with the status quo.

3. Albert Bandura's concept for self-efficacy encourages people to ... _

A. commence a training course or diet successfully.

B. engage predominantly in positive self-talk techniques.

C. develop a positive self-belief in achieving success.

D. engage in several steps including the provision of proof.

4. Vision relates to ....

A. creating opportunities through being actively engaged.

B. developing forms of visual goal-setting in a desired domain.

C. making positive statements of honesty and integrity.

D. feeling comfortable and successful through interaction.

5. Children are mentioned because they

A. use their toys inappropriately.

B. throwaway the instruction manual.

C. engage in spontaneous play.

D. have preconceptions about their toys.

6. Flexibility relates to

A. maintaining the principles one has learnt.

B. looking at issues differently.

C. assessing how diamonds are valued.

D. seeing the flaws in brilliance.

E. Focusing on IELTS Reading and Writing Skills

7. The idea of persistence suggests that

A. there is usually widespread opposition to an idea.

B. failing to achieve has a number of causes.

C. taking responsibility for one's own convictions is key.

D. giving in has some element of resistance from others.

8. The writer's overall purpose is to

A. suggest methods of becoming successful.

B. warn about potential negative factors.

C. give information about the idea of action steps.

D. identify the mind steps that aid success.

3. Read the text and translate the text.

ARE YOU A GOOD LEADER?

1. You have a lot of work-related stress. What do you do? a) I delegate some of my work to my sub-managers. b) I shout at someone – that always makes me feel better.

2. One of your employees tells you he's feeling depressed. What do you do? a) I talk to him, find out what's wrong, and set him some realistic objectives to focus on. b) I take hold of him by the shoulders, shake him vigorously, and tell him to get a grip on himself.

3. An employee asks to talk to you about a personal matter. What do you say? a) "OK, let's schedule a time when we can sit down and discuss the problem." b) "Get a life!"

4. An employee is suffering at work, and is often the victim of cruel, practical jokes. What do you do? a) I interview all members of staff individually, and try to get to the bottom of the matter. b) I join in on the fun. If he can't take a joke, he can get out.

5. Overall production in your department is down. What do you do? a) I reflect seriously on the way I am managing my team; I also seek professional advice. b) I start spreading rumours about redundancies. That should keep them on their toes.

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6. It's time for the weekly staff meeting. As you walk into the room, what happens? a) Everyone goes quiet and waits for me to sit down and start the meeting. b) People continue talking and generally ignore me. In the end, I have to blow a horn in order to get their attention.

7. It's time to review office salaries. What do you do? a) I give everyone an increase based on inflation. b) I award myself a 20% increase, and freeze everyone else's wages.

8. You ask your marketing manager to prepare a revised budget for the next day. What does she say? a) "Don't worry. You'll have it on your desk first thing next morning." b) "Get lost, loser!"

9. The company is having cash-flow problems and there isn't enough to pay everyone's salary on the first day of the month. What do you do? a) I send out an e-mail and explain the situation. I also inform staff that I'll be foregoing my salary until everyone else has been paid. b) I collect my salary and just forget about everyone else.

10. A job your department was responsible for went horribly wrong. What do you do? a) I assume full responsibility for it, and try to sort out the mess. b) I defend my position and lay the blame on everyone else.

ARE YOU A GOOD LEADER? Mostly "a" = you are an excellent manager of people, and a natural-born leader. Mostly "b" = did you go to the Ghengis Khan school of management? Your techniques are outof-date. Learn to be more sensitive. Learn to be more human.

4. **Read the text again and think what other points would you like to add.**
5. **Tell your friend about the information that you have just read.**
6. **Skim the text pointing out the most important points.**
7. **Describe the pictures. What are the people doing? Make up your own stories.**

1)

2)

UNIT 18. MODERN DESIGN TRENDS

1. Read and translate the text.

A WEEK IN THE LIFE OF A UX DESIGNER

On Mondays I typically arrive in the office at about 8.45am. I'll start the day by consulting our UX Design Trello board to see what projects the team are working on for the coming week. Our designers sit as a central function to the Lush Digital team and work across multiple product squads. As the squads work in two-week sprints, each designer may be juggling a number of projects at any time, and it makes sense to have a central place where we can keep track of our top-level tasks. I'm working across two squads at the moment so will attend short daily standups for both of these at 9.30 and 10.00am, usually making sure the engineering teams have everything they need to push forward with their tickets. We're currently working on our new website strategy and have been creating proto-personas for our audience that are driven not by demographics but by their needs and behaviours. This Monday I spent most of my time fleshing these out and validating them against some recent vox pop research collated by our social team.

We have our own till system in each of our UK Lush stores that is designed, built and supported in-house, so naturally there is always feedback to action and feature requests to validate and prioritise. I spent

Tuesday in one of our flagship stores in London, interviewing the retail staff and shop managers to understand any niggles and frustrations they'd been having with the application over the busy Christmas period. Nothing beats face-to-face conversations to understand your user's pain points, and building relationships with the people who use your digital products every day encourages them to collaborate and share ideas that you as the designer can't conjure up from your desk. We also carried out some observations of our staff using our Point of Sale (POS) app to see if they've created any workarounds or have subconscious struggles that didn't come up in conversation. The train journey home from London was a good opportunity to write up the notes from the day, along with some suggested actions, ready to feed back to the rest of the product squad.

Wednesday is usually 'work from home' day for our digital design and engineering teams. It's a good opportunity to get your head down, turn off Slack notifications for a few hours and focus on work, without any of the interruptions that come from sitting at a desk in an office.

I'll usually spend Wednesdays in Sketch, using the quiet time to work on any project-related interface design, or making updates to our design system if required. We have a Sketch file that houses all of the components of our design system, and we keep this in sync with the React Storybook component library that our front-end developers use. Both are always evolving as needed and have become a vital tool for keeping all of our interfaces consistent. This Wednesday I spent the morning working on a landing page for a new campaign and designing the emails that will be going out to promote it. Working from home also means that I can spend time with other designers outside of Lush Digital, so myself and a friend will often go to each other's houses for the afternoon and work side by side. It's a great way to get a fresh set of eyes on your work and share new tools, tips and tricks we've discovered.

On Thursdays we have our weekly catch-up as a digital design team. Aside from project standups I don't really have too many recurring meetings, but this hour every week is an invaluable opportunity for the designers to catch up as a group. We usually stick to a loose agenda, discussing ways of working, critiquing work in progress and rounding up with 'anything cool we've found from the design community'. I've discovered some great new podcasts, sources of inspiration and events from these catch-ups, as well as it being a forum to give and receive honest feedback. I spent the rest of the day with a few of our front-end developers

and QAs, reviewing part of the website checkout they've been building from my designs. We had a few concerns around the international shipping flow that arose once we had the interface live in code, so decided to take the site in its staging environment around the office to run some quick users tests. Working in the same building as our finance, events and media teams means we have people on tap to borrow for short guerilla tests that can quickly help validate decisions or expose areas that need further refining. Friday is '20 per cent' time at Lush Digital. It's the day of the week where we have permission to work on projects that sit outside of our roadmap, and we're also encouraged not to schedule any meetings! Google popularized the idea, and products like Gmail and Google Maps were the result. At the moment I'm working on designing two digital hubs for our manufacturing and retail recruitment teams, as they currently don't have any digital format to tell their department's stories to prospective employees. This Friday we had two one-hour workshops to gather together all of the content that needed to be included and sketched out wireframes for the one-pagers. I could then go away and digitise these to be shared with the wider teams for feedback. Friday is also the time to have a bit of fun, and for an amusing end to the week I've routinely created 'Topical Tims' using the face of Tim, one of our very talented front-end developers. Tim becomes the centrepiece of a topical picture that goes out to the design and engineering teams via Slack – a recent favourite being 'Mary Poptims', to celebrate the cinema release of the Mary Poppins sequel.

2. Comment on every day of the designer's life. What do you think about it as a whole.

3. Recap the text or make a resume in the written form.

4. Read and translate the text.

DESIGN TRENDS IN MODERN LIFE

VOICE USER INTERFACES (VUIs). Voice user interfaces (VUIs) allow the user to interact with a system through voice or speech commands. Virtual assistants, such as Alexa and Siri, are common examples of VUIs today. The way users interact with voice user interfaces is very different to graphical ones, so you may quickly find yourself unsure of how to create great user experiences for VUIs. The intricate nature of user's conversing

with a VUI means a designer needs to pay close attention to how easily a user might overstep with expectations, because individuals normally associate voice with personal communication.

STORYTELLING FOR A MORE MEMORABLE EXPERIENCE. From a consumer's point of view, UX design is no longer a unique selling point, it's now an expectation. Humans become engrossed in stories and a good story has the power to create empathy with the user. Because more brands seek new and innovative ways to stand out from the rest, we will see a growing trend towards storytelling in UX. However, learning how to incorporate storytelling into the design process will be one of the biggest challenges for UXers this year, but it also represents a huge area of opportunity for both brands and UXers who want to stand out.

UX FOR WEARABLES. During the past year, we've been witnessing the rise of a variety of wearables, from smartwatches to portable devices to monitor the quality of your sleep or your heart rate, for example. And their popularity will just continue to grow in 2019. So, it's up to the UX designer to optimise the experience of these devices. It's an appealing space for designers that are intrigued by the idea of working at the intersection of fashion, technology and wellness, which adds that additional layer to the significance of user experience design.

AI FOR PERSONALISED EXPERIENCES. With the rise of artificial intelligence and machine learning, companies now have the opportunity to take a more personalised approach towards customers. AI will not replace UX designers but they can work together to give the user what they want. It's about matching user information that AI collects with the knowledge of the UX designer. Brands such as Netflix have known to curate content recommendations with their proprietary algorithm. This way, you'll deliver a great experience based on the preferences, tastes, behaviours and characteristics of your user.

UX TO DRIVE BUSINESS. Based on the trends we've already spoken about, UX design will continue to be the driver of business success, as more and more companies discover the return of investment when designing great products. The potential for design-driven growth is massive in both product and service-based sectors. In short, a good user experience is clearly good for business. According to a study by Forester,

companies who invest in UX, see a lower cost of customer acquisition, lower support cost, increased customer retention and increased market share.

5. Give your own comments on each point of the text.

6. Tell your friend about the modern design trends.

7. What do you know about animation? Does it have anything in common with Web design andStoryboarding? Read the following text.

ANIMATION

ANIMATION IS AN IMPORTANT PART OF MODERN UX AND IS EASIER THAN EVER TO IMPLEMENT WITH CSS. IN THIS FEATURE WE'LL EXPLORE EVERYTHING FROM REASONING AND PLANNING TO IMPLEMENTATION

BEFORE YOU BEGIN.
Planning your animations and knowing when to use themcanbe just as important as the animation itself

WHERE TO USE ANIMATIONS. Animations can become as important to your brand as your primary colour or logo.

ANIMATE INTERACTIONS FOR BETTER UNDERSTANDING. Sudden changes to the state of your application or website can be jarring and can easily cause confusion. Animating interactions is a great way to help the user understand the change of state. D

ELIGHT YOUR USERS WITH MEMORABLE EXPERIENCES. Animation can be used to provide delightful experiences. You don't need to go overboard – something small and subtle can create a memorable experience, which can keep users coming back.

 INFORM USERS WITH PROGRESS INDICATORS. Progress indicators should be animated to inform the user that the system is still responding. Users have come to expect immediate feedback; when submitting data or loading content, a simple spinner can be enough to keep their attention.

USE PERCENTAGES TO REPRESENT PROGRESS. Percentages when used to represent progress are a great place to use animation. Watching a bar or shape fill up is rewarding; visually representing a user's goal can subtly encourage them to complete it

DON'T ANIMATE EVERYTHING, IT'S NOT NEEDED. It's important to know how and when to use animation. You don't want to

animate all the things and create the mess that GeoCities or MySpace became. Animation should be used sparingly.

STORYBOARDING.

QUICKLY PLAN YOUR ANIMATION'S FLOW. Storyboarding is a technique used in many disciplines and industries. It is, for example, usedforvideogames,TVshows,movies, music videos and any other discipline with a narrative and visual element to it.

WHAT IS STORYBOARDING? Storyboards are illustrations of the key frames or elements that will make up the final works.Thisallowsforideationofvisual elements, which would take a lot of time to produce in full, to be quickly, easily and cheaply captured.

WHAT ARE THE ELEMENTS OF A STORY BOARD?

Panels: Panels are the viewport for your animation.Yourpanelscanbeanysizeor shape you want, but need to match the container size and aspect ratio when you put them into the browser.

Framing and composition:This is choosing where in your panel to place the elements you're going to animate.This is important for deciding if your panel edge will be visible or not. If you don't want it to be visible you need to keep everything in frame at all times.

Arrows: Arrowsinstoryboardingareusedto convey movement, showing the direction an elementwillbemoving.

HOW DO I CREATE STORY BOARDS? There are no solid rules when it comes to storyboarding, and you don't need to be able to draw either. The idea is to convey the timeline using as few sketches as you can. Youcanannotateyourpanelsinorderto explain certain features of your animation whereneeded.

WHY STORYBOARD FOR WEB ANIMATIONS? If you're creating anything more than a simple transition, storyboarding the elements can save you a lot of time. Before you even write any code, you understand how to break down the elements involved and where each of the key frames of your animation should lie on the timeline.

8. What can you say about animation and storyboarding? How do they coinside?

9. Skim and retell the text.

10. Look at the picture. Describe how to create a website.

10. **Describe the pictures. Make up your own stories to them.**
1)

2)

UNIT 19. VIDEO GAMES

1. Read and translate the text paying the attention to the new words.

Video Game World Record

Could you **beat** the video game **world record**? Okan Kaya loves playing video games. In fact, he enjoys them so much that he recently **broke the world record** for the longest time playing a computer game **in one sitting**. For five and a half days, the 28-year-old Australian sat **in front of a screen** and **fought with** players from around the world in the online war game Call of Duty. "On the third day, I felt a bit **nauseous**," Okan said. "My hands **were cramping up** and I was going through **a lot of bandages**." But was his life ever **in danger**? Last year, a teenager **was taken to** hospital **in critical condition** after playing a computer game **non-stop** for 40 hours. "No I wasn't **at risk** at all… I had **plenty of** fluid, and food and medical checks **were conducted** during the attempt," the game fanatic said. And once he'd broken the record, what did Okan do? He **kept going** for another 15 hours! Now that's **dedication**!

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Glossary:

beat	бить
world record	мировой рекорд
break the world record	побить мировой рекорд
in one sitting	в один присест
in front of a screen	перед экраном
fight with	боролся с
nauseous	тошнотворный
to cramp up	тесниться
a lot of bandages	много бинтов
in danger	в опасности
to be taken to	быть доставленнным в
in critical condition	в критическом состоянии
non-stop	без остановки
at risk	рискованно
plenty of	много
to conduct	проводить
keep going	продолжать
dedication	самоотверженность

2. Find words or expressions in the text that correspond to the following definitions:

1. To win extraordinary =
2. Without stopping or having a break =
2. The part of a television / computer, that you look at =
4. To compete with =
3. If you feel like this, you think you're going to be sick =
4. If a part of your body does this, it starts to hurt and you can't move it properly =
5. In danger =
6. To continue =
7. To be delivered to hospital =
8. Without an end =
9. Medical checks were performed =
10. Much =

3. Find answers in the text B for the following questions.

1. What was the world record for?
2. How long did the Australian man play for?

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3. How did that affect him?
4. What did he do to get through it all?

4. Say whether the following statements are true or false:
1. Okan Kaya can't stand playing video games.
2. Okan enjoys games so much that he recently broke the world record for the longest time playing a computer game in one sitting.
3. For five and a half days, the 28-year-old Australian sat in front of a screen and fought with players from around the world in the online war game "Ori in the Forest".
4. "On the third day, I felt a bit weak," Okan said. "My hands were cramping up and I was going through a lot of bandages."
5. Last year, a teenager was taken to hospital in critical condition after playing a computer game non-stop for 48 hours.
6. He wasn't at risk at all due to his words.
7. And once he'd broken the record, he kept going for another hour!

5. Read, translate the text and point out its main points.

Jane McGonigal – An Epic Challenge for Game designers.

You may wonder who the game-designer is. A person, who creates games, obvious, isn't it? But I'd like to pin your point at the fact that creating games involves a wide spectrum of different varieties of jobs. Not only programmers but many other professionals are bound together in the field of creating a game.
Who are they? What's the main game "ingredient"? I assume we need a plot-writer, But the plot should be presented on the screen in a colourful way so we need a group of artists. Here we have a gorgeously presented plot but it's soundless, dull, isn't it? So we need composers and musicians. And with the development of games more and more people far from direct coding are involved. But they create just structure, now we need people to bring it into life, or, to be more precise, to bring it to screen. These are IT-developers and web-designers. As you see game-design is a wide brunch which allows you not only to reveal your coding abilities but creative as well.

Let's cast our eyes over unique mission of games. Why are games so popular and why do more and more people play them?" Why have they survived and even evolved? Lets start with some positive reasons:

1. So…Game keeps you motivated
2. Makes you go ahead and develop your skills
3. You struggle to be better!

The negative reason is that games allow us to escape from reality. It sounds awkward, isn't it? It is, but that's true. In our lives we are so dissatisfied with our abilities/appearance/environment, we don't get enough reward for our achievement so we are not willing to work hard. As we see no reasons. Sometimes the problem is that the results are so distant and uncertain so you just feel no difference whether you perform a great job or fail. And we just get away from reality. And that's the point where games just knock the reality down.

As we always kknow – there's a chance to win in a game. So what about feeling the same chance in real life? Isn't it possible? It's a very simple formula that creates magic! That's why I get really fascinated by the ideas of Jane McGonigal, a well-known American game designer and author. And moreover, she is PhD and her research was "Why we are better in games than we are in real life".

As a designer McGonigal became known for location-based and alternate reality games. She has taught game design and game studies at the San Francisco Art Institute and the University of California, Berkeley. In 2008 she became the Director of Game Research & Development at Institute for the Future and in 2012 Chief Creative Officer at SuperBetter Labs.

Do you have an opportunity to save the world on a daily basis, what's more important to get rewarded for it, to have this satisfactory feeling of enormously huge mission? Yes, with another McGonigal's game – "World without Oil"

World Without Oil is the first collaborative reality game created to tackle a real-world problem: oil dependency. The goal of the project is to imagine we are already live without oil and to harness the collective intelligence of bloggers and gamers to create a bottom-up map of a massive oil shortage in the world. It's a "reality dashboard" that updates daily with gas prices, fuel shortages, and measures of chaos, suffering and economic impact for different parts of the country.

Players are invited to document their own lives in this new reality, through blog posts, videos, photos, web comics, geocaches, audio

messages, and any other means necessary! The project's moto: "Play it, before you live it !" But today we're going to consider a game called "Superbetter" that prolongs people's lives. That was a blessing in disguise story!

In July 2009, Jane suffered a concussion after hitting her head. The symptoms were severe and led her to feeling suicidal. Just because even drinking coffee was a surprisingly hard mission. She requested her friends to give her tasks to do every day. This was a kind of a game for treating her concussion; That's why the game was named SuperBetter. Let me explain the main McGonigal's invention and it's importance. SuperBetter builds resilience - the ability to stay strong, motivated and optimistic even in the face of difficult obstacles.The game consists of performing simple actions that may sound like allies: physical resilience (shake someone's hand or hug), mental resilience (like counting), emotional resilience (watching cute pictures of baby animals) and social resilience (say or write "thank you" letters).

She made some statistics on it and discovered that for _every single hour_ of performing these simple actions will add any person +7 extra minutes of life!

Playing SuperBetter unlocks heroic potential to overcome tough situations and achieve goals that matter most. Resilience training reimagined. You may not have noticed but games teach us to collaborate with each other, to struggle and never surrender. Yes, they do. So how are we to use these skills, what's the epic challenge for game design? We might turn our life into a game. And…Now it's your time to play!

8. Write an annotation to text.

9. Read and translate the following text. Divide it into logical parts.

THE BENEFITS OF VIDEO GAMES: WHY SCREEN TIME ISN'T ALWAYS BAD

Recent reports have linked screen time to impaired development, aggression and even shortsightedness. But is there more to the story?

For the first time in our history, we have access to all human knowledge at the touch of a button; screens are our work,and also our play. But they're also increasingly becoming the source of our fears and worries. Whether it's poor mental health, sleep deprivation or social isolation, staring at screens, so the headlines go, is intrinsically, unequivocally, bad

for us. When you dig into the research, however, a subtler story emerges. A recent study at Oxford University suggested that if you were to tell a researcher how much time you spend on screens, It would only allow them to predict less than half a per cent of your wellbeing. To put this into perspective, the team found that eating potatoes had about the same effect on wellbeing as screen time. The links between screen use and mental health don't seem to be anywhere near as strong as we might think. In fact, some research has shown that, when it comes to kids' wellbeing, some screen time is better than none at all. For the past few years, I have been researching the effects that one type of screen time has on our behaviour: playing video games. It's easy to see why video games are often dismissed as an antisocial past time. Players seem absorbed by the action on the screen, as if the rest of the world doesn't exist. Without further context, it's hard not to see games as anything other than digital junk food. But context matters, and understanding the experience of the players can give us new insights. Video games are an inherently social experience: since their inception, they've been designed as cooperative and collaborative experiences. Take Minecraft, for example. It may seem like a fairly isolating, single-player experience to the outsider, but it brings people together in all sorts of ways. Some play to connect with their friends, others share in the creative experience of building something monumental, and it's even been used as an interactive tool to teach students basic chemistry (see the University of Hull's MolCraft project). Elsewhere, studies have shown that video games can be used as therapeutic interventions to help soldiers overcome PTSD, and to help children with cancer stick to treatment regimes. As for the supposed negative aspects of video games, the story is largely the same. Studies that show a link between violent games and aggressive behaviour are often picked up in the news over other, more robust studies. Part of the problem is that it's remarkably hard to test for aggression in the lab, and there's also a great deal of flexibility in the way that researchers can analyse their data. But where the best methods are used, evidence suggests that playing violent games has fairly negligible effects on our behaviour. Our understanding of the behavioural effects of video games – and screens more generally – isn't yet complete. After all, these technologies are a relatively recent addition to our lives. But while we wait for more conclusive answers, it's important

that we don't vilify screens and video games to the point that we end up shutting out the multifaceted ways in which they can enrich our lives. Like many things, we can use them in good ways, and we can use them in bad ways. It's up to us, as a society, to harness their potential for good.

10. Make up a plan of the texts according to the main parts.

11. Imagine yourself being an interviewer and your friend being an expert. Ask him/her different questions about the benefits of video-games.

12. Look at the pictures below. What are the people doing?

UNIT 20. LIVING TO WORK OR WORKING TO LIVE

1. Pre-reading task. Think on the statements and answer the questions:

Work is an important part of our lives, but so are our family and friends. Finding the right work-life balance can be a challenge.

Do you live to work or do you work to live? How do you prioritise the different elements in your life?

2. Glossary on the topic:

1) worklife balance

Many of us have stressful jobs which take up a lot of time. How do you find a good **worklife balance**?

2) to strike a balance

It can be difficult **to strike a balance** between work and home life.

When you **strike a balance** you find an acceptable compromise between two different things.

3) exhausting ourselves

We have **to strike a balance** between working hard and **exhausting ourselves**.

4) feel exhausted

At the end of a long working week I feel exhausted.

5) feel fulfilled

Although my job is difficult, helping people makes me feel fulfilled.

6) set priorities

My work is very challenging and there's always lots to do, it's important to be able to set priorities.

7) get into a routine

When you work early shifts it takes some time to get into a routine.

8) work efficiently

People tend to work more efficiently when they are happy and enjoy their job.

9) be absorbed by work

I haven't seen my friends for the past couple of weeks, it's been so busy at the office and I've been absorbed by work.

10) social pressure

There's a lot of social pressure to have a successful career and an impressive job title.

11) earn a living

I hate my job but I have no choice but to go to work every day, I have to earn a living.

12) stress management

I find stress management quite difficult because I have so much responsibility in my job.

13) find a balance

You have to find a balance between developing your career and enjoying life away from work.

14) personal life

I don't know much about my colleague Martha's personal life, she keeps herself to herself.

15) social life

My social life has really suffered since I started working night shifts, while I'm working all my friends are out enjoying themselves.

3. Read the text below and answer the questions after the text.
Cultural differences

Most people will spend much of their life working, but not every individual has the same approach to work-life balance.

For some people, work is a priority in their life and for others it is simply a necessity. Different cultures also take varied approaches to work-life balance.

In Europe work is an important part of people's lives, but it's also quite normal to have weekends and evenings off and to spend this time with family and friends.

In the USA there are not as many laws to protect employees as in Europe. People often feel under pressure to work long hours in order to prove their commitment to their jobs. On average workers in the USA tend to have fewer holidays than in Europe.

Work-life balance also depends on the kind of job an individual has. Some jobs are more stressful than others, and some people are better at managing their work-life balance.

4. Answer the following questions:
1) What differences between American and European working cultures does the text mention?
2) Think of the working culture in your home country, is it closer to the American or the British culture? How?

5. Discuss your experiences
Can you talk about your relationship to work and work-life balance using the new phrases below that you have learnt?
set priorities
feel fulfilled
get into a routine
work efficiently
social pressure
earn a living
be absorbed by work
stress management
find a balance
personal life
social life

6. Try to make a sentence using each new item of vocabulary. You can also use examples from your past experiences.
What is your idea of good work-life balance?
7. Read, translate and analyze the text below.
The pros and cons of prioritising your job.
Working hard can have its benefits. Some people choose to prioritise their job because their work is very important to them. However, for other people life outside work takes priority over their job. Many people want to have a reasonable amount of time for themselves outside work to pursue personal interests.

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The pros of prioritising work in your life are that you may earn more money, be promoted, have better job opportunities, and hopefully be doing a job you are passionate about!

However, the cons of prioritising work may include missing out on quality time with family and friends, having a poorer social life, tiredness, stress and having few interests outside work.

But there is such a danger as burning out. More and more people are suffering from work-related stress and health issues. It can be hard to know how to make changes to your working routine and have a better quality of life if you have a busy job, but it is possible! Some companies have taken steps towards addressing the problem of stressed and burnt out employees. It is becoming more common for companies to offer flexible working hours, or the option to work from home, as well as inhouse support and relaxing activities such as yoga classes!

8. Speak on the situation.
Your best friend has come to you for advice. They have been offered a new job which would be a big step-up for their career. However, it will involve very long hours, a lot of travel and a lot of pressure. They want to discuss it with you and get your advice about whether to take the job or not.
- What questions would you ask your friend
- What are the pros and cons of your friend prioritizing their job over other parts of their life?
- Role play the conversation with your friend

9. Think about your current working situation and answer the questions.
- Do you feel like you currently have a good work-life balance?
- Is it easy to achieve this in your industry? Why or why not?
- Are there any changes you can see yourself making in the future?

10. Read the quotes below.
a) "At the end of the day, if you're stressed at work and can't cope with the pressure you can always change your job. It's not your employer's responsibility to sort out your life, people need to take some personal responsibility for their decisions".

b) "Companies are putting pressure on workers and this is having a negative impact on society. Something has to be done! Companies have to start treating people fairly. It's not just people on high salaries that face

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problems. People on low incomes, for example those trying to juggle too many shifts alongside family obligations, are also suffering".

11. Can you summarise each person's point of view?

12. Debate each opinion with your teacher, and then give your opinion about the role of the workplace in dealing with work-related stress. You can use some of the phrases below to help you:

- For me, family life is my priority, that's why being able to work from home is so attractive.
- In my opinion, you should push to find a job you are passionate about.
- From my point of view, working long hours is worth it if it leads to a promotion. ■ I disagree, your employer should never force you to sacrifice your personal life for work.

Tips: *Not everyone is in agreement when it comes to deciding what makes a good work-life balance. When you are debating a subject with people who think differently it's important to be able to express your point of view clearly.*

13. Read the following dialogue between two people with different opinions.

Peter: For me, family life is my priority. I think it's really sad when people spend all their time working. They must be very lonely.

Tom: From my point of view it is. I refuse to work after 5pm Monday to Friday. I just walk out the office. It's simply a matter of standing up for what you believe in! Peter: Hmmm, I see what you mean. I'm an office worker and the office closes at 5pm anyway, and my boss is my dad, so yes, perhaps my situation is a little different…

Tom: I disagree, I don't think it's always as straightforward as that. For some people, their career is their passion. Finding a balance between work and social time isn't always easy!

Peter: In my opinion it isn't always that easy. Some people are scared of losing their jobs, or some people just don't have jobs that are so easy to walk away from at set times! What is it you do?

14. Can you summarise the debate and different points of view of the two people?

15. Practise making sentences about work-life balance that you agree with using the phrases below. Make as many sentences as you can.

From my point of view…

I disagree…

In my opinion…

For me…

16. You are going to talk for two minutes and give your opinion about what makes a work-life balance. However, your classmate is then going to disagree with all your points. Prepare for a debate, try to convince them of your point of view.

17. You are really good at giving career and life advice. All your friends always come to you with their problems! What advice would you give to people with the problems below?

> *1) I've been offered a promotion at work, it's great money but means moving abroad for a year. I'm scared…*
> *2) I run my own business and work every day. I love my job but my friends can't understand that I can't see them as often as I used to…*
> *3) I feel really stressed at work. My boss keeps giving me more and more work. I feel like I can't cope…*
> *4) I'm a doctor and I'm passionate about my job but I have to work very long hours. I find it really hard to unwind and relax.*

18. Make a summary. What makes a good work-life balance? How can this be achieved? What are the advantages and disadvantages of prioritising work in your life? Write a short text answering these questions.

19. Read and role-play the following dialogue:

First Jobs

DAVID: Do you remember the...er very first job you ever had?

JILL: Yes, I certainly do. I wasn't very good at it actually. Um...it was as a secretary, I was supposed to be a secretary but I hadn't done very much secretarial training, and I went along - it was a design studio -and in fact I wanted to be a designer, so I used to sit around doing drawings all the time when I should have been typing letters, shorthand and tvping. And…er...my boss went away for three weeks' holiday and there was...um...a horrible woman put in charge and she was very very nasty and got me into terrible trouble with my boss, who came back and gave me

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a big lecture and I ran home in tears and then I didn't go back and then several...several weeks later I had a letter from him saying: 'Please come back because the...' - now what did he call her? Something horrible, anyway, ha-ha - 'She's gone' he said.

DAVID: So you went back?

JILL: 'And would you like to come back?' - No, I didn't. Tell me about yours.

DAVID: Oh mine, oh, straight out of school I worked in a library for six months, which was so boring it was untrue and the...the only excitement we got out of the day was seeing people come in the door which was at the far end and we would all decide between ourselves what sort of book they were going to take out, right? So they'd come up to the desk and you'd...you'd sort of say: 'Oh, she's going to get an Agatha Christie.' 'No, no, no she's into cars,' you know. And then of course it would turn out to be something totally different. We...we used to have a point system, you know, you'd score points according to... But apart from that 1 would never ever go back to work for a library, but what I do know now is how to get...how to find my way round in a library. So if you find yourself in a library you don't know, you can find your way around. That's the only part I enjoyed about it.

RICHARD: Well, the first job I had and certainly one of the best was straight after school and before I went to university, I had some months off, and I was fixed up with a job in Berlin as a postman in...in a...a quarter of Berlin called Spandau… Spandau. Er...and it was a lovely job. I find postmen the world over tend to be very friendly sort of people and the...there were a group of us Englishmen in there and the German postmen were wonderful, they sorted all our mail for us and everything, and took us round, got drunk with us after the round and... And ...er...it was strange for me because I'm not used to getting up quite that early but I lived about an hour and a half away, the other side of the city, I had to get up at five in order to be there for half past six, do the round and I was back in bed by about one o'clock in the afternoon. Ha-ha.

JOSCELYN: Was it well paid?

RICHARD: Well, it...for someone who had just left school it was quite well paid, yes. Er...it was...um...a German postman has to do far more than an English postman. They have to take the old-age

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pensions round and hand them out and collect various moneys and things, so it's a much more responsible job and I was amazed that they were giving me all this responsibility - an English schoolkid, basically, carrying thousands of pounds around with me, accountable for it in theory. But it was great fun.

JOSCELYN: My first job was about the same time really, I suppose, I was leaving school, but I made a lot of money but it was an awful job: it was selling encyclopedias door-to-door in the United States and the pressure to sell was incredible. I mean, you had to go back every night and ... and ... and produce the goods and I found that I just used to burst into tears. They would drive you into an area that … where you didn't know the streets, you didn't know where you were, and they said: 'Well, we'll pick you up in four or five hours,' and there was no sort of steady wage, you had to sell in order to make any kind of money at all. And at first I was so timid I'd, you know, ring the doorbell and I'd expect them to slam the door in my face and of course they did. And after a while I thought: 'The only thing that's going to save me is a sense of humour here'. So I would make jokes, I would run through the sprinklers on the lawn and this seemed to....um...interest them. Ha-ha. So I found myself getting asked in and I would spend the evening talking about everything else other than encyclopedias and then sort of towards the end I'd say: 'Oh by the way...' And they would buy them. It would be...yeah...

RICHARD: So you made a living out of it?

JOSCELYN: Yeah, I did, I did. Well, I put myself through college on it.

RICHARD: Fantastic!

20. Look at the pictures. Compare them and describe. Say as much as you can.

1)

How have these things become so important to people of all ages?
Which one is really worth spending time and money on?

2)

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3)

PART 3. GRAMMAR PRACTICE

Глагол (*The Verb*)

Глагол - часть речи, которая обозначает действие или состояние лица или предмета. Глагол в английском языке обладает гораздо более сложной, чем в русском, системой видовременных форм. Эта система охватывает *личные* формы**(finite forms);** и *неличные* формы **(non-finite forms).**

Личные формы глагола

Употребляются с существительными и личными местоимениями, указывающими, какое лицо совершило действие:

Peter works.
The dog barked.
She will speak.

Глагол в личной форме выполняет в предложении функцию сказуемого и согласуется с подлежащим:

I speak English – He speaks English –
They are speaking

В английском языке глагол в личной форме имеет 3 грамматические формы:

- времени (tense),

- залога (voice),
- наклонения (mood).

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│   Группы времен английского языка        │
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┌──────────────────────────┐        ┌──────────────────────────┐
│ Неопределенные времена   │        │ Продолженные времена     │
│ (Indefinite Tenses)      │        │ (Continuous Tenses)      │
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│ Совершенные времена      │        │ Совершенные              │
│ (Perfect Tenses)         │        │ продолженные времена     │
│                          │        │ (Continuous Tenses)      │
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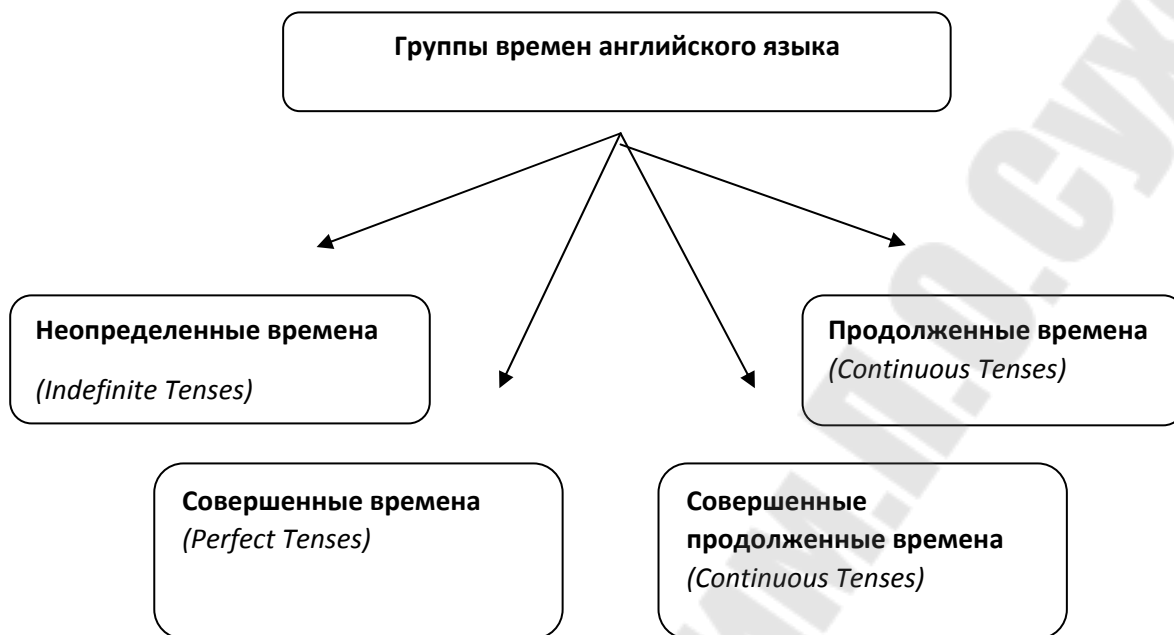
UNIT 1
ГРУППА НЕОПРЕДЕЛЕННЫХ ВРЕМЕН
(INDEFINITE TENSES).

Действительный залог (Active voice)

A) Теоретическая часть.

The Present Indefinite (Active) (Настоящее неопределенное время)

Действие происходит регулярно, обычно. Present Indefinite также используется для обозначения действий, которые отражают объективные процессы в природе и обществе, общеизвестные факты; в рассказах, комментариях и репортажах; для обозначения действий, которые должны произойти в ближайшее будущее согласно расписанию или графику.

Обстоятельства времени для Present Indefinite: always, usually, often, frequently, sometimes, seldom, rarely, never, as a rule, every day, once (twice) a month.

Структура утвердительного предложения (+):

Подлежащее	Глагол-сказуемое	Второстепенные члены предложения
I, you, we, they	begin	work in time.
He, she, it	begins	work in time.

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Структура вопросительного предложения (?):

Вспомогательный глагол	Подлежащее	Глагол-сказуемое	Второстепенные члены предложения
Do	I, you, we, they	begin	work in time?
Does	he, she, it	begin	work in time?

Вопросительное местоимение	Вспомогательный глагол	Подлежащее	Глагол-сказуемое	Второстепенные члены предложения
What When	do	I, you, we, they	begin	in time?
Where Why	does	he, she, it	begin	work in time?

Вопрос к подлежащему

Вопросительное местоимение	Глагол-сказуемое	Второстепенные члены предложения
Who What Which of you	begins	work in time?

Структура отрицательного предложения (-):

Подлежащее	Вспомогательный глагол	Глагол-сказуемое	Второстепенные члены предложения
I, you, we, they	do not/don't	begin	work in time.
He, she, it	does not/doesn't	begin	work in time.

Примеры:

1. My parents <u>work</u> at a factory. – Мои родители работают на заводе.

2. Skill <u>comes</u> with practice. – Умения приходят с практикой.

3. <u>Do</u> you <u>hear</u> the noise outside? Why <u>don't</u> you <u>go</u> and <u>check</u> what it can be? – Ты слышишь шум за дверью? Почему бы тебе не пойти и не проверить, чтобы это могло быть?

4. <u>Does</u> he really <u>think</u> that he has been very polite to her? – Он на самом деле полагает, что был вежлив с ней.

5. Who <u>wants</u> to work this weekend? – Кто желает поработать на этих выходных?

Правила написания окончания –s (-es):

1. speak – speak<u>s</u>, work – work<u>s</u>, add – add<u>s</u>

2. produce – produce<u>s</u>, take – take<u>s</u>, manufacture – manufacture<u>s</u>

3. –s, -ss, -x, -sh, -ch, -o + -es**:** establish- establish<u>es</u>, go – go<u>es</u>

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4. –a, -o + -y + -s: employ – employ<u>s</u>, play – play<u>s</u>

5. согласная + -y → -i + -es: apply – appl<u>ies</u>, study - stud<u>ies</u>

The Past Indefinite (Active) (Прошедшее неопределенное время)

Действие произошло в некоторый момент времени в прошлом. Past Indefinite также используется для обозначения последовательных действий в прошлом; когда речь идет об открытиях, изобретениях.

Обстоятельства времени для Past Indefinite: yesterday, the other day, ago, last week, last year, last Monday, not until, in May, in 2005, just now, in childhood, on holidays, when I was at school.

Структура утвердительного предложения (+):

Подлежащее	Глагол-сказуемое	Второстепенные члены предложения
I, you, we, they	finished (правильный глагол)	work in time.
He, she, it	began (II форма неправильного глагола)	work in time.

Структура вопросительного предложения (?):

Вспомогательный глагол	Подлежащее	Глагол-сказуемое	Второстепенные члены предложения
Did	I, you, we, they	finish	work in time?
	he, she, it	begin	work in time?

Вопросительное местоимение	Вспомогательный глагол	Подлежащее	Глагол-сказуемое	Второстепенные члены предложения
What When	did	I, you, we, they	finish	in time?
Where Why	did	he, she, it	begin	work in time?

Вопрос к подлежащему

Вопросительное местоимение	Глагол-сказуемое	Второстепенные члены предложения
Who Which of you	finished began	work in time?

Структура отрицательного предложения (-):

Подлежащее	Вспомогательный глагол	Глагол-сказуемое	Второстепенные члены предложения
I, you, we, they	did not/didn't	finish	work in time.
He, she, it	did not/didn't	begin	work in time.

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Примеры:

1. She opened the cupboard, took out a cup and poured some hot tea. – Она открыла шкафчик, взяла чашку и налила себе горячего чаю.

2. The Browns did not go on an excursion to the Lake District last weekend. – Семья Браунов не поехала в Озерный край на прошлых выходных.

3. Did you watch the football match last night? Who won the game? – Ты вчера вечером смотрел футбольный матч? Кто выиграл?

Правила написания окончания –ed у правильных глаголов:

1. want – wanted, add – added
2. purchase – purchased, hire – hired
3. stop - stopped, travel – travelled
4. employ – employed ; apply – applied

The Future Indefinite (Active) (Будущее неопределенное время)

Действие произойдет в некоторый момент времени в будущем. Future Indefinite также используется для обозначения неизбежного действия в будущем, на которое нельзя повлиять; для обозначения действия, решение о выполнении которого принято в момент речи; для выражения обещания, просьбы, твердых намерений; в сочетании с выражениями предположения, сомнения после I think, I wonder, I believe, I am sure, probably, perhaps.

Обстоятельства времени для Future Indefinite: tomorrow, tonight, next week, next month, soon, sooner or later, in future, in 5 years, in a minute, in 2015.

Структура утвердительного предложения (+):

Подлежащее	Вспомогательный глагол	Глагол-сказуемое	Второстепенные члены предложения
I, we	will/shall	finish	work in time.
He, she, it, you, they	will	begin	work in time.

Структура вопросительного предложения (?):

Вспомогательный глагол	Подлежащее	Глагол-сказуемое	Второстепенные члены предложения
Will/shall	I, we	finish	work in time?
Will	he, she, it, you, they	begin	work in time?

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Вопросительное местоимение	Вспомогательный глагол	Подлежащее	Глагол-сказуемое	Второстепенные члены предложения
What When	will/shall	I, we	finish	in time?
Where Why	will	he, she, it, you, they	begin	work in time?

Вопрос к подлежащему

Вопросительное местоимение	Глагол-сказуемое	Второстепенные члены предложения
Who Which of you	will finish will begin	work in time?

Структура отрицательного предложения (-):

Подлежащее	Вспомогательный глагол	Глагол-сказуемое	Второстепенные члены предложения
I, we	will not/won't/shan't	finish	work in time.
He, she, it, you, they	will not/won't	begin	work in time.

Примечание:

В придаточных предложениях <u>времени и условия</u> после союзов <u>when, after, before, till, until, as soon as, as long as, if, in case, unless</u> для обозначения будущего времени употребляется форма Present Indefinite:

- He <u>will buy</u> a new bicycle <u>if</u> he <u>saves</u> enough money. – Он купит новый велосипед, если соберет необходимую сумму денег.

- I <u>will talk</u> to you <u>as soon as</u> I <u>finish</u> the meeting. – Я поговорю с вами, как только я закончу совещание.

- We think we'<u>ll go</u> home now. – Мы думаем, что мы уже пойдем домой.

В технической литературе Future Indefinite часто употребляется безотносительно к будущему времени и переводится на русский язык настоящим временем:

The valve <u>will open</u> and <u>close</u> at regular intervals.- Клапан регулярно открывается и закрывается.

Видовременные формы глагола to be в группе Indefinite.
Present Indefinite

Структура утвердительного предложения (+):

Подлежащее	Глагол-сказуемое	Второстепенные члены предложения
I	am	a student.
You, we, they	are	at work.
He, she, it	is	a chief project engineer.

Структура вопросительного предложения (?):

Глагол-сказуемое	Подлежащее	Второстепенные члены предложения
Am	I	a student?
Are	you, we, they	at work?
Is	he, she, it	a chief project engineer?

Вопросительное местоимение	Глагол-сказуемое	Подлежащее	Второстепенные члены предложения
What When	am are	I you, we, they	? at work?
Where Why	is	he, she, it	a chief project engineer?

Вопрос к подлежащему

Вопросительное местоимение	Глагол-сказуемое	Второстепенные члены предложения
Who Which of you	is is	a student? a chief project engineer?

Структура отрицательного предложения (-):

Подлежащее	Глагол-сказуемое	Второстепенные члены предложения
I	am not	a student.
You, we, they	are not/aren't	at work.
He, she, it	is not/isn't	a chief project engineer.

Примеры:

1. I'm cold. Can you close the window, please? – Я замерзла. Пожалуйста, можешь закрыть окно?

2. Are you interested in politics? – Ты интересуешься политикой?

3. Who is absent today? – Кто сегодня отсутствует?

Past Indefinite

Структура утвердительного предложения (+):

Подлежащее	Глагол-сказуемое	Второстепенные члены предложения
I	was	a student.
You, we, they	were	at work.
He, she, it	was	a chief project engineer.

Структура вопросительного предложения (?):

Глагол-сказуемое	Подлежащее	Второстепенные члены предложения
Was	I	a student?
Were	you, we, they	at work?
Was	he, she, it	a chief project engineer?

Вопросительное местоимение	Глагол-сказуемое	Подлежащее	Второстепенные члены предложения
What	was	I	?
When	were	you, we, they	at work?
Why	was	he, she, it	a chief project engineer?

Вопрос к подлежащему

Вопросительное местоимение	Глагол-сказуемое	Второстепенные члены предложения
Who	was	a student?
What	was	at work?
Which of you	was	a chief project engineer?

Структура отрицательного предложения (-):

Подлежащее	Глагол-сказуемое	Второстепенные члены предложения
I	was not/wasn't	a student.
You, we, they	were not/weren't	at work.
He, she, it	was not/wasn't	a chief project engineer.

Примеры:

1. The hotel was comfortable and it wasn't expensive. – Гостиница была уютной и недорогой.

2. Why were you late this morning? – Почему вы опоздали сегодня утром?

3. Who was at the meeting last week? – Кто был на совещании на прошлой неделе?

Future Indefinite

Структура утвердительного предложения (+):

Подлежащее	Вспомогательный глагол	Глагол-сказуемое	Второстепенные члены предложения
I, we	will/shall	be	at work.
He, she, it, you, they	will	be	home soon.

Структура вопросительного предложения (?):

Вспомогательный глагол	Подлежащее	Глагол-сказуемое	Второстепенные члены предложения
Will/shall	I, we	be	at work?
Will	he, she, it, you, they	be	home soon?

Вопросительное местоимение	Вспомогательный глагол	Подлежащее	Глагол-сказуемое	Второстепенные члены предложения
What When	will/shall	I, we	be	at work?
Where Why	will	he, she, it, you, they	be	soon? home soon?

Вопрос к подлежащему

Вопросительное местоимение	Глагол-сказуемое	Второстепенные члены предложения
Who What Which of you	will be	a student? at work? home soon?

Структура отрицательного предложения (-):

Подлежащее	Вспомогательный глагол	Глагол-сказуемое	Второстепенные члены предложения
I, we	will not/won't/shan't	be	at work.
He, she, it, you, they	will not/won't	be	home soon.

Примеры:

1. In August we'll be away for a week. Could you look after our cat? – Нас не будет неделю в августе. Вы могли бы присмотреть за нашим котом?

2. What will the weather be like tomorrow? – Какая погода будет завтра?

3. What will be right: to tell the truth or just pretend that nothing has happened? – Что будет правильным: сказать правду или просто сделать вид, что ничего не произошло.

В) Практическая часть.
Ex 1. Translate into Russian.

Let me introduce myself. My name is Alexey Ivanov. I'm twenty and I'm single. I have a younger sister, she is a schoolgirl. I am from Belarus, and I live in Minsk. I am a third-year student at the Engineering Faculty of the Technical University. I'm lucky to study here. Apart from this, I'm interested in computers. I'm satisfied with the standard of teaching at the University, and, as a rule, our graduates are highly-qualified specialists. As for me, I'd like to get an interesting job. I also learn English.

Ex 2. Fill in the gaps. Use *to be* in the right form.

1. We … first-year students of the Technical University. 2. Our names … Oleg, Mike and Kate. 3. We … eager to study here. 4. They say the Technical University … a very exciting University to attend. 5. I … Oleg Sokolov. I … fond of computers. 6. He … interested in programming. 7. … you good at drawing? 8. We … from Grodno. 9. He … 18 years old, … he? 10. I … sorry, who … this student? 11. He … my friend here at the University. 12. I … glad to meet you. 13. We … freshmen at the University. 14. … you technical students? 15. … you interested in mechanical engineering?

Ex 3. Make the following sentences interrogative and negative.

1. He is a part-time student of electrical engineering.
2. She is at work now.
3. My house is far from the University.
4. They are fond of foreign languages.
5. He is a freshman.
6. She is 19.
7. They are from Germany.
8. He is interested in science.

Ex 4. Put all possible questions to the following statements.

Model. He is an engineer.
─ Is he an engineer?
─ Is he an engineer or an economist?
─ What is he?
─ He is an engineer, isn't he?
1. She is a programmer.
2. Hans is an electrician.
3. They are workers.
4. Paul is a technical student.
5. We are first-year students.

Ex 5. Translate the following sentences into English.

1. Мы – студенты технического универститета.
2.Он – студент первого курса и очень увлекается компьютером.
3. Как вы поживаете? ─ Спасибо, хорошо.
4. Откуда Джон? ─ Джон из Лондона, он англичанин.
5. ─ Кто это? ─ Это Андрей.
─ Кто он ? ─ Он – студент-первокурсник энергетического факультета.
6. Чем занимается твой друг? Он – студент машиностроительного факультета.
7. Он женат или холост?
8. Сколько ему лет?

Ex 6. Translate the following sentences into Russian. Point out the verbs in the Present Indefinite Tense.

1. The scientists of our University work at a new problem. 2. He knows several foreign languages. 3. Old Belarusian cities attract many

tourists. 4. The plane leaves Minsk for Moscow at 11.15. 5. Our students take their examinations in January. 6. The first term at the University lasts four months. 7. This man works in the field of mathematics. 8. She makes very good coffee. 9. These students have five examinations. 10. We live in the same hostel.

Ex 7. Change the following sentences from the 1ˢᵗ person into the 3ʳᵈ person.

1. I leave home at 8 every day. 2. We usually go to bed at 11 p.m. 3. I finish my work at about 5 p.m. 3. We know many new words. 5. I go to the University on foot. 6. We go in for sports. 7. I live in the students` hostel. 8. We go to the theatre on Sundays. 9. I always visit my friends. 10. Every day we have three or four lectures and seminars in different subjects.

Ex 8. Change the following sentences from the 3ʳᵈ person into the 1ˢᵗ person.

1. He goes to the University every day. 2. She assists him in his studies. 3. The students take exams in January. 4. They go to the stadium by bus. 5. She studies at the Technical University. 6. He buys newspapers every day. 7. The students take an active part in the social life of the University. 8. They often spend weekends in the country. 9. He lives in Gomel. 10. They always have dinner at home. 11. He often works on a computer.

Ex 9. Put the verbs in brackets into Present Indefinite Tense.

1. The academic year (begin) in September. 2. The students usually (attend) lectures in the morning and only sometimes in the evening. 3. The lectures (begin) at 9 o'clock and (be) over at 2 o'clock or between two and three o'clock. 4. The students (come) back from the University at 3 o'clock in the afternoon. 5. Many students (live) in the hostel which (be) not far from the University. 6. Those who (live) far from the University (go) there by bus or trolleybus. 7. There (be) over 20 students in every group. 8. Students (have) no lectures n Sundays. 9. In winter and in summer students (have) their examinations. 10. Today our group (have) three lectures. 11. Students at the Technical University often (carry out) different experiments.

Ex 10. Make the following sentences interrogative and negative.

1. My brother works much every day. 2. The classes begin at 8 a.m. 3. He studies at the University. 4. It takes me half an hour to get to the University. 5. The country is rich in natural resources. 6. He learns to drive a car. 7. They study at the Machine-Building Faculty. 8. She often stays at the office after work for her English. 9. They often walk to the plant. 10. The course of study at a University lasts 5 years. 11. The electronic machines receive and store information. 12. My friends learn programming languages.

Ex 11 . Put all possible questions to the following statements.

A computer   processes   information   rapidly.

	Does	a computer	process	information	rapidly?
What	does	a computer	process		rapidly?
How	does	a computer	process	information?	
	What		processes	information	rapidly?

1. Computers control mechanical operations in the car industry.
2. The design of computers changes quickly.
3. The technicians usually install new computers in our laboratory.
4. Computers change the conditions of our work to a great extent.

Ex 12 . Correct mistakes in the following sentences.
1. He often work on a computer.
2. My friends doesn't learn any programming language.
3. What operations a modern computer performs.
4. Do you often employ minicomputers? – No, we doesn't.
5. Alex have a new computer-notebook.
6. Always computers help people solve difficult tasks.

Ex 13. Put the verbs into the correct form.

1. The swimming bath (open) at 9.00 and (close) at 19.30 every day. 2. I have a car but I (use, not) it very often. 3. «What you (do)?» «I'm an electrical engineer». 4. «Where your father (come) from?»«He (come) from Scotland». 5. If you need money why you (get, not) a job? 6. I (play) the piano, but I (play, not) very well. 7. I (understand, not) the word «deceive». What «deceive» (mean)? 8. What time the banks (close) in Britain? 9. He (drink) two cups of coffee every morning before he (go) to work. 10. She (read) the morning paper every morning.

Ex 14 . Fill in the gaps using the proper tense form.

1.James … a serious student (be).2.He … hard (work).3.He … up early every day because he … to sleep late and he … breakfast at 7 o'clock (get, like,have).4.He … to the University at 7.50 because he … to start his day early (get, like).5.He … physics and astronomy and he … a part-time job (study, have).6.He … every day at noon, Monday through Friday (teach).7.Every Wednesday and Friday morning he … a physics discussion section with his students (have).8.His astronomy classes … on Tuesday and Thursday in the afternoon (be).9.Fames … athletic but he … to get fat, so he … at the beach on Wednesday and Saturday in the late afternoon (be, not, want, not, jog).10.He also … tennis with Bill on Sunday morning (play).11.He … always very busy (be).

Ex 15. Translate the sentences into Russian. Point out the verbs in the Past Indefinite Tense.

1. We began the experiment three days ago. 2. They studied ten subjects last year. 3. The taxi took him to the airport. 4. Yesterday we worked in the physics laboratory. 5. He opened a new way to solve this problem. 6. She left the room a moment ago. 7. They played computer games yesterday. 8. She entered the room and didn't bang the door. 9. My friend made progress in English last month. 10. A computer changed my lifestyle to a great extent.

Ex 16. Put the verbs in brackets into the Past Indefinite Tense.

1. He (to stop) the car and we (to get out). 2. We (to be) busy yesterday. 3. The plane (to land) safely. 4. The workers (to test) the machine two hours ago. 5. The equipment (to work) well. 6. The students (to watch) the experiment with great attention. 7. Most of the students (to translate) the article in time. 8. They (to hear) some interesting songs last week. 9. My brother (to begin) to study English some years ago. 10. The other day I (to go) to the library and (choose) some books there. 11. They went to the country last Sunday. They (to ski) and (to skate) there. 12. This student (to come) to Minsk for the first time 5 years ago.

Ex 18. Answer the questions.

1. Was it cold yesterday? 2. Where were you last night? 3. Were you at the concert on Saturday? Was the concert a success? 4. How many students were present at the lecture on Monday? 5. How old were you when you entered the University? 6. When were the classes over

yesterday? 7. Did you come home late last night? 8. Did you see any foreign movies yesterday? 9. Did your friend make progress in English last month? 10. What did you do in the morning? 11. What day was it yesterday?

Ex 19. Make the following sentences interrogative and negative.

1. They lived in Kiev last year. 2. My friend worked at the construction site. 3. He introduced me to his father. 4. We played football last Sunday. 5. She lived in the country three years ago. 6. His friend graduated from the University last year. 7. The train started an hour ago. 8. His experiments had a great effect on the development of science. 9. The students finished the translation of the article at the lesson. 10. My father worked at a factory some years ago. 11. She took music lessons from this teacher. 12. Yesterday we worked in the physics laboratory.

Ex 20. Put all possible questions to the following statements

First-generation computers came out in the USA in the 1950s.

Did first-generation computers come out in the USA in the 1950s ?

When did first-generation computers come out in the USA ?

Where did first-generation computers come out   in the 1950s?

1.Engineers designed computers for particular purposes.

2.My groupmate studied the application of minicomputers last term.

3.The book on the history of computers dealt with basic capabilities of computers.

4.Computers changed the condition of our work and life to a great extent.

Ex 21. Put the verbs in brackets into Past Indefinite Tense.

1. Oleg … late yesterday and … not time for breakfast (get up, have). 2. We … Gomel during our last holidays and … not … anywhere (stay, go).3. … your sister … from the Medical University two years ago (graduate).4. The sportsmen … happy to return home (be).5. In what field of physics … this scientist … research at that period (do)? 6. We all … so … that nobody … at this joke (tired, laugh). 7. When … they … in Minsk (arrive)? 8. Who … you in that discussion (support)? 9. … you on a computer last night (work)? 10. First-generation computers … slow (be). 11. Second-generation computers … transistors (use). 12. People … dependent on computers (become).

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Ex 22. Translate into English.

1. В воскресенье мы не ездили на дачу. Мы навестили своих друзей. 2. Вчера мы пришли домой поздно. 3. Тебе понравилась лекция? – Да, очень. 4. Куда ты ходил вчера после занятий? – В библиотеку. 5. Вечером меня не было дома. 6. Его отец работал на заводе 10 лет назад. 7. Мой друг окончил технический университет в прошлом году. 8. Вчера студенты не работали в библиотеке. 9. Они начали эксперимент 3 дня назад. 10. В прошлое воскресенье мы хорошо отдохнули в лесу. 11. Семья моего друга жила в этом городе 2 года тому назад. 12. Позавчера мы купили билеты в театр.

Ex 23. Change the following sentences into the Future Tense.
1. I work hard at my English.
2. He speaks English to his friends.
3. We have dinner at 3 p.m.
4. Her design was ready yesterday.
5. I passed my exams successfully.
6. Last summer we didn't rest at the seaside.
7. We watch TV in the evening.
8. We went to the theatre yesterday.
9. We went on a picnic at the weekend.
10. I met Roger on Friday.

Ex 24. Replace the present or past time expressions by Future time expressions.

Model: He did the work yesterday.
a) He will do the work tomorrow.
b) He's going to do the work tomorrow.
1. How many lectures had you last week?
2. Where does your friend study?
3. She wrote letters from Canada.
4. They did not play chess yesterday.
5. We began the work early.
6. We spent our day off in the country.
7. He didn't change his job.
8. She spoke French at the reception.
9. We got home late.
10. The students take a test in English at the end of the term every year.

Ex 25. Make the following sentences interrogative and negative.
1.   The professor will make a report at the conference.
2.   He will publish the result of his experiments.
3.   Tomorrow I will have my day off.
4.   We will study philosophy next year.
5.   The young specialist will take part in the scientific expedition in July.
6.   We will become engineers in 5 years.
7.   During holidays some of the students will go to the country rest house.
8.   You will probably find him in the laboratory.
9.   He will make you a cup of tea.
10.   They will be away for a month.
11.   I'll have my English classes three times a week.

Ex 26. Put all possible questions to the following statements.

They will discuss experimental data in a week.
Will they   discuss experimental data in a week ?
What will they   discuss   in a week?
When will they   discuss experimental data ?
                Who will discuss experimental data in a week ?
1. Our industry will introduce complex robots with minicomputers into production in the future .
2. Computers will find wide application in different branches of engineering soon.
3. The students will compile new programmes in a month.
4. We will discuss all advantages and disadvantages of the Internet at tomorrow 's conference .

Ex 27. Correct mistakes
1. I studied the capabilities of a new computer tomorrow .
2. First-generation computers will come out in 1950.
3. During the 18th century many people try to find easy ways of calculating .
4. The first calculating machine don't perform operations high speeds.
5. Modern computers will to save a great deal of time.

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6. Henry Briggs didn't invented calculus.

7. Soon a new generation of computers will appears.

8.Third-generation computers did appear in 1965.

Ex 28. Translate the following sentences from Russian into English using the Future Indefinite Tense.

1. Я буду в университете в 5 часов.

2. Сколько времени у тебя уйдет на то, чтобы закончить эту работу? – Я думаю, что закончу ее через неделю.

3. Где ты собираешься отдыхать этим летом.

4. Группа студентов нашего университета уезжает в Киев в следующую пятницу. Они остаются там до понедельника.

5. Когда ты собираешься заниматься английским сегодня? – Вечером.

6. Кто-нибудь из студентов вашей группы примет участие в конференции? – Несомненно.

7. В какой области науки ты будешь работать? – Я буду проводить исследования в области экологии.

8. Что вы собираетесь делать завтра вечером?

9. Вы будете хорошо говорить по-английски в следующем году.

10. Она приготовит нам завтрак.

Ex 29 . Translate the passage into Russian.

Engineering is a very practical activity. It is the process of applying the latest achievements of science and technology into practice .

There are a lot of branches in engineering. Mechanical engineers are experts in the design and manufacture of tools and machines. Mechanical engineering has marine, automobile ,aeronautical , heating and ventilating branches.

Electrical engineering deals with producing and applying electricity in various fields of national economy. It has the following branches: electrical installations, electrical generation, lighting , etc.

Components and equipment for computing and communicating are the products of electronic engineering. Civil engineering deals with constructing bridges, roads and airports.

Ex 30. Match each branch of engineering with its products.

1. civil	a) planes
2. electronic	b) ships
3. automobile	c) wires
4. electric	d) roads and bridges
5. heating and ventilating	e) cars and lorries
6. marine	f) air-conditioning
7. aeronautical	g) computers

Ex 31. Render the dialogues in English.

A. Alice: Paul, what are you going to do at your laboratory classes today?

Paul: I'm going to work on a computer.

Alice: And do you often work in the computer centre?

Paul: Not very often. But I like to work on a computer. It does the work of many human beings at fantastically high speeds.

Alice: Well, if I'm not mistaken it's primarily a calculating machine.

Paul: Oh, I believe that it's almost a human machine with "brains". A computer usually replaces people in dull, routine tasks. It works according to the instructions.

Alice: Well, I see. In my opinion, it's a fascinating machine.

Paul: Exactly.

B. Alice: What did you do at your laboratory classes yesterday?

Dima: I observed a very interesting experiment with superconductors. And what about you?

Alice: As for me, I made a new programme for the microcomputer.

Dima: Well, two years ago computer systems interested me, too. Yesterday I read a very interesting book on the history of computers by Norma D. Miller. Did you read it?

Alice: I don't think I did. What does it deal with?

Dima: It deals with many remarkable powers of computers and their basic capabilities.

C. Alice: What will you do at your laboratory classes tomorrow?

Dima: I expect I'll study changes in the properties of substances under different conditions.

Alice: You will use superconductors, won't you?

Dima: Yes, I will. And what are you going to do?
Alice: I think I'll study commercial applications of minicomputers.
Dima: You are interested in computer systems, aren't you?
Alice: Yes, I am.

UNIT 2
ГРУППА ПРОДОЛЖЕННЫХ ВРЕМЕН
(CONTINUOUS TENSES)

Действительный залог (Active voice)
А) Теоретическая часть.
The Present Continuous (Active) (Настоящее продолженное время)

Действие происходит в момент речи или в настоящий период времени, оно временное, а не постоянное. Present Continuous также употребляется для выражения изменяющейся ситуации (социальные, политические изменения, которые происходят в современном обществе); для выражения лично запланированных действий, которые обязательно произойдут в ближайшем будущем. Конструкция «to be going to + глагол в инфинитивной форме» используется для выражения уверенности в совершении действия - «собираться сделать что-либо», или есть все признаки того, что действие вот-вот произойдет.

Примечание: существует группа глаголов, которые не употребляются в формах Continuous, вместо этого они будут употребляться в формах Indefinite или Perfect: see, hear, know, think, believe, hope, understand, suggest, like, love, want, wish, need, be, exist, have, depend, agree, cost и др.

Обстоятельства времени для Present Continuous: now, still, at the moment, nowadays, at present, these days, today, this week, this season.

Структура утвердительного предложения (+):

Подлежащее	Вспомогательный глагол + лексический глагол с -ing	Второстепенные члены предложения
I	am working	hard these days.
You, we, they	are working	hard these days.
He, she, it	is working	hard these days.

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Структура вопросительного предложения (?):

Вспомогательный глагол	Подлежащее	Лексический глагол с -ing	Второстепенные члены предложения
Am	I	working	hard these days?
Are	you, we, they	working	hard these days?
Is	he, she, it	working	hard these days?

Вопросительное местоимение	Вспомогательный глагол	Подлежащее	Лексический глагол с -ing	Второстепенные члены предложения
What Where	am	I	doing working	these days?
When	are	you, we, they	working	hard?
Why	is	he, she, it	working	hard these days?

Вопрос к подлежащему

Вопросительное местоимение	Вспомогательный глагол + лексический глагол с -ing	Второстепенные члены предложения
Who	is working	hard these days?
Which of you	is working	hard these days?

Структура отрицательного предложения (-):

Подлежащее	Вспомогательный глагол + лексический глагол с -ing	Второстепенные члены предложения
I	am not working	hard these days.
You, we, they	are not (aren't) working	hard these days.
He, she, it	is not (isn't) working	hard these days.

Примеры:

1. Jean-Marie <u>is staying</u> with a friend in London at present. She wants to improve her English. – Джин-Мари сейчас гостит у друзей в Лондоне. Она хочет улучшить свой английский.

2. <u>Are</u> your students <u>working</u> on a project on an environmental problem? – Yes, they are. – Сейчас ваши студенты работают над проектом по экологическим проблемам? – Да.

3. I am sorry but I <u>am not coming</u> tonight. I am still unwell. – Мне жаль, но я не приду сегодня вечером. Я все еще болею.

Правила написания окончания – ing:

1. work – work<u>ing</u>, add – add<u>ing</u>
2. research – research<u>ing</u>, watch – watch<u>ing</u>
3. purchas<u>e</u> – purchas<u>ing</u>, giv<u>e</u> – giv<u>ing</u>
4. knit – kni<u>tt</u>ing, travel – trave<u>ll</u>ing
5. fly – fly<u>ing</u>, employ – employ<u>ing</u>
6. l<u>ie</u> - l<u>ying</u>

The Past Continuous (Active) (Прошедшее продолженное время)

Действие происходило в определенный момент времени в прошлом. Past Continuous также используется при описании действия, на фоне которого произошло другое действие. Как правило, такие предложения являются сложноподчиненными с союзами when и while. Либо Past Continuous употребляется в двух частях сложноподчиненного предложения с союзом while для выражения одновременно выполняемых действий двумя разными лицами.

Обстоятельства времени для Past Continuous: at 7 o'clock, from 5 to (till) 9, between 1 and 2, at midnight, the whole evening, at that time yesterday.

Структура утвердительного предложения (+):

Подлежащее	Вспомогательный глагол + лексический глагол с -ing	Второстепенные члены предложения
I	was working	from 5 to 9.
You, we, they	were working	from 5 to 9.
He, she, it	was working	from 5 to 9.

Структура вопросительного предложения (?):

Вспомогательный глагол	Подлежащее	Лексический глагол с -ing	Второстепенные члены предложения
Was	I	working	from 5 to 9?
Were	you, we, they	working	from 5 to 9?
Was	he, she, it	working	from 5 to 9?

Вопросительное местоимение	Вспомогательный глагол	Подлежащее	Лексический глагол с -ing	Второстепенные члены предложения
What Where	was	I	doing working	from 5 to 9?
When	were	you, we, they	working	?
Why	was	he, she, it	working	from 5 to 9?

Вопрос к подлежащему

Вопросительное местоимение	Вспомогательный глагол + лексический глагол с -ing	Второстепенные члены предложения
Who	was working	from 5 to 9?
Which of you	was working	from 5 to 9?

Структура отрицательного предложения (-):

Подлежащее	Вспомогательный глагол + лексический глагол с -ing	Второстепенные члены предложения
I	was not (wasn't) working	from 5 to 9.
You, we, they	were not (weren't) working	from 5 to 9.
He, she, it	was not (wasn't) working	from 5 to 9.

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Примеры:

1. My elder sister <u>was working</u> on the report all day long yesterday. – Моя старшая сестра работала над своим докладом вчера весь день.

2. We <u>were discussing</u> this question when the bell rang.- Мы обсуждали этот вопрос когда прозвенел звонок.

3. My friend <u>was putting</u> down the new words while I <u>was writing</u> the exercise.- Мой друг записывал новые слова, в то время как я писал упражнение.

4. <u>Were</u> they still <u>discussing</u> the plan at midnight? – No, they <u>weren't.</u> – Они все еще обсуждали план в полночь? – Нет.

The Future Continuous (Active) (Будущее продолженное время)

Действие будет происходить в определенный момент времени в будущем. Future Continuous также используется для обозначения запланированного действия в будущем (как и Present Continuous); в вопросах о планах собеседника, если потом за этим следует просьба от спрашивающего что-то сделать для него.

Обстоятельства времени для Future Continuous: at 7 o'clock, from 5 to (till) 9, between 1 and 2, at midnight, the whole evening, this time next week, while, when she comes back.

Структура утвердительного предложения (+):

Подлежащее	Вспомогательный глагол + лексический глагол с -ing	Второстепенные члены предложения
I	will be working	from 5 to 9 tomorrow.
You, we, they	will be working	from 5 to 9 tomorrow.
He, she, it	will be working	from 5 to 9 tomorrow.

Структура вопросительного предложения (?):

Вспомогательный глагол	Подлежащее	Вспомогательный глагол + лексический глагол с -ing	Второстепенные члены предложения
Will	I	be working	from 5 to 9 tomorrow?
Will	you, we, they	be working	from 5 to 9 tomorrow?
Will	he, she, it	be working	from 5 to 9 tomorrow?

Вопросительное местоимение	Вспомогательный глагол	Подлежащее	Вспомогательный глагол + лексический глагол с -ing	Второстепенные члены предложения
What Where	will	I	be doing be working	from 5 to 9 tomorrow?
When	will	you, we, they	be working	tomorrow?
Why	will	he, she, it	be working	from 5 to 9 tomorrow?

Вопрос к подлежащему

Вопросительное местоимение	Вспомогательный глагол + лексический глагол с -ing	Второстепенные члены предложения
Who	will be working	from 5 to 9 tomorrow?
What	will be working	from 5 to 9 tomorrow?
Which of you	will be working	from 5 to 9 tomorrow?

Структура отрицательного предложения (-):

Подлежащее	Вспомогательный глагол + лексический глагол с -ing	Второстепенные члены предложения
I	will not (won't) be working	from 5 to 9 tomorrow.
You, we, they	will not (won't) be working	from 5 to 9 tomorrow.
He, she, it	will not(won't) be working	from 5 to 9 tomorrow.

Примеры:

1. <u>Will</u> you <u>be going</u> past the post office? Could you buy a few post stamps and envelopes? – Ты будешь проходить мимо почты? Ты мог бы, пожалуйста, купить несколько марок и конвертов для меня?

2. <u>I' ll be working</u> in the laboratory at 2 p.m. tomorrow. – Завтра в 2 часа дня я буду работать в лаборатории.

3. She <u>will be working</u> till you come.-Она будет работать до вашего прихода.

В) Практическая часть.

Ex 1. Say what is true for you and your groupmates now.

Model 1: study English.   I <u>am studying</u> English.

       They/ watch TV.   They <u>are not watching</u> TV now.

1. I/ listen to the teacher.

2. We/ practice a new grammar rule.

3. He / perform mathematical calculations.
4. I/ drive a car.
5. We / sit in the class.
6. They / measure the dimensions of this room.

Ex 2. You are now at the lab class with your groupmates. Ask each other what they are doing.

Model 1: *to study the instrument panel of the car / car design*

A: <u>Are</u> you <u>studying</u> the instrument panel of the car?

B: Yes, I <u>am</u>. I'<u>m studying </u>the instrument panel of the car.

or   B: No, I <u>am not</u>. I'<u>m studying </u>the car design.

to look at the indications of a speedometer / tachometer

to repair the car / tyre

to test the new device / new engineering materials

to check the volume of the petrol / oil

Model 2: *to test the new engine*

A: What <u>are</u> you <u>doing</u>?	What <u>is</u> he <u>doing</u>?
B: I <u>am testing</u> the new engine now.	He <u>is testing</u> the new engine now.

to perform mathematical operations

to investigate the properties of copper

to control the quality of engineering materials

to work with wood

Ex 3. Give your partner more information about what these people are doing.

Model: *Oleg – to drive a car – do it carefully*

A: Oleg is driving a car, isn't he?

B: Yes, that's right. He is driving a car and he is doing this very carefully.

Michael –to increase the speed –to watch the indications of the speedometer;

Andrew – to turn the key clockwise – to start the engine;

Paul – to test the device – to describe the results of the test;

Paul and Alex – to measure the pressure in the wheels – to put air in the tyres;

Anna – to draw different objects – to define their area.

Ex 4. Put all possible questions to the following statements. Consult the table.

Paul is carefully studying a new device in the lab now.
Is Paul carefully studying a new device in the lab now?
What is Paul carefully studying in the lab now?
What is Paul carefully doing in the lab now?
Where is Paul carefully studying a new device now?
How is Paul studying a new device in the lab now?
When is Paul carefully studying a new device in the lab?
Which device is Paul carefully studying in the lab now?
Who is carefully studying a new device in the lab now?

1. The battery is discharging rapidly.
2. The students are testing the new engineering materials.
3. The driver is measuring the pressure in the wheels.
4. This car is moving at the speed of 70 kph now.

Ex 5. Complete the sentences. Use was / were + one of these verbs:

Writing, carrying out, drawing, measuring, determining, testing.
Model: Paul *was testing* a new device from 11 till 12 yesterday.

    1.   I … a report on the latest achievements in electricity at 7 o'clock yesterday.

    2.   Alex … the current in the circuit at 5.45 yesterday.

    3.   Yesterday at 11.15 Helen … graphs at the lesson.

    4.   The students … the resistance of new materials from 3 till 10 yesterday.

    5.   The engineers … an important experiment at 10 o'clock last Tuesday.

Ex.6. Your friend was looking for you yesterday at 2 p.m., but you weren't at home. Tell him what you were doing at that time.

Model 1: *to work in the lab/to work in the workshop*

    A: <u>Were</u> you <u>working</u> in the lab from 2 till 4 o'clock yesterday?

B: Yes, I <u>was</u>. I <u>was working</u> in the lab at that time.

  o**r** B: No, I <u>was not.</u> I <u>was working</u> in the workshop.

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to observe changes in the behaviour of the current / to measure the resistance of the lead;

to perform mathematical operations / to draw different shapes;

to study electrical devices / to watch their indications;

to use clips / to connect two leads;

   Model 2: *to study electrical devices*
           A: What <u>were</u> you <u>doing</u> at 2 o'clock yesterday?
           B: I <u>was</u> <u>studying</u> electrical devices.

to connect two leads;

to measure the value of the current;

to turn on the function selector switch of the multimeter;

to study the results of the test.

Ex.7. Use all the verbs in the Past Continuous Tense.
1.   The scientist is carrying on research.
2.   He will be writing his report from 5 till 7 o'clock.
3.   My friend will be studying at the University for five years.
4.   I will be preparing for my examinations all day long.
5.   They are waiting for you in the Marketing Department on the 4th floor.
6.   I will be working at the design bureau tomorrow for two hours only.
7.   What will you be doing tomorrow at 5 o'clock?
8.   This time on Friday I will be flying to Spain.
9.   They will be working at the physics laboratory tomorrow in the morning.
10.   He is experimenting with the device now.
11.   Now I am taking my examinations.
12.   A group of students is speaking with a well-known scientist.
13.   It is raining now.

Ex.8. Put all possible questions to the following statements. Consult the table.
a) Alex was working in the lab from 5 till 7 yesterday.
Was Alex working   in the lab   from 5 till 7 yesterday?
What was Alex doing in the lab from 5 till 7 yesterday?
Where was Alex working from 5 till 7 yesterday?
Who was working in the lab from 5 till 7 yesterday?

1. I was measuring the value of a resistor from 2 till 3 yesterday.
2. Olga was connecting the leads to the resistor at that moment.
3. The students were investigating superconductors at 10.30.

b) Alex will be working in the lab from 5 till 7 tomorrow.
Will Alex be working in the lab from 5 till 7 tomorrow?
What will Alex be doing in the lab from 5 till 7 tomorrow?
Where will Alex be working from 5 till 7 tomorrow?
Who will be working in the lab from 5 till 7 tomorrow?
1. Helen will be studying the properties of copper at 4 tomorrow.
2. Paul will be observing the indications of a multimeter in the lab tomorrow.
3. We will be studying various electrical devices all the morning tomorrow.

Ex.9. Tell your fellow students what you will be doing in half an hour.
Model: *to study the properties of alloys*
        A: What <u>will</u> you <u>be doing</u> in half an hour?
        B: <u>I'll be studying</u> the properties of alloys.
to measure electrical units with a multimeter;
to decrease the voltage in the electrical chain;
to study electrical devices;
to study the properties of conductors.

Ex.10. Give the opposite of these sentences.
1. The professor will be reporting the results of the tests at the class tomorrow.
2. My groupmates weren't increasing the voltage in the electrical chain in the lab.
3. They won't be studying any electrical instruments.
4. I was checking the battery at 5 o'clock on Thursday.

Ex 8. Translate the following sentences into Russian. Point out the verbs in the Continuous Tenses. Define the form of the verb.
1.   We shall be expecting you at 5.
2.   The driver was examining the engine when I came in.
3.   Our specialists were taking part in the construction of the power station.
4.   Are you getting off at the next station?

5. The plane is flying at the height of 1500 meters.
6. The scientists of our University will be discussing the problem tomorrow.
7. Housing construction is going on a large scale in our country.
8. They will be working at the laboratory from 9 till 12.
9. Jane is speaking on the phone.
10. I am going to London next week.
11. The students are testing the new engineering materials.

Ex 9. Open the brackets and use the correct tense of the verbs in the sentences.
1. He (read) a book when I (see) him.
2. When the phone bell (ring), I (work) in the garden.
3. It (rain) all day yesterday and we had to stay indoors.
4. He (wait) for a call now.
5. You (make) any experiment tomorrow afternoon?
6. All the department staff (discuss) the result obtained yesterday.
7. You straight up the street. The car (wait) for you at the entrance to the theatre.
8. I hate the place in autumn. It always (rain) there. It (rain) when we came and it (rain) when we left.
9. At this time tomorrow the boys of our group (play) football.

Ex 10. Correct mistakes.
1. We will be study the properties of copper from 5 till 6 tomorrow.
2. I will preparing for my test the whole day yesterday.
3. The students not were measuring the value of the current at the lesson.
4. I was drawing a graph at the class tomorrow.
5. Will be you carrying out this experiment next time?
6. My friends was finishing the laboratory work at the previous class.
7. The teacher will be not telling the students about electricity at the next lesson.

Ex 11. Translate into English using the Present, Past or Future Continuous Tense (active).
1. Вчера весь день я работал над статьей.
2. Мои друзья будут ждать меня в театре.
3. Какую проблему они обсуждают?
4. Первый семестр подходит к концу.

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5.   Мальчики сейчас играют в футбол.

6.   С кем вы разговаривали по телефону, когда я вошел?

7.   Я буду просматривать журналы завтра весь вечер.

8.   Мои друзья приезжают в воскресенье. Я собираюсь встретить их на вокзале.

9.   Сегодня вечером я иду в театр.

10.   В понедельник с 8 до 10 вечера я готовился к экзамену.

11.   С кем ты разговаривал, когда я тебя встретил?

12.   Вчера мы изучали электронные приборы в лаборатории с 2х до 4х часов дня.

Ex.12. Read the text and lean how to draw graphs in the correct way.

Graphs are very important for recording the results of any experiments. Now the students are drawing graphs in their exercise books. First, they are giving the graph a title. Then they are drawing the axes and putting the independent variable along the bottom of the graph paper (the horizontal axis). The other variable depends on this one and the students are drawing it up the side of the paper (the vertical axis). It is also called the dependent variable. The origin of the graph is usually the point (0,0).
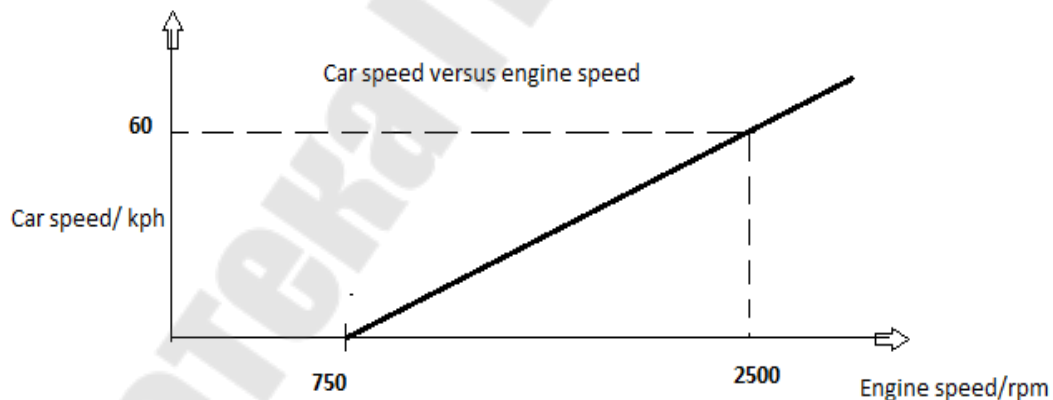
For example, if you are measuring the speed of a car when it is moving, you choose the speed of the engine and put it along the horizontal axis (rpm). In this case the speed of the car is on the vertical axis.

Now the students are choosing the scales so that the graph fills most of the paper. After that they are numbering the scales evenly and labelling them (the scales) with the correct units. For example, "Speed in kph" or "Speed/kph".

Ex 13. Answer the following questions.
1. What is the title of the graph?
2. Is engine speed/rpm the independent or dependent variable?
3. What is the name of the independent variable?
4. What is the origin of the graph?

UNIT 3
ГРУППА СОВЕРШЕННЫХ ВРЕМЕН (PERFECT TENSES)
Действительный залог (Active voice)

A) Теоретическая часть.

The Present Perfect (Active) (Настоящее совершенное время)

Действие совершилось в настоящем, но неизвестно в какой момент времени.

Обстоятельства времени для Present Perfect: already, just, yet, still, ever, never, of lately/lately/recently, before, so far, up to now, today, this week, this year, in (over) the last two years, for an hour, since morning, all my life, How many/much…?, Since when …?, How long …?

Но: Специальный вопрос, который начинается с вопросительного местоимения When…?, будет употребляться в Past Indefinite вместо Present Perfect.

Структура утвердительного предложения (+):

Подлежащее	Вспомогательный глагол + лексический глагол с –ed/неправильный глагол в V3	Второстепенные члены предложения
I	have returned	from Egypt today .
You, we, they	have returned	from Egypt today .
He, she, it	has left	school this year.

Структура вопросительного предложения (?):

Вспомогательный глагол	Подлежащее	Лексический глагол с –ed/неправильный глагол в V3	Второстепенные члены предложения
Have	I	returned	from Egypt today?
Have	you, we, they	returned	from Egypt today?
Has	he, she, it	left	school this year?

Вопросительное местоимение	Вспомогательный глагол	Подлежащее	Лексический глагол с –ed/неправильный глагол в V3	Второстепенные члены предложения
What Where	have	I	returned	from Egypt today?
How long	have	you, we, they	been	from Egypt today?
Why	has	he, she, it	left	school this year?

Вопрос к подлежащему

Вопросительное местоимение	Вспомогательный глагол + лексический глагол с –ed/неправильный глагол в V3	Второстепенные члены предложения
Who	has returned	from Egypt today?
What	has returned	from Egypt today?
Which of you	has left	school this year?

Структура отрицательного предложения (-):

Подлежащее	Вспомогательный глагол + лексический глагол с –ed/неправильный глагол в V3	Второстепенные члены предложения
I	have not (haven't) returned	from Egypt today.
You, we, they	have not (haven't) returned	from Egypt today.
He, she, it	has not (hasn't) left	school this year.

Примеры:

1. We <u>have built</u> 20 new schools this year. – В этом году мы построили 20 новых школ.

2. She <u>has never heard</u> such a funny joke. – Она никогда не слышала такой смешной шутки.

3. How long <u>have</u> they <u>lived</u> in Spain? – Как долго они живут в Испании?

The Past Perfect (Active) (Прошедшее совершенное время)

Действие совершилось к определенному моменту в прошлом. Past Perfect также употребляется в сложноподчиненных предложениях, указывая на предшествование, на то, что действие в Past Perfect совершилось раньше, чем другое действие в Past Indefinite, с союзами when, that, which, before, after.

Обстоятельства времени для Past Perfect: by 5 o'clock, by Sunday, by the time he arrived.

Структура утвердительного предложения (+):

Подлежащее	Вспомогательный глагол + лексический глагол с –ed/неправильный глагол в V3	Второстепенные члены предложения
I	had returned	from Egypt by Sunday .
You, we, they	had returned	from Egypt by Sunday .
He, she, it	had left	school by June.

Структура вопросительного предложения (?):

Вспомогательный глагол	Подлежащее	Лексический глагол с –ed/неправильный глагол в V3	Второстепенные члены предложения
Had	I	returned	from Egypt by Sunday?
Had	you, we, they	returned	from Egypt by Sunday?
Had	he, she, it	left	school by June?

Вопросительное местоимение	Вспомогательный глагол	Подлежащее	Лексический глагол с –ed/неправильный глагол в V3	Второстепенные члены предложения
What Where	had	I	returned	from by Sunday?
By what time	had	you, we, they	returned	from Egypt?
Why	had	he, she, it	left	school by June?

Вопрос к подлежащему

Вопросительное местоимение	Вспомогательный глагол + лексический глагол с –ed/неправильный глагол в V3	Второстепенные члены предложения
Who	had returned	from Egypt by Sunday?
What	had returned	from Egypt by Sunday?
Which of you	had left	school by June?

Структура отрицательного предложения (-):

Подлежащее	Вспомогательный глагол + лексический глагол с –ed/неправильный глагол в V3	Второстепенные члены предложения
I	had not (hadn't) returned	from Egypt by Sunday .
You, we, they	had not (hadn't) returned	from Egypt by Sunday .
He, she, it	had not (hadn't) left	school by June.

Примеры:

1. I <u>had studied</u> at school before I entered the University.-Я учился в школе, прежде чем поступил в университет.

2. She <u>had completed</u> to write her report by 9 o'clock. – Она закончила писать доклад к 9 часам.

3. Why <u>had</u> they <u>left before</u> we <u>arrived</u> at the party? – Почему они ушли, до того как мы приехали на вечеринку?

The Future Perfect (Будущее совершенное время)

Действие <u>совершится *к* определенному моменту времени в будущем</u>.

Обстоятельства времени для Future Perfect: by 7 o'clock, by the end of the year, by Monday, when he comes, before it starts, by the time the plane lands.

Структура утвердительного предложения (+):

Подлежащее	Вспомогательный глагол + лексический глагол с –ed/неправильный глагол в V3	Второстепенные члены предложения
I	will have returned	from Egypt by Sunday .
You, we, they	will have returned	from Egypt by Sunday .
He, she, it	will have left	school by June.

Структура вопросительного предложения (?):

Вспомогательный глагол будущего времени	Подлежащее	Вспомогательный глагол + лексический глагол с –ed/неправильный глагол в V3	Второстепенные члены предложения
Will	I	have returned	from Egypt by Sunday?
Will	you, we, they	have returned	from Egypt by Sunday?
Will	he, she, it	have left	school by June?

Вопросительное местоимение	Вспомогательный глагол будущего времени	Подлежащее	Вспомогательный глагол + лексический глагол с –ed/неправильный глагол в V3	Второстепенные члены предложения
What Where	will	I	have returned	from?
By what time	will	you, we, they	have returned	from Egypt?
Why	will	he, she, it	have left	school by June?

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Вопрос к подлежащему

Вопросительное местоимение	Вспомогательный глагол + лексический глагол с – ed/неправильный глагол в V3	Второстепенные члены предложения
Who	will have returned	from Egypt by Sunday?
What	will have returned	from Egypt by Sunday?
Which of you	will have left	school by June?

Структура отрицательного предложения (-):

Подлежащее	Вспомогательный глагол + лексический глагол с – ed/неправильный глагол в V3	Второстепенные члены предложения
I	will not (won't) have returned	from Egypt by Sunday .
You, we, they	will not (won't) have returned	from Egypt by Sunday .
He, she, it	will not (won't) have returned	school by June.

Примеры:

1. By the end of the year I <u>will have read</u> all of her books. – К концу года я прочитаю все ее книги.

2. I <u>will have</u> finished my work when you come.- Я (уже) закончу работу, когда вы придете.

Совершенные продолженные времена

The Present, Past and Future Perfect Continuous Tenses

English	Russian	Rule
Present		
I have been translating this article for an hour. He has been writing the test since 2 o'clock.	Я уже перевожу эту статью в течении часа. Он пишет контрольную работу с 2-х часов.	Выражает действие, начавшееся в момент речи или завершающееся к моменту речи.
Past		
I had been translating this article for an hour before you came.	Я уже переводил эту статью в течение часа, когда вы пришли.	Выражает действие, начавшееся ранее и продолжавшееся до определённого момента или в момент речи в прошлом
Future		
I shall have been translating this article for an hour before you come. By 2015 he will have been working here for 20 years.	Я буду переводить эту статью уже в течении часа, когда вы придете. К 2015 году он уже проработает здесь 20 лет.	Выражает действие, которое, начавшись в будущем, будет продолжаться некоторый период времени до наступления определенного момента в будущем

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Примечание. Глаголы в форме Perfect Continuous не употребляется в страдательном залоге.

В) Практическая часть.

Ex.1. Translate the following sentences into Russian. Mind the use of the Present Perfect Tense.

1. He has become famous for his invention.
2. My friend has often helped me.
3. They have just tested the new equipment in the lab.
4. I have met two of my friends today.
5. He has already finished the experiment.
6. Have you ever visited this picture gallery?
7. They have lived here for many years.
8. I have never taken sugar with my coffee.
9. We have not played tennis together since last may.
10. The professor has described achievements in robotics to his students.

Ex.2. Supply "have" or "has" in the following sentences.
1. We … translated this article.
2. … you ever been to Moscow?
3. She … not given him this book.
4. … he always been very kind to you?
5. John … left for school.
6. I … sent them a telegram.
7. How long … you been to Minsk.
8. We … not seen our friends for a month now.
9. … you seen young Thompson recently?
10. I … learned English for the last two years.

Ex.3. Make the following sentences: a) interrogative; b) negative.
1. We have studied the robot's application at the laboratory today.
2. I have observed the new industrial equipment.
3. She has tried to learn driving this year.
4. They have received good results.
5. We have already returned to Gomel.

6.   The scientists have made a lot of important developments in technology over the last 10 years.

7.   He has invented a calculating method recently.

8.   I have attended lectures on physics since September.

9.   They have already installed the new apparatus in the laboratory.

10.   The students have already studied computer history.

Ex 4. Put all possible questions to the following statements.

They have just tested the new equipment in the lab

Have they just tested the new equipment in the lab?

What have they just tested in the lab?

Where have they just tested the new equipment?

What equipment have they just tested in the lab?

Who has just tested the new equipment in the lab?

1.   The operator has already changed the direction of the robot manipulator.

2.   She has become famous for her invention .

3.   We have studied the robot's application at the class today.

4.   Our engineers have just completed the description of the system in operation.

Ex 5. Use the verbs in brackets in the Present Perfect Tense. Translate the sentences into Russian.

1.   His brother (finish) school this year.

2.   That student (make) great progress since September.

3.   You (tell) that story quite well.

4.   Your friend (pass) his examinations well?

5.   We (not see) her for ages.

6.   I (meet) two of my friends today.

7.   They (see) various types of robots in operation.

8.   He (come) to ask for some information.

9.   It's a long time since I (smoke) my last cigarette.

10.   He ever (tell) you the story of his like?

Ex 6. Fill in the blanks with "for", "since", "already", "ever", "just", "never", "yet", "recently".

1.   I've been in the lab … 5 o'clock.

2.   Why have not you written to me … two months?
3.   They have … arrived.
4.   I have seen them … .
5.   Have you … been to London?
6.   A group of engineers has applied the new technology … .
7.   He has worked for this company … 2 years.
8.   We have known about this achievement … a long time.
9.   A group of students has worked on this project … the beginning of the term.
10.   The students have studied the robot's application … a month.
11.   Alex has been at the laboratory class … this morning.

Ex 7. Choose the correct verb form.
1.   A group of engineers <u>has applied / applied</u> the new technology recently.
2.   Our teacher <u>described / has described</u> the manipulator at the lesson yesterday.
3.   When did you <u>change / have you changed</u> the robot programme?
4.   I <u>have never tested / never tested</u> the new equipment.
5.   <u>Did you ever study / Have you ever studied</u> the robot history?
6.   Andrew <u>has changed / changed</u> the robot application two days ago.

Ex 8. Correct mistakes.
1.   The design and materials for robots has changed over the years.
2.   Professor Levashov developed new moving devices lately.
3.   I know Dr. Kosov from the Department of Mechanical Engineering since 1999.
4.   Did you have carried out your research work yet?
5.   Where you have been? I worried about you.
6.   Michal not has checked the programme.

Ex 9. Translate into English using Present Perfect Tense
1. Недавно белорусские учёные изобрели новую технологию.
2. Студенты уже изменили программу компьютера.
3. Она в лаборатории с 9 часов.
4. Он стал известным благодаря своему изобретению.
5. Вы уже завершили эксперимент?

6. Они только что провели испытание нового оборудования.

7. Мы только что прослушали лекцию об истории робототехники.

8. Вы когда-либо были в Австралии?

9. Мы ещё не определили свойства этого вещества.

10. Они недавно вернулись из США.

Ex 10. Translate the following sentences into Russian. Mind the use of the Past Perfect Tense.

1. I had studied at school before I entered the University.
2. By the end of the month he had finished his article.
3. The students had solved the problem when the professor came.
4. By the end of November we had carried out a most interesting research.
5. By 7 o'clock he had not done his work and could not go for a walk.
6. Had you rung him before you came?
7. I had not been to Minsk before I moved there.

Ex 11. Use the verbs in brackets in the Past Perfect Tense.

1.He(to pass) all his exams by June.2.They(to work) at a plant before they joined the army.3. By the time we left school, we(to learn) English well.4.The lesson(to begin) when he entered the classroom?5. After he(to come) I went home.6. We(not to finish) translating the text when he came.7. We(to investigate) this substance before you came into the lab.8. Our engineers(to build) a new station by the end of December?

Ex 12. Complete these sentences using the verbs in brackets.

Model: Alex had prepared everything for the experiment by the beginning of the lesson. (*to prepare*)

1. I … the switches on the control panel when the Instructor came. (*to check*)
2. The students … a series of exercises by the end of the week. (*to perform*)
3. Paul … the necessary measuring devices before the classes began. (*to prepare*)
4. The scientist … already … a new model of a robot before he became famous. (*to develop*)

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Ex 13 . You are now at the practical class in Robotics.

a) Ask your friend if he had done the following things by certain time in the past.

Model: *to prepare everything by 5 o'clock*

A: <u>Had</u> you <u>prepared</u> everything by 5 o'clock yesterday?

B: Yes, A <u>had</u>. A <u>had prepared</u> everything by 5 o'clock yesterday.

or B: No, I <u>hadn't</u>. I <u>had not prepared</u> everything by 5 o'clock yesterday.

To develop a new robot power system   *by that time*
To invent a new device   *by the end of the week*
To widen the robot's abilities   *by 8 o'clock yesterday*
To increase product quality

b) Ask your friend what he will have done by certain time in the future.

Model: *to finish one's work by 5 o'clock*

A: <u>Will</u> you <u>have finished</u> your work by 5 o'clock.

B: Yes, I <u>will</u>. I <u>will have finished</u> my work by 5 o'clock.

or B: No, I <u>won't</u>. I <u>will not have finished</u> my work by 5 o'clock.

To mount a new gripping device   *by 4 o'clock*
To finish the test with a new robot   *by that time*
To develop a new type of an actuator   *by the end of the month*
To design a new type of a robot

Ex 14. Give the opposite to the following sentences.

1.   By that time the students had already completed their research.

2.   The students of our department will have passed all the exams by the end of May.

3.   When the teacher entered the lab the mobile robot had already performed many different tasks.

4.   When you come to see me I will have already finished to test a new industrial robot.

5.   My assistant had done all the preparatory work by the time I came to the research room.

6.   I will have already studied the new unit by 7 pm.

Ex 15. Put all possible questions to the following statements. Consult the tables.

a) *He had checked a device by 5 yesterday*

Had he checked a device by 5 yesterday?

What had he checked by 5 yesterday?

By what time had he checked a device?

Who had checked a device by 5 yesterday?

1. He had already become a famous scientist by that time.

2. The engineers had designed first robot systems by the end of the 19th century.

3. The engineers had equipped the robot with new sensors before they put it into operation.

b) *She will have developed a new method by 5 tomorrow.*

Will she have developed a new method by 5 tomorrow?

What will she have developed by 5 tomorrow?

By what time will she have developed a new method ?

Who will have developed a new method by 5 tomorrow?

1. The engineers will have constructed a new moving device by the end of May.

2. The students will have completed an experiment before the class begins.

3. The robot designers will have developed a new model of a robot by the beginning of June.

Ex 16. Correct mistakes.

1.My brothers had never study robot engineering before.

2.The teacher will has explain the new material by the time you come to the lecture.

3.Will have the engineers improved the electrical system by the beginning of September ?

4.People invented mechanical devices long before the first robot was designed.

5.The students didn't have finished the experiment by the end of the lecture.

Ex. 17 Fill in the blanks with the proper verbs from those given below.

1. The use of new machinery … the output of coal considerably. 2. Yesterday delivering his lecture the professor… of the computers and automatic control system. 3. … you know how to process the information given by a computer? 4. The computer … only programmes prepared by man. 5. New automobile works … the manufacture of lorries on a mass

scale. 6. The engineer … sketches of a new aircraft when we entered the design bureau. 7. One must … acids very accurately while preparing them for an experiment. 8. We … your new design of the undercarriage at this time tomorrow. 9. Our chemists … new materials for the automobile industry recently. 10. By the beginning of the new year the plant … a powerful electric locomotive of new design.

a) have developed; b) spoke; c) will increase; d) will have produced; e)was drawing; f) do; g)will begin ; h) performs; i) shall be discussing; i) measure; k) was working

Ex.18 Translate the sentences paying attention to the verbs in the Perfect Continuous Tenses.
1. The railway transport has been providing mass regular passenger traffic for many years already. 2. This Car Works has been producing light cars since 1929. 3. The driver started on his route at five a.m. so that by two p.m. he will have been driving for nine hours. 4. The engineer had been studying the specifications of the proposed aircraft before he could begin his design work. 5. This engineer has so far been dealing with the organization of production of plastics and synthetic substances. 6. The students had been discussing the report for 20 minutes by the time I came and took part in the discussion. 7. Before landing the aircraft will have been cruising over the runway for 2-3 minutes.

Ex. 19 Translate the text into Russian.
Man widened his possibilities and relieved himself from monotonous and hazardous tasks after he had invented the robot. Nowadays there's an endless variety of robots in the size, shape and jobs they perform. Scientists and engineers devise robots both for industry and homes. Some of the robots are experimental and look more like living creatures. Many people are working today in the field of robotics and they are trying to find new applications for robots in the future.

Now let's have a look at some students of Technical University that study robotics. Yesterday they saw a robot in operation. They had never seen a robot before. After the operator had pushed some buttons the robot began to perform a sequence of operations. By the time the manipulator performed some actions, feedback devices had provided the necessary information about the robot's motions and positions.

The control system directed the manipulator's actions. After the manipulator had completed all the operations, it put all the workpieces into storage. With the help of a gripping device, the robot operated very accurately and precisely. When the robot completed all the actions the operator switched it off. By the end of the term the students will have learned everything about robot design, i.e. the body structure, the power system, the control system and various sensors, actuators and manipulators.

Ex. 20 Answer the questions.
1. How did the invention of the robot affect the man ?
2. What system directs the manipulator's actions?
3. What did the robot do after the manipulator had finished all the operations?
4. Did the students enjoy the work of the robot?
5. What will the students have learned by the end of the term?

Ex. 21 Read the dialogue and say what operations robots perform.
Peter: Hello, Nick.
Nick: Hello, Peter. I haven't seen you for ages. Where have you been?
Peter: I have been to the Motor Plant. I've studied the industrial applications of robots there.
Nick: You have learned a lot of interesting things, haven't you?
Peter: Oh, definitely. I have seen various types of robots in operation.
Nick: Have you? And what operations do they perform?
Peter: Well, they pick up and place different objects, carry the objects from one place to another, in short they replace men in all kinds of jobs.
Nick: Have you got any useful experience for your future career?
Peter: Sure, and I'm going to make a diploma project on industrial-robots.
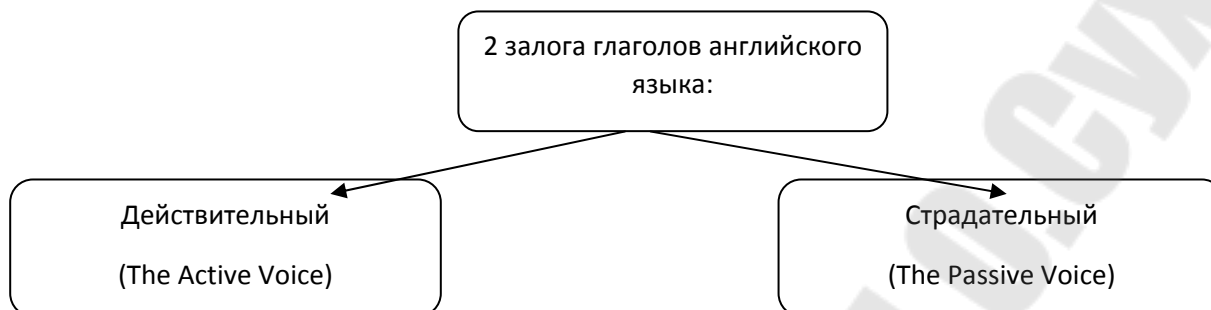*Nick:* I see. Well , good luck to you then.
Peter: Thanks

СТРАДАТЕЛЬНЫЙ ЗАЛОГ (PASSIVE VOICE) ВРЕМЕН INDEFINITE, CONTINUOUS, PERFECT

А) Теоретическая часть

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┌─────────────────────────────┐
│ 2 залога глаголов английского│
│           языка:            │
└─────────────────────────────┘
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┌─────────────────────┐        ┌─────────────────────┐
│   Действительный    │        │    Страдательный    │
│  (The Active Voice) │        │ (The Passive Voice) │
└─────────────────────┘        └─────────────────────┘
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В действительном залоге глагол показывает, что действие совершается лицом или предметом, обозначенным подлежащим:

*Electricity **moves** machines* – Электричество приводит в действие станки.

В страдательном залоге подлежащее (лицо или предмет) подвергается действию со стороны другого лица или предмета:

*Machines **are moved** by electricity* – Станки приводятся в действие электричеством.

Формы **страдательного залога** образуются при помощи глагола to be в соответствующей форме и Participle II (Причастие II) смыслового глагола. (to be + Participle II)

	Present	Past	Future
Indefinite	I am asked he (she) is asked we (you, they) are asked	I (he, she) was asked we (you, they) were asked	I (we) will be asked he (she, you, they)
Continuous	I am being asked he (she) is being asked we (you, they) are being asked	I (he, she) was being asked we (you, they) were being asked	
Perfect	I, we, you, have been they asked he (she) has been asked	I (he, she, had been we, you, asked they)	I, we will have he, she, been asked you, they

Примеры:

Indefinite Passive (to be + Participle II)

1. The newspapers <u>are delivered</u> every morning (Present Indefinite Passive). Газеты <u>доставляются</u> каждое утро.

2. This book <u>was bought</u> a month ago. (Past Indefinite Passive) Эта книга <u>была</u> <u>куплена</u> месяц назад.

3. The letter <u>will be sent</u> tomorrow. (Future Indefinite Passive) Письмо <u>будет</u> <u>отправлено</u> завтра.

Continuous Passive (to be + being + Participle II)

1. The house <u>is being repaired</u>. (Present Continuous Passive)
Дом <u>ремонтируется</u>.

2. When John was ill he <u>was being taught</u> at home. (Past Continuous Passive) Когда Джон болел, его <u>обучали</u> дома.

Perfect Passive (to have + been + Participle II)

1. This letter <u>has been brought</u> by the secretary. (Present Perfect Passive) Секретарь <u>принёс</u> письмо. (Письмо <u>принесено</u> секретарём)

2. He decided to become a writer only when his first story <u>had been published.</u> (Past Perfect Passive) Он решил стать писателем, только когда его первый рассказ <u>был напечатан.</u>

3. By the 1st of July you <u>will have passed</u> the last exam. (Future Perfect Passive) К 1^{му} июля вы <u>сдадите</u> последний экзамен.

Сказуемое в страдательном залоге может переводиться на русский язык: а) кратким страдательным причастием; б) глаголом на –ся; в) неопределённо-личным глаголом.

The office <u>is built</u>. а) Офис построен. б) Офис строится. в) Офис строят.

При переводе английских предложений с глаголом в форме страдательного залога часто используется обратный порядок слов (русское предложение начинается со сказуемого):

New technique <u>has been developed</u>. Была разработана новая методика.

Следует обратить особое внимание на перевод глаголов с предлогом в страдательном залоге. Наиболее распространённые из этих глаголов:

hear of – слышать о
look after – присматривать за (кем-либо)
look at – смотреть на
rely on – полагаться на
send for – посылать за
speak of (about) – говорить о
pay attention to – обращать внимание на

take care of – заботиться о

to listen to – слушать что-либо, кого-либо

to look for – искать что-либо

to provide for – обеспечить кого-либо, чем-либо

to explain to – объяснять кому-либо

The book <u>is</u> much <u>spoken</u> <u>about</u>. <u>Об</u> этой книге много говорят.

В русском переводе не все глаголы сохраняют предлог:

He <u>was listened to</u> with great attention. Его слушали с большим вниманием.

Употребление модальных глаголов с инфинитивом страдательного залога.

Предложения с сочетаниями «модальный глагол + инфинитив страдательного залога» рекомендуется переводить неопределенно-личными предложениями с глаголами *нужно, следует, необходимо, можно* с последующим инфинитивом;

Your work <u>must be corrected</u> (Вашу работу нужно исправить).

This distance <u>can be covered</u> in an hour. (Это расстояние можно проехать за час).

The soundness of these castings <u>should be ascertained</u>. (Необходимо проверить прочность этих отливок).

Английские пассивные конструкции с формальным подлежащим **it** переводятся неопределенно-личными предложениями.

<u>It was expected</u> that she would finish her experiment in time. (Предполагалось, что она закончит эксперимент вовремя).

<u>It should not be forgotten</u> that uranium is radioactive. (Не следует забывать, что уран радиоактивен).

В) Практическая часть.

Ex. 1. Change the following sentences so as to use Present Simple Passive. Follow the model.

Model**:** *A: We obtain petrol from petroleum.*

B: Petrol <u>is obtained</u> from petroleum.

1. An engine produces power.
2. We usually use oil in different branches of industry.
3. They provide us with the necessary equipment.
4. The engineer controls the fuel systems.
5. Nowadays they made pistons from plastics.

Ex. 2. Give the opposite to the following sentences.
1. This mechanism is used in the engine.
2. Power is not produced by the engine.
3. Fuel is burnt in the engine to produce power.
4. Fuel and air are not mixed in the carburettor.

Ex. 3. Your partner wants to check your knowledge of automotive engineering. Answer his questions. Use different adverbs of frequency such as *always, never, sometimes, often, seldom, usually.*
Model**:** *a) Oil is used in diesel engines.*
A: Is oil always used in diesel engines?
B: Yes, it is.
b) Sulpher is used in petrol fuel.
A: Is sulpher always used in petrol fuel?
B: No, it isn't. It's never used in petrol fuel.
1. Diesel fuel is used in different engines.
2. Gas is kept in a special tank.
3. Petroleum is needed in all branches of industry.
4. Fuel is carried by the fuel pipe.
5. Fuel is mixed with air in the carburettor.

Ex. 4. Ask all possible questions. Consult the table below.

Fuel is usually stored in a fuel tank.					
Where	is	Fuel	usually	stored	
Why	is	Fuel	usually	stored	in a fuel tank?
When	is	Fuel	usually	stored	in a fuel tank?
What is usually stored in a fuel tank?					

1. This fuel is used in all types of engines.
2. Fuel and air are compressed by the piston.
3. The body of the car is supported on the frame.
4. Gases are expelled from the cylinder.

Ex. 5. Choose the right form of the verb.
1. This data is calculated / calculates by that electronic device.
2. Students are always solved / always solve complicated problems with the help of logarithm tables.
3. Our workshops are equipped / equip with automatic machinery.
4. A robot packs / is packed the necessary instruments for the experiment.
5. Useful information is provided / provides for the engineers.

Ex. 6. Correct mistakes.
1. This car be powered by the energy of the Sun.
2. Machines are not maked of wood.
3. This car are equipped with the experimental fuel system.
4. To this theory is often referred in scientific literature.
5. Is our engineer invite to the scientific conference in Denmark?
6. How different fuels to be produced?

Ex. 7. Change the following sentences so as to use Past and Future Simple Passive.
Model 1: *I saw her in the workshop.*
                    She <u>was seen</u> in the workshop.
1. They sold the cars all over Europe.
2. They measured the temperature of water 5 minutes ago.
3. He increased the volume of liquid an hour ago.
4. We repaired the car yesterday.
5. They used this fuel for different engines.
Model 2: *They will solve the problem tomorrow.*
                  The problem <u>will be solved</u> tomorrow.
1. He will publish the results of the experiment next month.
2. I will control the work of this device.
3. We will explain the work of the carburettor next time.
4. They will improve the car design.
5. The new device will reduce the time of the operation.

Ex. 8. These two sentences have a different structure but the same meaning. Change the structure of the sentences below so as to keep their meaning unchanged. Pay attention to the place of prepositions in the sentence.
Model: *We listened to this lecture with great pleasure.*
                 His lecture <u>was listened to</u> with great pleasure.
1. We sent for the mechanic two hours ago.
2. People spoke much about the new invention.
3. We will take care of the new equipment.
4. Teachers will refer to the results of this experiment.
5. The Professor paid attention to the work of this student.

Ex. 9. Correct mistakes.

1.   The Belarusian National Technical University was not found in 1935.

2.   An interesting problem will to be discussed at the lecture tomorrow.

3.   When Belarusian State University was founded?

4.   All the work was did by automatic machinery.

5.   The Nobel prize be given to our outstanding scientist.

6.   The testing of a new vehicle will be not completed by the end of the week.

7.   The electric lamp was invented with Yablochkov.

8.   To the work of this engineer was paid attention.

Ex. 10. Change the following sentences so as to use Present Perfect Passive.

Model: *A: They <u>have equipped</u> Ford tractors with climate control filters, haven't they?*

B: Yes, Ford tractors <u>have been equipped</u> with climate control filters.

1.   They have already cleaned the oil filter, haven't they?

2.   You have repaired your tractor already, haven't you?

3.   The engineers have provided these tractors with new equipment, haven't they?

4.   They have modified shock absorbers, haven't they?

5.   Our young engineer has improved the acoustical system in this tractor, hasn't he?

Ex. 11. Answer your friend's questions about the following actions.

Model: *A: <u>Has</u> the application of filters <u>been explained</u> by the teacher?*

B: Yes, it <u>has been explained</u> already. **Or** No, it <u>hasn't.</u> It <u>hasn't been</u> explained yet.

1.   Have the new trucks been chosen by the customers?

2.   Has the air cleaner been widely used since its invention?

3.   Have oil filters been improved during the field testing?

4.   Have Ford tractors been trusted by many farmers?

5.   Has the new tractor been equipped with climate control filters?

Ex. 12. Make up all possible questions. Consult the table.

A new device	*has been installed*	*in the tractor*	*recently?*

Has a new device been installed in the tractor recently?
Where has a new device been installed recently?
What has been installed in the tractor recently?

1.   Transmission controls have been mounted on the flat floor recently.

2.   The climate control system has been inspected by the engineer.

3.   He has been asked many questions about the performance characteristics of the new tractor.

4.   The Ford Company has been deeply involved in the development of tractor technology.

Ex. 13. Choose the right verb form.

1.   They *(have already increased, have already been increa*sed*)* the efficiency of a new tractor.

2.   The oil filters in this vehicle *(have replaced, have been replaced)* recently.

3.   This engine *(has just been tested, has just tested)* by our mechanic.

4.   New refinements *(have introduced, have been introduced)* into this type of tractors.

5.   The engineers *(have manufactured, have been manufactured)* the new acoustic system.

Ex. 14. Correct mistakes in the following sentences.

1.   The transmission control has been improve recently.

2.   All these machines have been made of metal.

3.   Have been the new achievements in tractor engineering shown to young specialists?

4.   A new model of a tractor has be delivered to the farm.

5.   The driver's seat has provided with different comfort adjustments.

Ex. 15. Change the following sentences so as to use passive form of the verb underlined.

Model 1: *A: They <u>had finished</u> the experiment before the lesson was over.*

B: The experiment <u>had been finished</u> before the lesson was over.

1. He <u>had completed</u> the chemical reaction when the teacher came.
2. We <u>had published</u> the results of our work by the end of the year.
3. They <u>had dried</u> the sample before the experiment started.
4. They <u>had begun</u> the experiment before the assistant came.
5. They <u>had obtained</u> all the necessary data by the time the experiment began.

Model 2: *A: We <u>will have published</u> the article by the beginning of the conference.*

B: The article <u>will have been published</u> by the beginning of the conference.

1. By the end of the next month he <u>will have repaired</u> his car.
2. They <u>will have brought</u> the necessary tools by the beginning of the work.
3. We <u>will have improved</u> this tool by the end of the year.
4. They <u>will have delivered</u> new books to the library by the end of the week.
5. They <u>will have installed</u> new equipment in the practical classes by the beginning of a new academic year.

Ex 16. You completed your practical work at the Machine-building plant last week.
a) Say what work had been done by the end of your practice.
Model**:** *to perform a lot of different operations*
A lot of different operations <u>had been performed</u> by the end of the practice.

to study the operation of the milling machine
to deliver a new model of a lathe
to instruct the students properly
to investigate the advantages of machine tools
to obtain valuable practical experience

b) Say what work will have been done by the end of this term.
Model**:** *to write the course project*
The course project will have been written by the end of the year.
to carry out the research on machine tools

to repair the old cutting tool

to demonstrate the work of metal-cutting machines

to perform various operations on the drilling machine

to experiment with metal-forming machines

Ex 17. Ask all possible questions. Consult the tables below.

The device had been repaired in our lab by the end of the day.

Had the device been repaired   in our lab   by the end of the day?

By what time   had   the device been repaired?

Where   had   the device been repaired?

What   had been repaired in our lab by the end of the day?

1. A new machine tool had been devised by the end of the week.

2. The experiment had been finished in our laboratory before the lesson was over.

3. The engineers had improved the design of this machining centre before the plant began to produce it.

The workpiece will have been cut by 2 o'clock.

Will the workpiece have been cut by 2 o'clock?

By what time will the workpiece have been cut?

What will have been cut by 2 o'clock?

What will have been done by 2 o'clock?

1.A new milling machine will have been introduced in this plant by the beginning of May.

2. A new cutting tool will have been put into operation by the time our workshop opens.

3. The research will have been completed by a group of engineers by the time you arrive.

Ex 18. Correct mistakes in the following sentences.

1.   New safety rules have been established by the end of the last year.

2.   A new device will be designed by next week.

3.   Will have the design of the tool been improved by the end of September?

4.   The necessary tools were brought into the laboratory by the beginning of the experiment.

5.   These new properties of the substance had predicted by the scientists before the experiment began.

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6.   The construction of the workshop will have be completed by next year.

Ex 19. Read the text attentively to learn more about mini motor cars.

Mini motor cars are sold all over Europe. The first Mini was produced in Britain in 1959 and it has become Britain's most popular and successful car since that time.

In the late 1950s, BMC, the British Motor Corporation, wanted to build a car that was different from other cars. They wanted a small, cheap and economical car – a family car that was big enough to carry four passengers. In the 1950s it was a difficult problem. At that time a typical family car was quite long, about three and a half meters. It had large wheels and large space for the engine. So there wasn't much room for the passengers. Besides that, it was very expensive to make.

The Mini was designed by Alec Issigonis. His design was revolutionary. First, the car was made half a meter shorter. Next, the wheels were made much smaller and they were put right at the four corners of the car. Then the engine was turned sideways and the gearbox was put underneath. And there was still enough room for four passengers.

Today nearly every small car is based on the design of the Mini. So why is the Mini so popular? The answer is simple: it is well designed, very economical, it is easy to drive around the city and easy to park.

Ex 20. Answer these questions.
1.   When was the first Mini produced?
2.   Who was this car designed by?
3.   How did a typical family car look like in the 1950s?
4.   What changes did Alec Issigonis make in a new car, called the Mini?
5.   What are the advantages of the Mini?
6.   Do you think that the Mini is a good car? Why? / Why not?
7.   Would you like to drive such a car yourself?

Ex 21. Translate this text into Russian.
The Minsk Tractor Works is the world's leading manufacturer of agricultural equipment. Since 1953 thousands of universal wheeled tractors under the manufacturer's brand "Belarus" have been produced.

The well-known advantages of these tractors are their low fuel consumption, long service life and simplicity and convenience of maintenance. The modern tractors have been fitted with six-cylinder diesel engines. Thus they can develop the sufficient horsepower under most unfavorable conditions and show a high efficiency. The nine-speed gearbox provides a wide range of speed for performance of all types of farm operations. The comfortable, safe and noise-proof cab provides excellent visibility and together with an adjustable soft seat, tinted glass, cab air filtering and a heating device ensures comfort for the driver throughout the whole working day.

All the features of "Belarus" tractors meet the international standard specifications.

Ex 22. Oleg hasn't seen his friend Paul for a long time. Read the dialogue to find out where he has been and what he has been busy with.

Paul : Hello, Oleg! How are you?

Oleg: Fine, thanks Paul. What about you?

Paul: Very well, thanks you.

Oleg: Where have you been? I haven't seen you for ages.

Paul: Oh, I have been really busy this week. You know, we have been shown an experimental tractor with a 6-cylinder engine at the Minsk Tractor works.

Oleg: How interesting! And why are there so many cylinders in the engine?

Paul: Well, this engine has been designed to provide precisely the right combination of power and torque for each job. So it's very efficient. And besides we have tested new oil filters. They have been designed according to new tractor specifications.

Oleg: And what are the advantages of these filters.

Paul: Well, the main advantage is that they help to maintain internal cleanliness of the engine and protect against wear and corrosion much better than the old ones.

Oleg: That sounds good. By the way ,where have these oil filters been tested?

Paul: In the testing field. Their work has been watched by the engineers. Soon these oil filters will be used in different types of tractors in our country.

Ex 23. Translate the text info Russian. Use your technical dictionary.

By the beginning of the new millenium a great number of complex machine tools had been designed to speed up production. Although these tools include features of the basic machine tools and perform the same operations, they incorporate design modifications that let them perform complex operational sequences quicker. Furthermore, after the production machine has been set up by a skilled worker or machinist, a less skilled operator also can produce parts accurately and quickly.

There's one more improvement that had already been incorporated in machine tools by the 21st century. This is a highly automated machining system, called adaptive control that involves the use of a microprocessor. A microprocessor is a tiny electronic device that performs the work of a computer. The microprocessor regulates variables in the machining process such as the speed of the spindle. That makes the process very efficient. It also receives information from sensors that measure force, temperature, and other variables. It uses the information to operate the system at the level that is safe for the machine tool and the workpiece. Specialists predict that by the year 2015 all major industrial works in Belarus will have been equipped with such machining centres.

UNIT 5
МОДАЛЬНЫЕ ГЛАГОЛЫ И ИХ ЭКВИВАЛЕНТЫ
А) Теоретическая часть.

Модальные глаголы - это глаголы, обозначающие не само действие, а отношение говорящего к действию или состоянию, выраженному инфинитивом.

Наиболее употребительные модальные глаголы:

Can   3.   May
       4.
       Should   Would   Must
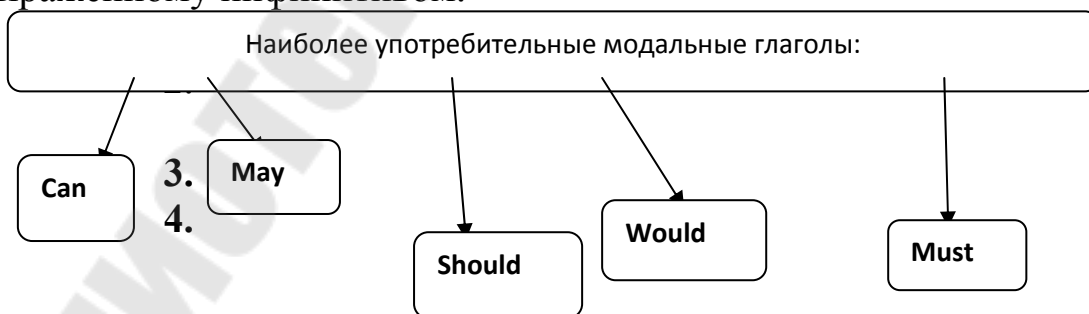
Модальные глаголы отличаются от других глаголов в следующих показателях:

1. Модальные глаголы не имеют неличных форм (инфинитива, причастия и герундия).

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2. Модальные глаголы не принимают окончания –s в 3-м лице единственного числа настоящего времени.

3. После модальных глаголов следующий глагол в форме инфинитива употребляется без частицы to.

4. Вопросительные предложения строятся путем инверсии, т.е. модальный глагол выносится вперед и употребляется перед подлежащим.

5. При отрицании частица not ставится непосредственно после модального глагола. В разговорной речи в отрицательной форме употребляются следующие сокращения:

cannot – can't, could not – couldn't, must not – mustn't, might not – mightn't, should not – shouldn't, ought not to – oughtn't to, would not – wouldn't.

1. CAN

Present	Past	Future
Can am are able to is	Could was able to were	will be able to

Модальный глагол CAN указывает на физическую и умственную способность (могу, умею); на дружескую просьбу или разрешение (можно); в прошедшей форме COULD указывает на общую способность, умение выполнить действие (умел, мог), а WAS/WERE ABLE TO - возможность выполнить действие в определенной ситуации (сумел, удалось, получилось).

Употребление модального глагола CAN с некоторыми глаголами:

Can see, can hear, can smell, can taste, can feel, can understand, в которых модальный глагол не переводится.

Примеры:

1. He can compile difficult programmes. – Он может составлять сложные программы.

2. Can I borrow your car? – Yes, you can, but be careful. – Можно я возьму твою машину? – Да, можешь, но будь осторожен.

3. We could spend hours sitting in front of the fire on a cold winter day. – Мы могли сидеть часами у камина в холодный зимний день.

4. I am so happy. Yesterday I <u>was able to</u> talk to our manager at last. – Я так счастлив. Наконец вчера я <u>смог</u> поговорить с нашим управляющим.

5. He <u>hasn't been able to</u> come. He is still at work. – Он <u>не смог</u> прийти. Он все еще на работе.

6. Jane hopes <u>to be able to</u> help us in this issue. – Джейн надеется, что сможет нам помочь в этом вопросе.

7. She <u>could smell</u> something burning. – Она <u>почувствовала</u>, что что-то горело.

2. MAY

Present	Past	Future
May am are allowed to is	Might was allowed to were	will be allowed to

Модальный глагол MAY указывает на официальную просьбу, разрешение (можно); письменный запрет (нельзя). Его эквивалент BE ALLOWED TO употребляется, как правило, для выражения разрешения/запрет выполнить то или иное действие.

Примеры:

1. <u>May</u> I call your office, Mr. Petrov? – Of course, you <u>may</u>. – <u>Можно</u> я позвоню Вам на работу, г-н Петров? – Конечно, <u>можно</u>.

2. Children <u>are not allowed to</u> eat in class. – Детям <u>не разрешается</u> есть во время урока.

3. He <u>may</u> return next week. – Он <u>возможно</u> вернется на будущей неделе.

3. MUST

Модальный глагол MUST в утвердительных и вопросительных предложениях употребляется в значении долженствования/приказа/ личного убеждения (должен); в отрицательных предложениях – в значении запрета (по правилам «запрещено; нельзя»). Модальный глагол MUST употребляется только в настоящей форме. В остальных формах употребляется его эквивалент HAVE TO.

Примеры:

1. All participants of the international conference <u>must </u>follow rules. – Все участники международной конференции <u>должны/обязаны</u> следовать правилам.

2.You <u>must</u> measure the water level. –Вы <u>должны</u> измерить уровень воды.

3. You <u>mustn't</u> smoke on the plane board. – <u>Нельзя</u> курить на борту самолета.

HAVE TO

Present		Past	Future
I have to We, you, they have to He, she, it has to		Had to	Will have to

В утвердительных и вопросительных предложениях HAVE TO выражает необходимость выполнить действие в силу сложившихся обстоятельств. В отрицательных предложениях формы DON'T HAVE TO/ DOESN'T HAVE TO/DIDN'T HAVE TO/WON'T HAVE TO указывают на отсутствие такой необходимости в выполнении действия, исходя из конкретной ситуации.

Примеры:

1. We <u>have to</u> consult a specialist when the apparatus fails – Мы <u>должны</u> консультироваться со специалистом, когда прибор не работает.

2. I <u>had to</u> stay at the laboratory two hours more to complete the work. – Мне <u>пришлось</u> (мне нужно было, я должен был) остаться в лаборатории ещё на два часа, чтобы закончить работу.

3. You <u>will have to</u> do this task yourself. Вы <u>должны</u> выполнить это задание сами.

Другой эквивалент модального глагола MUST это сочетание BE TO.

Present	Past
Am to Are to + инфинитив Is to	Was to Were to + инфинитив

BE TO имеет значение действия, которое запланировано и должно произойти по договоренности.

Примеры:

1. The President <u>is to</u> visit our city on May, 16th. – Президент <u>должен</u> посетить наш город 16 мая.

2. You <u>are to</u> do your homework at first if you want to watch your favourite TV show at 7 p.m. – Ты <u>должен</u> сделать сначала уроки, если хочешь посмотреть свою любимую передачу в 7 часов вечера.

4. SHOULD / OUGHT TO

Модальные глаголы SHOULD / OUGHT TO употребляются в значении совета (*следует, должен)*. Однако, форма SHOULD выражает общий совет в утвердительных и отрицательных

предложениях, а форма OUGHT TO выражает моральный долг выполнить то или иное действие.

Примеры:

1. You <u>should</u> remember that the current enters the coil through this terminal. – Вам <u>следует</u> помнить, что ток поступает в катушку через эту клемму.

2. You <u>ought to</u> help your friend. – Вам <u>следует</u> (следовало бы) помочь вашему другу.

Являясь модальными глаголами, <u>ought to</u> и <u>should</u> употребляются со всеми лицами единственного и множественного числа.

5. NEED

Глагол NEED имеет модальное значение, если он употребляется в вопросительных или отрицательных предложениях. В этих случаях он выражает необходимость совершения действия или отсутствие такой необходимости. В утвердительных предложениях он употребляется, как обычный глагол в значении нуждаться.

Примеры:

1. You <u>needn't</u> wash up after dinner – we have a new dish washer installed. – Ты <u>можешь не</u> мыть посуду после ужина – мы установили новую посудомоечную машину.

2. You <u>need to</u> pay for the bill before leaving the restaurant. – Вам <u>нужно</u> оплатит счет перед тем, как уйти из ресторан.

6. SHALL

Модальный глагол SHALL употребляется в вопросительных предложениях с местоимениями первого лица единственного и множественного числа (I, we) в значении запроса об инструкциях или в значении предложения.

Примеры:

1. <u>Shall</u> I help you with your luggage? – Мне помочь Вам с багажом?

2. Where <u>shall</u> we go now? – И куда же нам теперь идти?

В утвердительных предложениях модальный глагол SHALL имеет значение обещания, указания или угрозы.

1. You <u>shall begin</u> your translation at once.- Вы сейчас же начнете(должны начать) перевод.

7. WILL / WOULD

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Модальные глаголы WILL / WOULD употребляются для описания свойств или характеристики материала. На русский язык переводятся глаголами в настоящем времени.

1. Steam <u>will not</u> condence unless cooled. – Пар не конденсируется без охлаждения.

2. When heated the metal <u>will</u> expand. – При нагревании металл расширяется.

3. The metal <u>would</u> rust in wet air. – Металл ржавеет под действием влажного воздуха.

B) Практическая часть.
Ex.1 Say what these people could do in the past.
Model: I *can't use* the new apparatus now but I <u>could use</u> it yesterday at the lesson.

1. He can't do research on copper alloys this term but he … it last term.

2. We can't compare the properties of these substances now but we … them during our previous experiment.

3. They can't study aluminium bronze at the lesson now but they … it in the lab yesterday.

4. We can't extract copper with the help of stone and bone tools but ancient people … it in this way thousands of years ago.

5. I can't describe the results of his experiment today but he … it yesterday.

6.

Ex. 2 Use the following statements in the past and future.
Model: He **can** drive well.

He **could** drive well 10 years ago.

He **will be able** *to* drive well in a month.

1. He can continue his studies at the Mechanical Engineering faculty.

2. Our engineers can extract copper in several ways.

3. I can visit the Bingham Canyon copper mine.

4. This new car can move without a driver.

5. The scientists can use the samples of this substance in the test.

Ex. 3 Put these statements into Present, Past and Future using the modal expression *to be able to (not to be able to)* instead of *can(can't)*.

Model:

I can study materials science.	He can't complete this work himself.
I **am able to** study materials science.	He **is not able to** complete this work himself.
I **was able to** study materials science.	He **was not able** to complete this work himself.
I **will be able to** study materials science.	He **will not be able to** complete this work himself.

1. We can alloy copper with aluminium.
2. The engineers can use copper for electrical conductors.
3. I can do research on phosphor bronze now.
4. She cannot explain the properties of this group of alloys.
5. This student cannot explain the difference between brass and bronze.
6. They cannot evaluate the results of the first series of experiments.

Ex. 4 Correct mistakes in the following sentences.
1. We didn't can work in the laboratory on Sunday.
2. Will be you able to make a report on your scientific research?
3. He could to use the old equipment in his experiment.
4. The teacher can explains this rule again.
5. You will able to cut soft metal with greater speed than hard metal.
6. Engineers will be not able to use this new alloy in industry, I'm afraid.
7. The student not able to determine the nickel content of this copper alloy.
8. Can this technology to make the extraction of copper easier?

Ex. 5 Use the following statements in Past and Future.
Model: He *may* continue the research.

He *was allowed to* continue the research.
He *will be allowed to* continue the research.

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1. You may use carbon steel in the construction of this building.
2. She may extract iron from iron ores.
3. You may use manganese for changing properties of steels.
4. You may apply alloy steels for various engineering purposes.
5. The engineer may increase the carbon content of the steel.

Ex. 6 Your partner is an Instructor in the lab. Ask him if you may perform the following actions. Work in pairs.

Model**:** *to use these substances for the experiment*

A: May I use these substances for the experiment?

B: Yes, you may. You may use these substances for the experiment.

to elaborate the plan of the research

to experiment with alloying elements

to carry out different operations on milling machines

to demonstrate the properties of tool steels

to observe the steel making process

Ex. 7 Your friend wanted to do a lot of things in the practical class yesterday. Ask him if he was allowed to do all of them.

Model**:** *to demonstrate the new applications of steels*

A: Were you allowed to demonstrate the new applications of steels?

B: No, I wasn't. But I will be allowed to do it tomorrow.

to work in the rolling mill

to test the performance characteristics of alloy steels

to use a new milling machine

to study the structure of stainless steels

to observe how steel is cast

Ex. 8 Discuss with your friend which of these things may be done.

Model**:** *machine tools / to be made of pig iron*

A: May machine tools be made of pig iron?

B: Certainly they may. They may be made of pig iron.

or *B:* I'm afraid they may not. They may not be made of pig iron.

a)   pure iron / to be refined
b)   the properties of iron / to be modified easily
c)   the carbon content of steel / to be varied
d)   hydrogen / to be added to alloy steel
e)   steel / to be tempered

f) steel alloys / to be protected from corrosion
g) steel / to be used for electrical wiring
h) machine tools / to be made of pure iron

Ex. 9 Correct mistakes in the following sentences.

1. Metals which are used in industry may to be called engineering metals.

2. He wasn't allowed determine the constituents of this steel.

3. The majority of metals may to become harder after they have been cold-worked.

4. You doesn't may carry out the investigation here.

5. The students be allowed to practise in the rolling mill yesterday.

6. Will be I allowed to use the mobile equipment?

Ex. 10 Say what these people must or mustn't do in these situations.

Model**:** *engineers / to finish the test in half an hour*

The engineers <u>must</u> finish the test in half an hour.

Or engineers */ to break safety instructions*

The engineers <u>mustn't</u> break safety instructions.

students / to attend classes

scientists / to perform all the experiments according to the instructions

students / to be late for their practical classes

friends / to help each other in difficult situations

students / to carry out a lot of experiments

engineers / to work with faulty devices

Ex. 11 Ask your friend whether your groupmates must do these things.

Model**:** *to complete the test*

A: <u>Must</u> Alex complete the test?

B: No, he <u>needn't</u>, but Dima <u>must.</u>

to follow these instructions

to determine the strength of polythene

to study the advantages of polymers

to receive new data

to draw up a laboratory report

Ex. 12 Put these statements into Present, Past and Future using the modal verb *to have (not to have to)* instead of must *(mustn't).*

Model**: *He **must** write a detailed report of the test.*

He **has to** write a detailed report of the test.

He **had to** write a detailed report of the test.

He **will have to** write a detailed report of the test.

1. The students must complete another series of experiments.
2. They must compare the results of two tests.
3. Alice must determine the composition of nylon.
4. The engineers must develop new plastics.
5. The scientist must elaborate the plan of his research.

Ex.13 Ask your friend if he had to do the following things last week.

Model**: *to draw up a laboratory report*

A: Did you have to draw up a laboratory report last week?

B: No, I didn't. But I will have to draw up a laboratory report next week.

to study the influence of temperature on the strength of plastics

to describe the properties of bakelite

to compare the properties of phenolic resin and polythene

to do research on thermoplastics

to follow the procedure of the laboratory experiment

Ex.14 Ask your instructor if these things must be done.

Model**: *a detailed report of the experiment / to be written*

Student: Must a detailed report of the experiment be written?

Instructor: Certainly it must. It must be written without mistakes.

oil / to be used as a raw material for plastics

plastics / to be widely applied in construction work

plugs / to be made of phenolic resin

the conclusions / to be included in the report

the procedure of the experiment / to be described in detail

Ex. 15 Choose the right modal verb in these dialogues.

a) – How … I get to the Technical University (*can, may*)?

– You … go by bus or you … walk (*can, may*).

b) – … I use this device tomorrow (*can, may*)?

– Of course, you … (*can, may*).

c) – … I have a look at your results (*can, may*)?
– Oh, yes. Here they are.
d) –Why is he late?
– He … be busy, I'm not sure (*may, can*).
e) – … we start the experiment tomorrow? (*must, can*)
– No, we … (*can't, needn't*).

Ex. 16 Substitute the modal verbs *can, may,* and *must* by their equivalents and translate the sentences.
1. At present every student can explain the origin of X-rays.
2. When Rontgen first noticed the new rays he could not understand their nature.
3. You can investigate the effects of these rays on various materials.
4. No one may enter the lab while the test is going on.
5. According to the plan you must begin the test at 5 o'clock sharp.
6. You must help your friend whenever you have time.
7. You must rely on your friends.

Ex. 17 Fill in the blanks with the proper modal verbs.
1. The students of our group … pass their examination on mathematics on Monday.
2. This young specialist … take part in the scientific conference in April.
3. Our educational institutions prepare specialists with a good ground in the fundamentals of science who … play an active role in the creative activities of the people.
4. The new project … have many advantages.
5. We … replace old machines with new ones.
6. The new automobile works … produce cars on a mass scale.
7. Scientists of different countries … cooperate in their research and in the peaceful application of their discoveries.

Ex. 18 Put the following sentences into the interrogative and negative forms.
1. We have to connect this wire to the plate.
2. Rontgen had to check up the light-proof box several times.
3. They will have to repeat the test again.
4. The test was to begin at 9 o'clock.
5. The quality of these metal parts is to be checked up very carefully.

6. He allowed his friend to watch his experiments.

7. The students will be permitted to work in the lab whenever they want.

Ex. 19 Give advice to your friend in the following situations. Use the modal verb *should.*

Model**:** *A: I have an examination tomorrow.*

   B: Well, you <u>should work</u> very hard tonight.

1.   I don't know how to draw up a report of my experiment.
2.   I'm very tired after the practical class.
3.   I'd like to know more about plastics.
4.   I'd like to buy good sports equipment.
5.   I want to become a materials engineer but I don't know what I must study and at what University.

Ex. 20 Translate the following sentences paying attention to the different meanings of the verbs *should***,** *ought* **and** *need.*

1. You should work at your English as much as possible.

2. You need not (needn't) take part in this research, if you do not want.

3. You ought to remember the names of the scientists who have contributed to the development of your speciality.

4. You needn't devote particular attention to this phenomenon, as we have already studied its effect.

5. The results of the experiments should be checked up very carefully.

6. Every researcher ought to be interested in the results of his work.

Ex. 21 Correct mistakes.

1.   Denis hadn't to write a detailed report of the experiment with thermosets.
2.   I will must to study all the peculiarities of this technological process next week.
3.   He have to deliver a report on the applications of plastics.
4.   I don't must switch on this machine without our teacher's permission.
5.   Have you to recycle unwanted nylon?
6.   Must be non-recycable plastics burnt?

Ex. 22 Translate into English.

1. Текст был трудный, и мне пришлось пользоваться словарём.

2. У меня ушло около двух часов, чтобы перевести текст.

3. Ты сможешь помочь мне по математике сегодня вечером?

4. Мне предстоит поехать в аэропорт встретить своего приятеля.

5. Я должен поторопиться.

6. Не надо вставать так рано.

7. Можно мне просмотреть эти журналы?

8. Я напряженно работал и смог завершить работу в срок.

9. Я не смогу пойти с вами в театр.

10. Я должен буду встретить мою сестру в аэропорту завтра.

11. Он не принёс эту книгу вчера, и я должен был идти к нему домой.

12. Вы можете прочитать эту статью, если хотите. Я смогу дать её вам через два дня.

13. Нам предстоит провести десять испытаний в этом месяце.

14. Можно здесь курить? – Нет, нельзя.

15. Где мы можем встретиться? – В библиотеке.

16. Я могу поговорить с вами? – Да, пожалуйста.

Ex. 23 Read the text attentively for the detailed information about polymers.

Plastics

Whether you are aware of it or not, plastics play an important part in your life. Plastics are polymers – long chains of many units that are usually made of carbon, hydrogen, oxygen, and/or silicon. Polymers have been with us since the beginning of time – tar, amber and horns are the easiest examples. In the 1800s these natural polymers were chemically modified and many materials such as vulcanized rubber and celluloid were produced. The first truly synthetic polymer Bakelite was developed in 1909 and was soon followed by the first synthetic fibre, rayon, in 1911.

Polymers come in a great variety of characteristics and colors. This fact alone must be considered as an advantage of these materials. They are cheaper and easier to make than, say paper. Besides, polymers possess the properties of easy processing, durability, light weight, sufficient strength, thermal and electrical insulation and resistance to chemicals, corrosion and shock. These valuable qualities of polymers can be further enhanced by a wide range of additives, which broaden their uses and applications.

Unfortunately we have to admit that plastics pollute the environment. Luckily, most polymers are thermoplastic (e.g. nylon, polythene), i.e. they can be heated and reformed again. The recycled plastics keep all their properties when they are combined with virgin plastics. The other group of polymers, thermosets (e.g. bakelite, phenolic resin), must not be recycled, as reheating causes their deformation. However, the controlled incineration of thermosets converts mation. However, the controlled incineration of thermosets converts waste into heat energy.

The usefulness of plastics can only be measured by our imagination. These are definitely the materials of past, present, and future generations.

Ex. 24 Find answers to these questions.
1. What are the applications of plastics?
2. What is a polymer?
3. Are there any natural polymers?
4. What was the first synthetic polymer and when was it developed?
5. Do polymers possess valuable properties?
6. What is the disadvantage of plastics?
7. How can pollution by plastics be reduced?

UNIT 6
НЕЛИЧНЫЕ ФОРМЫ ГЛАГОЛА
ИНФИНИТИВ (The Infinitive)

А) Теоретическая часть

Неличные формы глагола имеют следующие особенности:

- не обладают признаками сказуемого, т.е. не показывают на лицо, число и время

- в предложении выступают в функции подлежащего, дополнения, обстоятельства, определения или смысловой части составного сказуемого

- имеют простые и совершенные (перфектные) формы в действительном и страдательном залогах.
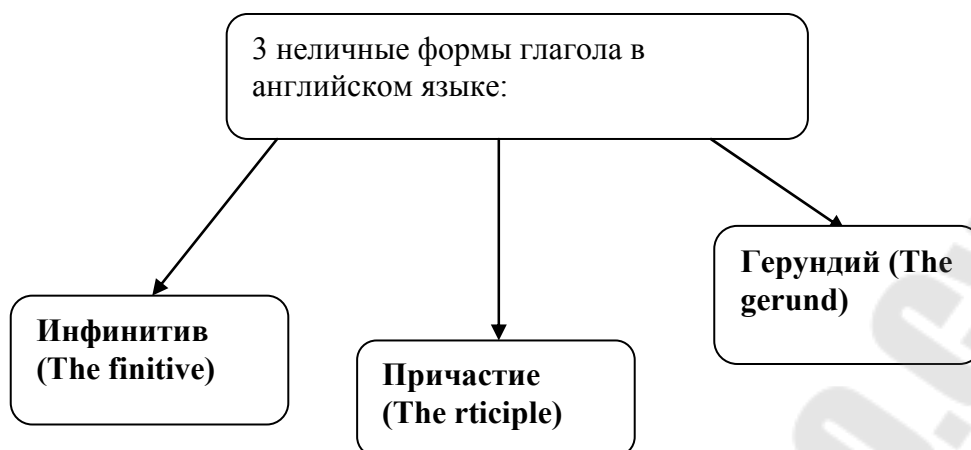
Инфинитив (the Infinitive) – это неличная форма глагола, которая называет действие. Инфинитив является основной (или I) формой глагола и представляет глагол в словаре. Признаком инфинитива является частица to: to help – помогать, to read – читать.

Инфинитив употребляется без частицы to в следующих случаях:

1) После глаголов shall, will. He will write to his parents tomorrow. Завтра он напишет своим родителям.

2) После модальных глаголов (кроме глагола ought). She can ski and skate. Она умеет кататься на коньках и на лыжах.

3) После глаголов чувственного восприятия feel, see, hear, watch и др. We saw him enter. Мы видели, как он вошел.

4) После глаголов let (разрешать), have, make (заставлять). What makes you think so ? Что заставляет тебя так думать ? Let me take this book, please. Пожалуйста, разрешите мне взять эту книгу.

5) После выражений had better (лучше), would rather (лучше бы). You had better go now. Лучше уйди / иди сейчас. I must see you at once. Мне надо сейчас же встретиться с тобой.

В современном английском языке инфинитив имеет следующие формы.

	Active	Passive
Indefinite	to write	to be written
Continuous	to be writing	--
Perfect	to have written	to have been written
Perfect Continuous	to have been writing	--

Инфинитив в форме действительного залога обозначает действие, произведённое лицом, выраженным в предложении подлежащим, а в страдательном залоге – действие, направленное на это лицо. I like to help. Я люблю помогать. I like to be helped. Я люблю, когда мне помогают.

Инфинитив в Indefinite Active обозначает действие, не уточняя

характер его протекания.

Инфинитив в Continuous Active подчёркивает длительность действия.

She must <u>be</u> still <u>writing</u>. Она, должно быть, всё ещё пишет.

Неперфектный инфинитив выражает действие, одновременное с действием глагола-сказуемого (или следующее за ним).

Перфектный инфинитив выражает действие, предшествующее действию, выраженному глаголом-сказуемым. I am glad <u>to study</u> at the University. Я рад, что учусь в университете. I am glad <u>to have studied</u> at the University. Я рад, что учился в университете.

Функции инфинитива

В предложении инфинитив может быть:

1. <u>Подлежащим</u>. <u>To read</u> a lot is to know much. Много читать – много знать.

2. <u>Обстоятельством</u> цели. <u>To read</u> the book I went to the reading-hall. <u>Чтобы прочитать</u> эту книгу, я пошёл в читальный зал.

3. <u>Определением.</u> Инфинитив в функции определения переводится на русский язык тремя способами:

а) <u>Придаточным определительным предложением</u> с модальным сказуемым. The device <u>to be tested</u> has been brought to our laboratory. Прибор, который надо испытать (подлежащий испытанию), принесли в нашу лабораторию.

б) <u>Неопределённой формой глагола</u>. I have nothing <u>to say</u>. Мне нечего <u>сказать</u>.

в) <u>Личной формой глагола</u>, если определение относится к порядковому числительному. She was <u>the first to come.</u> Она <u>пришла первой</u>.

4. <u>Дополнением.</u> He was glad <u>to have been given</u> a new job. Он был рад, что <u>ему дали</u> новую работу. I decided <u>to read</u> this book. Я решил <u>прочитать</u> эту книгу.

5. <u>Частью сказуемого</u>. You <u>may come in.</u> Вы <u>можете войти</u>. We <u>ought to leave</u> early in the morning. Мы <u>должны уехать</u> рано утром. My wish <u>is to read</u> much. Моё желание – много читать.

ИНФИНИТИВНЫЕ ОБОРОТЫ

Объектный инфинитивный оборот (Сложное дополнение)

The Complex Object (The Objective – with – the – Infinitive Construction).

Эта конструкция состоит из существительного в общем падеже

или местоимения в объектном падеже и инфинитива.

Обычно переводится на русский язык придаточным дополнительным предложением. We would like you to test the device. Мы хотели бы, чтобы вы протестировали этот прибор.

He wants the book to be returned tomorrow. Он хочет, чтобы книгу вернули завтра.

Субъектный инфинитивный оборот (Сложное подлежащее)

The Complex Subject (The Nominative – with – the – Infinitive Construction)

Эта конструкция состоит из существительного или местоимения в именительном падеже и инфинитива. Переводится на русский язык придаточным предложением.

She is expected to come any minute. Ожидается, что она приедет с минуты на минуту.

The car was seen to disappear. Видели, как машина скрылась.

Эта конструкция употребляется:

1. С глаголами, обозначающими чувственное восприятие -- to see, to hear, to notice и др. После них инфинитив употребляется без частицы "to"; и с глаголами, обозначающими умственную деятельность - to think, to consider, to expect и др. (в страдательном залоге);

а также с глаголами to say, to report, to ask, to order, to announce (в страдательном залоге). The delegation is reported to have left London. Сообщается, что делегация покинула Лондон.

She is said to be very clever. Говорят. что она очень умна.

He is known to be a great scientist. Известно, что он большой ученый.

2. Со словосочетаниями to be likely (вероятно), to be unlikely (маловероятно), to be certain / to be sure (несомненно / обязательно).

The project is likely to be completed soon. Вероятно, что проект скоро завершат.

He is sure to be asked about it. Его, наверняка, об этом спросят.

3. С глаголами в действительном залоге to seem / to appear (казаться / по-видимому), to prove / to turn out (оказываться), to happen (случаться).

4. She appears to be a very good specialist in the subject. Кажется, она хороший специалист в этой области.

Инфинитивная конструкция с предлогом for

The For – to – Infinitive Construction.

В этой конструкции перед существительным или местоимением находится предлог for. При переводе на русский язык используется или придаточное предложение или инфинитив.

It's easy <u>for me</u> <u>to answer</u> this question. Мне легко ответить на этот вопрос.

There was nothing else <u>for me</u> <u>to say</u>. Мне больше нечего было сказать.

It is <u>for you</u> <u>to decide.</u> Вам решать.

Here are some books <u>for you</u> <u>to read</u>. Вот несколько книг для вашего чтения (вам почитать).

В) Практическая часть.

Ex.1. These two sentences have a different structure but the same meaning. Change the structure of the sentences below so as to keep their meaning unchanged.

Model: It is very important   <u>To make</u> a strong joint is
              to make a strong joint.   very important.

1. It is impossible to store gas in an open tank.
2. It is quite necessary to make metal electrodes.
3. It is very essential to provide a hot enough flame.
4. It is not difficult to adjust the welding flame.
5. It is unnecessary to mix these substances.
6. It is easy to follow these instructions.

Ex. 2. Translate the following sentences into Russian. Point out the difference in translation of the Infinitive depending on its function in the sentence.

<u>Model:</u> To obtain these results is our aim. (получение, получить)	To obtain these results we must work hard. (для того, чтобы получить)
1. To translate this text takes much time.	1. To translate this text I had to work hard.
2. To make this experiment is very important.	2. To make this experiment you should use a computer.
3. To explain this fact is not easy.	3. To explain this fact you will have to make a series of experiments.
4. To know physics well is necessary.	4. To know physics well we must study hard.
5. To start this work is not difficult.	5. To start this work today we have to obtain some new data.
6. Not to forget about it was my only wish.	6. Not to forget the word I put it down.
7. Not to change anything is our wish.	7. Not to change anything we decided to use an old equipment.

Ex. 3. Point out the purpose of the objects according to the model.

Model A: *This paper describes important properties of new engineering materials.*

B: <u>The purpose</u> (aim, goal, object) of this paper is to <u>describe</u> properties of new materials.

1.   This experiment establishes the relations between these two quantities.

2.   The article deals with the prospects for electric road cars.

3.   This book gives the description of the electrical instruments in the car.

4.   His report presents some information on the new fuel system.

5.   The speedometer is used to indicate the speed of a car.

6.   The filter is used to clean petrol.

Ex. 4. The two sentences have a different structure but the same meaning. Change the structure of the sentences so as to keep their meanings unchanged.

Model**:** A: *the substance that should be analysed is of great value.*

B: <u>The substance to be analysed</u> is of great value.

1.   The equipment that should be installed in the workshop has specific use.

2.   The petrol that should be delivered from the petrol tank should be clean.

3.   The new battery that should be used in the car is very effective.

4.   The new car devices that should be developed have several advantages.

5.   The car emissions that should be controlled are very harmful to the environment.

6.   The automobile that should be developed will run on hydrogen.

Ex 5. Replace the Attributive Clause by the Infinitive. Follow the model.

<u>Model:</u> There are some other properties that <u>are to be studied.</u>

Yes, there are some other properties <u>to be studied.</u>

1.His article <u>which will be published </u>soon is on the subject of magnetism. 2.The rod which must be magnetized is made of iron. 3.This is the diagram <u>which will be considered </u>below. 4. The figure <u>which will be taken </u>as an example is given below. 5. There is more important question

which <u>must be discussed</u> today. 6. The external temperature <u>which is to be specified</u> is not known to us. 7. The particles <u>which will be accelerated</u> pass through strong magnetic fields. 8. The group <u>which will be organized</u> will carry out this investigation.

Ex 6. Translate the following sentences into Russian.
1.This is the result to be expected. 2.The method to be followed by us is rather interesting. 3.The report to be made is connected with your work. 4.This is the magnet to accelerate the particles. 5.The belt to communicate the charge to the electrode is made of insulation material. 6.The article to be read is published in this journal. 7.The measurements to be made are necessary for our further investigation. 8.Here is the metal to be used as a conductor.9. Here is the device to help you in the experiment.

Ex 7. Answer the following questions. Follow the model.
<u>Model:</u> What must we do for the computer to start calculations? (to program). For the computer to start calculations we must program it.
1.What must we do for the reaction to take place? (to raise the temperature). 2. What must we do for the particles to be accelerated? (to direct them properly). 3. What must we do for the current to flow in the circuit? (to apply a positive charge to the plate). 4. What must we know for this equation to be solved? (to know the relation between these values). 5. What must we do for the method to be a success? (follow it accurately). 6. What must we do for the valve to be blocked? (to apply a strong negative charge to the grid). 7. What must we get for these phenomena to be explained? (to get some new information). 8. What must we do for the whole system to function automatically? (to use some electronic equipment).

Ex. 8. Report what these people said.
Model 1: *The instructor said to the students, "Switch off the power immediately".*
The instructor <u>told the students to</u> switch off the power immediately.
1. Sasha said to Sergey, "Connect the ammeter to the circuit".
2. Alice asked Oleg, "Control the electrical pressure in the circuit".
3. Denis warned Natasha, "Take the bulb out of the socket first".
4. Kate reminded Oleg, "Measure the potential difference across two points in a circuit".

Model 2: *Mr. Pavlov said to the students, "Don't increase the pressure in the system".*

Mr. Pavlov <u>told the students not to</u> increase the pressure in the system.

1. Alice said to Paul, "Don't switch on the power".

2. Natasha warned Oleg, "Don't connect the contacts of the circuit".

3. Alice asked Susan, "Don't use faulty electrical devices in your work".

4. Nick ordered Ann, "Don't touch the socket".

Ex. 9. Translate the following sentences into Russian. Pay attention to the difference in meaning of Simple and Complex Object.

<u>Simple Object</u>	<u>Complex Object</u>
1. He wants to make it himself.	1. He wants <u>me to make</u> it myself.
2. I should like to take part in this work.	2. I should like <u>everybody to take part</u> in this work.
3. The scientist expected to obtain some new data.	3. The scientist expected <u>his assistants to obtain</u> some new data.
4. He supposes to finish the work in an hour.	4. He supposes <u>us to finish</u> the work in an hour.
5. I want to explain these phenomena myself.	5. I want <u>you to explain</u> these phenomena.
6. We expect to solve this problem successfully.	We expect the group to solve this problem.
7. We should like to know the results.	7. We should like them to know the result.

Ex.10. Translate the following sentences into Russian.

1.They watched <u>the operator remove</u> the rod from the sphere. 2. We observe <u>the pressure of a given mass of a gas decrease</u> as the temperature decreases. 3. The engineer made his <u>assistant check</u> the results many times. 4. We know <u>a diode to behave</u> as one-way resistance, this property being used for rectifying currents. 5. He supposes <u>this phenomenon to occur</u> in the upper layers of atmosphere. 6. We know <u>research to have been completed</u> successfully. 7. They thought <u>the information to have been published</u> recently. 8. Knowing <u>him to be good at mathematics.</u> I asked him to explain this rule.

Ex. 11. Complete the following questions using the Complex Object with the Infinitive.

1.Do you expect him (come).2 . Did you hear her (sing) 3. Do you often see them (play chess) 4. Do you like me (read aloud). 5. Do you want

him (bring the book). 6. Did anybody find the rule (be difficult). 7. Does he know her (swim well). 8. Do you think him(be a good sportsmen).

Ex. 12. Change complex sentences into simple ones using the Complex Object.
Model: I saw that he did it.
I saw him do it.
1. I heard how he played the piano. 2. He thinks that she is clever. 3. The teacher watched how his pupils prepared their home-work. 4. She ordered that the books should be close. 5. I found that she was a skilled worker. 6. We did not expect that the weather would change. 7. She believes that they will invite her to the party. 8. We noticed that she fell down.

Ex. 13. These two sentences have a different structure but the same meaning. Change the structure of the sentences below so as to keep their meanings unchanged.
Model: *This allowed him to follow the rules.*
This allowed the rules to be followed.
1. This device enables the students to measure the current in the circuit.
2. This analysis permitted them to obtain new data.
3. The information enables us to predict the properties of the new substance.
4. This result forced them to check the circuit again.
5. Modern equipment caused us to introduce new methods.
6. The tutor would like us to complete the coursework on time.

Ex. 14. Find Complex Object in the following sentences. Translate them into Russian.
1.We expect these phenomena to have been investigated. 2.Everybody considers him to be a great organizer.3. We found that effect to have been unknown. 4. Nobody observed this value decrease. 5. You can see the needle make a great oscillation. 6. We expected him to demonstrate the relationship between magnetism and electricity. 7. You can see this magnet to be placed in a uniform external magnetic field. 8. We consider these two phenomena to be of common origin.

Ex. 15. Match the beginnings of the sentences with their ends. Pay attention to the verbs used with Complex Subject.

1. Second-year students are expected to …
2. The kilowatt-hour is known to …
3. Alternative sources of energy are considered to …
4. The solar village was reported to …
5. The resources of fossil fuels seem to …
6. Solar-powered cars turned out to …
7. A small windmill is likely to …
8. Electricity and magnetism are sure to…

a) generate 100 kilowatts of electricity.
b) know the basics of electricity.
c) be the unit measure of electricity.
d) be inexhaustible.
e) produce no pollution.
f) be connected.
g) come to an end.
h) be built in Australia

Ex. 16. Open the brackets and use the verbs in the correct form.

1. Some materials (to prove) to produce electricity when they are exposed to light.
2. The battery (to be likely) to be recharged.
3. Mr. Frolov (to say) to be a good engineer.
4. The collector (to suppose) to be black.
5. That energy source (to seem) to be inexhaustible.
6. A specialist (to expect) to tackle all the technical problems.
7. The solar thermal heating systems (to assume) to be very efficient

Ex.17. Match a line in A with a line in B.

 A

1. What is so special about these cars?
2. Are solar-powered cars fast?
3. What are the drawbacks of these cars?
4. Why are solar-powered cars created?
5. There are still numerous problems to tackle.
6. Are solar heating systems cost-efficient?

B

a. They are believed to reduce water-heating costs by about 50%.

b. They appear to be very expensive.

c. Well, they are considered to be pollution free.

d. It seems so.

e. Yes, they are reported to win races.

f. We are likely to run out of fossil fuels soon and there will be no petrol.

Ex.18. Find Infinitives or Infinitive constructions in the following sentences.

1.	I wanted you to help me to weld these two pieces by an electric arc.

2.	He suddenly felt the electrode touch the surface of the workpiece.

3.	Robots are supposed to facilitate people's work.

4.	The short circuit is reported to have caused a lot of damage.

5.	To drive safely it is important to check the brake system regularly.

6.	All this makes me think that it is fascinating to experiment with lasers.

7.	You are likely to spot distant planets if you know about Doppler's effect.

8.	Ecologists would not like CFCs to be used as industrial gases.

9.	The material to be investigated is of great value.

10.	The need to develop stronger alloys forces the experiments to be continued.

Ex.19. Translate the following sentences paying attention to the for-phrases.

1.	The students were waiting for the professor to explain the properties of a newly developed alloy. 2. It is for you to choose which of the two methods to use. 3. Watch the operation of this machine; this is the only thing for you to do. 4. It was impossible for the Russian Academy of Sciences not to acknowledge Kovalevskaya's merits after they had been so highly appreciated abroad. 5. It was for her to decide whether to repeat the experiment or not. 6. It is advisable for engineering students to know the properties of various alloys.

Ex 20. Choose the correct translation for the underlined part of the sentence.

1. The scientists are said <u>to be developing</u> solar thermal heating systems nowadays.

a) разработали b) разрабатывают

2. They seem <u>to have improved</u> previous results.

a) улучшают b) улучшили

3. An experimental solar heating systems proves <u>to have been built</u> in this region.

a) строится b) был построен

4. Our total solar energy consumption is estimated <u>to be increasing.</u>

a) увеличивается b) увеличится

5. The research is reported <u>to have been carried out</u> successfully.

a) было проведено b) будет проведено

6. The sufficient amount of electricity is likely <u>to be generated</u> by a small windmill.

a) вырабатывается b) вырабатывает

Ex 21. Read and translate the following sentences into Russian. Point out the Complex Subject.

1.The people of all ancient civilizations are known to have made maps. 2. Great changes are expected to take place in the economies of developing countries in the near future. 3. The Congress is believed to be attended by more than 300 representatives from different countries. 4. The session was announced to last for three days. 5. The group is asked to calculate the energy of the particles. 6. This vacuum tube seems to have been in operation for a long time.

Ex 22. Insert *to* where necessary.
1. You should … recharge your car battery directly.
2. He made me … use protective clothing during welding.
3. We would like you … show us how the actuator works.
4. The function of a thermometer is … measure the temperature.
5. … obtain an alloy, one must … mix metals with non-metals.
6. The distance … be measured is between these two points.
7. Professor watched the students … quench a steel bar in oil.
8. Don't let children … play with matches.
9. Domestic appliances are supposed … consume plenty of electricity.

10.   It is obviously necessary … demonstrate the properties of this substance to the researches.

Ex 23. Define the functions of the Infinitive. Translate the sentences into Russian.

1.   To dissolve this substance is difficult. 2. The purpose of tension test is to determine the mechanical characteristics of a material. 3. The design of a mechanism depends on the work to be done. 4. The construction of a new bridge was reported to have been completed. 5. They are unlikely to change their plans. 6. This material is sure to help you in your work. 7. To determine the density of a body, it is necessary to determine its mass and its volume. 8. Your task is to conduct the experiment.

Ex. 24. Answer the following questions. Use the Complex Subject Construction in your answers. Follow the model.

Model: Shall we finish the work today? (expect)

          We are expected to finish it.

1.Will such definitions simplify calculations? 2. Are these forces interrelated? (suppose) 3. Are the magnetic forces due to forces between currents? (find) 4. Are the current loops all pointed in the same direction? (find) 5. Do the current loops in atoms cancel each other out? (believe) 6. Is any sample of ferromagnetic material made up of macroscopic domains? (suppose) 7. Have ferromagnetic substances any peculiar properties? (know).

Ex. 25. Translate the following negative sentences into Russian. Notice the way they are translated. Follow the model.

Model: He doesn't seem <u>to know</u> them.

          По-видимому, он не знает их.

1.He doesn't seem to use this device. 2. There doesn't seem to be any relationship between these values. 3. This substance doesn't seem to have this property.

Model: The temperature is unlikely to fall.

          Маловероятно, что температура понизилась.

1.This method is unlikely to give the results required. 2. This plan is unlikely to have been changed. 3. Our results are unlikely to be similar to those reported by Dr.Smith.

Ex 26. Translate into Russian. Mind the translation of the verb "to prove"

Model: <u>We proved</u> this suggestion to be wrong

Мы доказали, что это предположение неверно.

<u>The suggestion was proved</u> to be wrong

Было доказано, что это предположение неверно.

<u>The suggestion proved</u> to be wrong

Предположение оказалось неверным.

1.<u>We proved</u> this substance to be very dense. 2. This substance proved to be very dense. 3. The experiment proved the particles to collide with great force. 4. The particles were proved the particles to collide with great force. 5. The particles proved the particles to collide with great force. 6. For years scientists couldn't prove this element occur naturally. 7. For years this element was not proved to occur naturally. 8. This element didn't prove to occur naturally.

Ex 27. Translate the following pairs of sentences and compare them.

1.   We expect any processing engineer to be familiar with the basic fabricating processes. Any processing engineer is expected to acquainted with the basic fabricating processes. 2. We know electronic equipment and turbine parts to be produced by different fabricating processes. Electronic equipment and turbine parts are known to be produced by different fabricating processes. 3. A processing engineer considers the choice of the most economical manufacturing process to be of great importance. The choice of the most economical manufacturing process is considered to be of great importance. 4. People proved iron to be readily cast into various shapes a long time ago. Iron was proved to be readily cast into various shapes long ago. 5. Technologists believe casting to have been used for centuries for producing a wide variety of articles. Casting is believed to have been used for centuries for producing a wide variety of articles. 6. Foundrymen expect casting processes to be developed in such a way that most castings will require no machining operations. Some casting processes are expected to produce castings which will require no machining operations.

Ex. 28. Read and translate the following sentences. Point out the Complex Object and the Complex Subject.
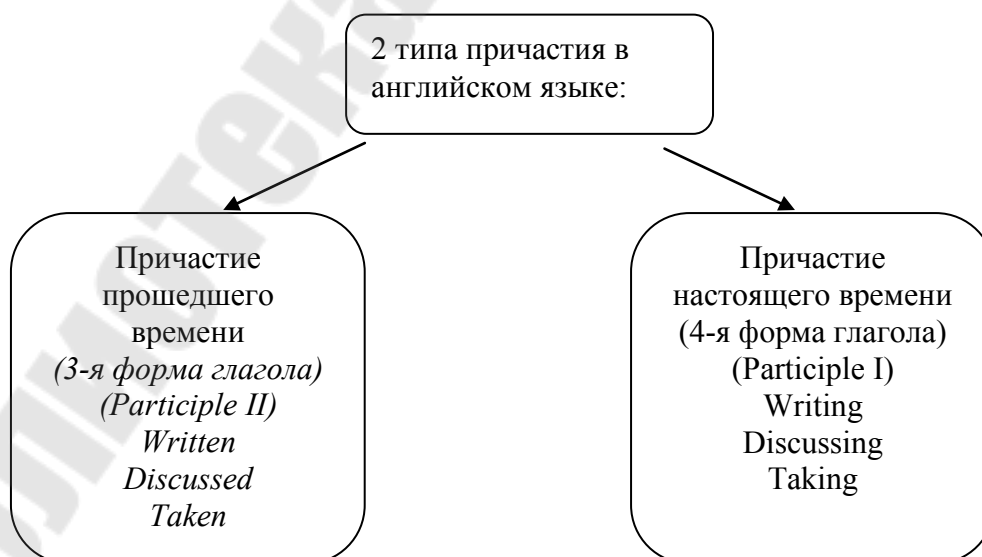
1. The conference was declared to have been cancelled.

2. We know the scientists to have made an important discovery in electronics.

3. I heard them speak about the replacement of some equipment in one of the shops.

4. Our Head Engineer was known to have made an important discovery.

5. This process seems to have been introduced long ago.

6. The designer wanted the design of a new jet plane to be improved.

7. All the difficulties are believed to have been overcome.

8. The creation of complex modern machines is considered to require a thoroughly developed industry and a light technical level in all branches of industry.

9. I often saw them make experiments in the physics laboratory.

10. The conference on the ecological problems is supposed to open on October 19

11. The driver wanted the car to be filled up.

12. The scientists expected their assistants to obtain some new data.

UNIT 7
ПРИЧАСТИЕ (THE PARTICIPLE)
А) Теоретическая часть

Это неличная форма глагола, которая имеет функции как прилагательного и наречия, так и глагола

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                    ┌─────────────────────┐
                    │ 2 типа причастия в  │
                    │ английском языке:   │
                    └─────────────────────┘
                      ↙                 ↘
┌──────────────────────┐      ┌──────────────────────┐
│     Причастие         │      │     Причастие         │
│    прошедшего         │      │  настоящего времени   │
│      времени          │      │  (4-я форма глагола)  │
│ (3-я форма глагола)   │      │    (Participle I)     │
│   (Participle II)     │      │      Writing          │
│     Written           │      │     Discussing        │
│    Discussed          │      │      Taking           │
│     Taken             │      │                       │
└──────────────────────┘      └──────────────────────┘
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Формы причастия (на примере правильного глагола)

	Active	Passive
Indefinite	asking	being asked
Perfect	having asked	having been asked

Формы причастия (на примере неправильного глагола)

Tense Voice	Active	Passive
Indefinite	giving	being given
Perfect	having given	having been given

Participle I Indefinite обозначает действие, одновременное с действием глагола-сказуемого. While translating difficult technical texts we use a dictionary. Переводя трудные технические тексты, мы пользуемся словарём.

Participle I Perfect обозначает действие, предшествующее действию, выраженному глаголом-сказуемым. Having read the book I returned it to the library. Прочитав книгу, я вернул её в библиотеку.

Функции причастия I
В предложении причастие I (Participle I) может быть:

1. Определением. В этой функции употребляется только Participle I Indefinite, которое соответствует русскому причастию настоящего времени в той же функции. A smiling girl. Улыбающаяся девочка.

The men building our house with me are my friends. Люди, строящие наш дом вместе со мной, -- мои друзья.

The house being built in our street is a new building of office.

Дом, строящийся на нашей улице -- это новое здание офиса.

2. Обстоятельством. В этой функции Participle I Indefinite Active чаще всего стоит в начале предложения и переводится на русский язык деепричастием несовершенного вида.

Making experiments we carefully put down the results.

Делая опыты, мы тщательно записываем результаты.

Перед таким причастием в функции обстоятельства часто стоят союзы when или while. Такие словосочетания переводятся либо деепричастным оборотом (или деепричастием) с опущением союза, либо придаточным предложением, которое начинается с союзов "когда", "в то время как".

While translating the article the student consulted the dictionary. <u>Переводя</u> статью, студент пользовался словарём. / <u>Когда</u> <u>студент</u> <u>переводил</u> статью, он пользовался словарём.

Participle I Indefinite Passive

<u>Being left</u> alone, I went on working.<u>Оставшись</u> один, я продолжал работать.

Participle I Perfect Active переводится деепричастием совершенного вида.

<u>Having slept</u> two hours he felt rested.

<u>Поспав</u> два часа, он почувствовал себя отдохнувшим.

Participle I Indefinite Passive в функции обстоятельства (времени, причины) переводится обстоятельственным придаточным предложением. При этом в качестве подлежащего русского придаточного предложения употребляется подлежащее английского предложения.

<u>Being well prepared</u>, he answered at once.

<u>Будучи хорошо подготовленным,</u> он сразу же ответил.

3. <u>Частью сказуемого</u>. Participle I Indefinite Active может быть частью сказуемого.

A page is <u>missing</u> from the book. В книге <u>не хватает</u> страницы.

Причастие II (Participle II) – неличная форма глагола (III основная форма глагола), имеет одну неизменяемую форму со страдательным значением и обозначает действие, которое испытывает на себе лицо или предмет. Оно соответствует в русском языке причастию страдательного залога.

Причастие II правильных глаголов имеет ту же форму, что и Past Indefinite, и образуется при помощи прибавления суффикса –ed к основе глагола to ask – <u>asked</u>, to help – <u>helped</u>.

Образование причастия II неправильных глаголов смотрите по таблице неправильных глаголов.

Подобно причастию I, причастие II обладает свойствами глагола, прилагательного и наречия. Как и глагол, оно обозначает действие. Время действия, обозначаемое причастием II, определяется временем действия глагола-сказуемого или контекстом.

The economic book <u>discussed</u> yesterday <u>was</u> interesting. Экономическая книга, <u>обсуждавшаяся</u> вчера, была интересной.

The books <u>discussed</u> at the lessons <u>are</u> always interesting. Книги, <u>обсуждаемые</u> на уроках, всегда интересны.

Функции причастия II

В предложении причастие II может быть:

1. <u>Определением</u>. We installed a new <u>heating</u> system. Мы установили новую обогревательную систему.

We live in the house <u>heated</u> by the Sun all the year round. Мы живем в доме, который обогревается солнцем круглый год.

2. <u>Обстоятельством</u>. Перед причастием II в функции обстоятельства могут стоять союзы if, unless, when. В таком случае английское причастие переводится обстоятельственным придаточным предложением, в котором подлежащее то же, что и в главном предложении. <u>If built</u> of the local stone, the road will serve for years. <u>Если построить дорогу</u> (<u>Если дорога построена</u>) из местного камня, она будет служить долгие годы.

<u>Building</u> solar houses we save energy. Строя дома на солнечных батареях, мы сохраняем энергию.

3. <u>Частью сказуемого.</u> I <u>am</u> very much <u>obliged</u> to you. Я очень вам <u>обязан</u>.

Независимый причастный оборот
(the Nominative Absolute Participial Construction)

В этой конструкции причастие I выражает действие, не связанное с действием, обозначенным глаголом-сказуемым предложения. Сам оборот состоит из существительного в общем падеже (реже местоимения в именительном падеже) и причастия I. Действие, выраженное причастием, относится к этому существительному (или местоимению). Этот оборот характерен для письменной речи и почти не употребляется в разговорной. В предложении этот оборот выступает в роли обстоятельства и на письме всегда отделяется запятой от остального предложения. На русский язык переводится придаточным предложением или самостоятельным предложением.

<u>The sun having risen</u>, we continued our way. <u>После того, как солнце взошло,</u> мы продолжили свой путь. (обстоятельство времени)

<u>The article having been translated</u>, the student showed it to the teacher. <u>После того как (когда) статья была переведена,</u> студент показал её преподавателю. (обстоятельство времени)

An experiment was carried out yesterday, new equipment <u>being used.</u>

Вчера был проведен эксперимент, причем использовалось новое оборудование.

Речевые структуры:

Seeing that I was late, I hurried.   Видя, что я опаздываю, я поторопился.

Being left alone, I signed this document.   Оставшись один, я подписал этот документ.

Having read the book he went to the library.   Прочитав книгу, он пошел в библиотеку.

Having been shown the wrong direction, he lost his way.

 Ему неправильно показали дорогу, и он заблудился.

 On our excursion we saw a wall built many hundreds years ago.

 На экскурсии мы видели стену, построенную много сотен лет назад.

The weather permitting, we shall go to the country. Если погода позволит, мы поедем за город.

В) Практическая часть.

Ex 1. Translate the following sentences into Russian. Mind the use of Participle I in the function of the attribute.

1. He oiled the moving parts of the machine carefully. 2. They looked at the flying jet plane. 3. The engineer examining the new machine tool works at this plant. 4. The developing industry of our country meets the demands of our people. 5. The student answering the lesson is from our group. 6. A triode is a vacuum tube consisting of three elements. 7. The space surrounding a charged body is called an electric field of force.

Ex. 2. Express the same idea in a shorter way.

Model: *The engineers who researched fossil fuels came to disappointing results.*

        The engineers researching fossil fuels came to disappointing results.

1. In the future we are certain to have vehicles that will move at a greater speed.

2. The student, who is controlling the work of a relay, does not follow safety rules.

3. The person who changes a burnt bulb must switch off the power first of all.

4. In the laboratory I found students that were studying the work of a switching device.

5. Windmills that make 100 kW can provide enough electricity to power several houses.

6. Man that consumes a lot of energy is faced with the energy shortage.

Ex. 3. Translate into Russian. Mind the use of Participle II in the function of the attribute.

1. The metal discovered found wide application in industry. 2. The work done was of great importance. 3. The results discovered were of great interest. 4. The methods of calculation used showed good results. 5. The laboratory equipment used was of simple construction. 6. This is the lightest element known in nature. 7. This is the most promising theory developed lately. 8. We discussed the machine tested.

Ex. 4. Join these sentences into one.

Model: *Students were carrying out a test in the lab. They were discussing it.*

They were discussing the test <u>being carried</u> out in the lab.

1. The battery is producing a current. I'd like you to measure it.

2. Engineers are constructing solar villages worldwide. They are very economical.

3. Man is exhausting fossil fuels quickly. They are not likely to last long.

4. They are tackling the energy problem now. The problem is of great importance.

5. The teacher is checking an electric circuit. It is broken.

6. Olga is connecting the coils to a battery. They are made of copper.

Ex. 5. Provide more detailed information.

Model: *Scientific investigations were of great value.(to carry out in this lab)*

Scientific investigations <u>carried out in this lab</u> were of great value.

1. The new properties of engineering materials have been discussed at the last seminar. (to refer to at the lecture)

2. The results of the check of the complete electric circuit have revealed many faults. (to describe in the engineer's report)

3. Numerous advantages of a new personal computer interested scientists from different countries. (to enumerate in the report)

4. The lecture was followed by a demonstration of interesting data. (to obtain during a set of experiments)

5. The car does not pollute the environment. (to supply with solar batteries)

6. Robots have made our life much easier. (to develop recently)

Ex. 6. Choose the right option.

1. The engineers *tackling/tackled/being tackled* the energy problem did not reach a compromise.

2. The equipment *delivering/delivered/being delivered* yesterday has just been installed.

3. The coils *connecting/connected/being connected* to each other will be attached to a battery through an on-off switch.

4. Tests of the properties of the electromagnetic circuit *carrying /carried/being carried* out by this team have shown good results.

5. The high voltage circuit *checking/checked/being checked* now will be used soon.

6. Many people are against power plants *burning/burnt/being burnt* waste.

Ex. 7. Open the brackets and use Participles in the right form.

1. Scientists (to deal) with solar energy have made great progress.

2. The investigation (to carry out) by the students now is very interesting.

3. The bulb (to turn) into the socket burnt out at once.

4. The project (to discuss) by the engineers at the moment has numerous advantages.

5. The professor (to deliver) a lecture on the use of solar energy provided working models.

6. In Japan there are many villages (to use) geothermal energy of the Earth for heating.

Ex. 8. Replace the Attributive Clause either by the Participle I or II. Follow the models.

Model 1: A barometer is an instrument which measures atmospheric pressure. A barometer is an instrument measuring atmospheric pressure.

Model 2: The metal which was discovered was called gallium. The metal discovered was called gallium.

1. Our delegates made reports at the conference which was organized in Warsaw. 2. The people who were organizing the conference made a great deal of work. 3. Experiments which are demonstrated at our lectures on physics are always of great interest. 4. Experiments which demonstrate this property can be easily made. 5. A scientific study of properties which were predicted began much later. 6. A study of properties which predict new discoveries must begin at once. 7. The methods which are used at our factory give good results.

Ex. 9. Make all possible sentences, matching the actions that take place at the same time.

Model: *to repair the car / to follow the mechanic's instructions*
   (When) repairing the car I followed the mechanic's instructions.

to park your car	to remember about the speed limit
to maintain the car in order	to start the engine
to press the accelerator	to save yourself a lot of trouble
to push a car forwards and backwards	to consider road signs
to introduce automated vehicles	to keep the distance
to drive a car	to take into account the safety of traffic

Ex. 10. Explain why these things happen.

Model: *The spark plugs gave a spark at last. (to clean)*
   Being cleaned the spark plugs gave a spark.

1. The engine needs cooling. (to heat)
2. The ammeter is recording no current. (to break)
3. The moving parts work almost without friction. (to oil)
4. Solar-powered systems operate at night. (to supply with batteries)
5. The project promises good results. (to design carefully)
6. The car needs a serious overhaul. (to damage)

Ex. 11. Study the following sentence and point out the difference in their translation.

1. a) A car running on hydrogen was invented long ago.
b) Running on hydrogen this car is not likely to cause pollution.
2. a) Students attending classes regularly study better.

b) Attending classes regularly students understand the material quicker.

3. a) The exhaust system being repaired at the moment produces too much smoke.

b) Being repaired by a skilful mechanic the exhaust system is now in order.

c) If not repaired the exhaust system will have to be replaced.

4. a) When redesigned the engine will perform better.

b) Being redesigned completely the engine became more efficient.

c) The engine redesigned and improved by the researchers showed excellent performance.

Ex. 12. Choose the appropriate form of the Participle. Translate the sentences into Russian.

1. … this device they could use it for several purposes. A) improved, B)having improved, C)improving 2. The metal … in the experiment is titanium A) using, B) having used, C) being used 3. …water become ice A) cooling, B) being cooled, C) having been cooled 4. The scientist … at this method is well known A) being worked, B) working, C) worked 5. ...many years ago this metal found wide application in industry A) having been discovered, B) discovering, C) being discovered 6. …the experiment he used some new devices A) having carried (out), B) carried (out), C) carrying(out) 7. … the first and the second lengths we may find the area. A) having defined, B) defining, C) defined.

Ex. 13. Use the appropriate form of the Participle of the verbs in brackets.

<u>Model</u>: (to open) the door I saw his friend at the window.

Opening the door I saw his friend at the window.

1. The student has translated the article (to write) by famous Russian botanist. 2. The construction of power stations (to operate) on atomic fuel is of great importance for the development of our economy.3. When (to translate) the article the student used a dictionary. 4. The amount of electricity (to generate) depends on many factors. 5. While (to look) through the paper ha was listening to their conversation. 6. The man (to sit) at the table is an outstanding scientist. 7. The machine (to use) showed good results. 8. When (to complete) the translation will be given to the engineer.

Ex. 14. Define the functions of Participles I and II. Translate the following sentences into Russian.

1. When moving in space any object does work. 2. If carefully programmed, the computer makes no errors. 3. Now nuclear reactor is one of the most reliable devices producing atomic energy. 4. The machine used showed good results. 5. While speaking of the peaceful use of atomic energy, it is necessary to mention nuclear power plants. 6. Using new methods we shall increase the speed of analysis. 7. When heated to the boiling point water evaporates. 8. The flight of any object moving through the air depends upon the laws of aerodynamics.

Ex.15. Translate the following sentences into Russian.

1. I saw the machine prepared for work. 2. I found the work done and them gone. 3. You may hear him talking with a group of workers. 4. We watched the students making experiments. 5. I heard him delivering a lecture on that problem. 6. You can see them starting their work. 7. They saw us preparing for the experiment. 8. We matched the instruments being packed.

Ex.16. Make up sentences, using the Complex Object. Follow the model.

<u>Model:</u> He opened the door. I saw it. I saw him opening the door.

1. He smoked in the corridor. I saw it. 2. She left the room noiselessly. I felt it. 3. She cooked dinner. I watched it. 4. He wrote a letter. I saw it. 5. They took their seats. I noticed it. 6. He packed his things. I saw it. 7. She read aloud I heard it. 8. He answered the questions well. I heard it.

Ex.17. Complete the sentences using Complex Objects.

1. We heard the teacher (speak to him). 2. I saw him (play chess). 3. We watched the plane (fly in the sky). 4. They heard the director (speak at the meeting). 5. I saw my friend (play the piano). 6. He felt somebody (pull him be the sleeve). 7. She noticed her sister (to take the book). 8. We heard the bell (to ring).

Ex.18. These two sentences have a different structure but the same meaning. Change the structure of the sentences of the sentences below so as to keep their meaning unchanged.

Model: We found that a laser beam is split by means of a beam-splitter device.

We found that <u>a laser beam being split</u> by means of a beam-splitter device.

1. We found that a laser beam is split into two separate beams.

2. The students assumed that laser beams are reflected off the two mirrors.

3. She supposed that one of the laser beams is reflected off the mirror onto the holographic plate.

4. You heard how the teacher was explaining the properties of a laser beam.

5. I'd like to watch how they are working with a holographic plate.

6. We consider that a hologram is a three-dimensional image.

Ex.19. Change the structure of these sentences so as to keep their meaning.

Model: It is found that a laser produces a powerful beam of light.

A laser is found producing a powerful beam of light.

1. Ii is known that lasers produce multidimensional images.

2. It is found that a laser beam is split into two beams.

3. It is assumed that holograms are widely used in industry.

4. It is believed that this group of researches experiments with a new type hologram.

5. It is considered that this scientist applies advanced methods of research.

6. It is observed that the student explains the principles of hologram production.

Ex. 20. Say how you want these things changed.

Model: A: *The laser is out of order (to fix)*

B: I'd like <u>to have (see, get, ect.) the laser fixed</u>.

1. The beam-splitter has gone wrong (to test).

2. The hologram has been badly produced (to reproduce).

3. The green safelights are out of order (to measure them again).

4. The dimensions of the object are badly measured (to measure them again).

5. The equipment for making a hologram is not ready yet (to prepare).

6. The TV-set is producing a lot of noise (to switch off).

Ex. 21. Make one sentence from each pair using the Absolute Participle Construction according to the model.

Model: The translation is done. I can take another article.

The translation being done, I can take another article.

1. The student is unable to solve this equation (управление). We must show him how to do it. 2. The bridge was completed. The communication between two regions of the city was improved. 3. The car reached the station in time. They were not late for the train leaving for Minsk. 4. New electronic devices have been recently constructed. Their application is especially important in space communication. 5. In this article particular attention is paid to the construction of the house. It is built of glass and plastics. 6. Technology has reached a high stage of development. New methods of work became possible. 7. The site for the railway station has been chosen. Many transport facilities are being built there. 8. These integrated circuits are unsuitable for our computer. We found other ones to replace them. 9. Everything is ready. We may start testing the computer.

Ex. 22. Translate the following sentences into Russian. Mind the difference in translation of the Absolute Participial Construction.

Having introduced new production methods the workers raised their labour productivity. 2. The new production methods having been in-troduced, the productivity of labour at the plant went up. 3. Electrical devices find a wide application in every house, a refrigerator being one of them. 4. The cheapest large collector of solar energy is an ocean or a lake, its waters being heated by the sun.

Ex. 23. Split these complex sentences into simple ones using suitable conjunctions. Pay attention to the translation of Absolute Participial Constructions into Russian.

Model: A hologram is a three-dimensional image, special equipment being necessary to produce it.

A hologram is a three-dimensional image and special <u>equipment is necessary</u> to produce it.

1. A holographic plate is a piece of glass coated with a substance, the latter being sensitive to light.

2. The first beam is reflected off the mirror onto the holographic plate, the second beam being reflected onto the object.

3. One beam is called the reference beam, the other being called the object beam.

4. The analysis of the new data having been carried out, the researchers made an interesting report.

5. A beam-splitter having been repaired, the students began to make a hologram.

6. The experiments having been carried out, the students started a new series of tests.

Ex. 24. Read the text attentively and learn about the most common faults in the car and the ways to repair them.

Finding a Fault in the Car

Servicing your car regularly you prevent it from becoming unreliable. Of course, you can't foresee everything. Having failed to start the car in the morning you had better check three things first: the battery, the fuel level and the spark plugs. It is quite easy to repair these faults.

If the battery appears to be flat it is necessary to recharge it. If this doesn't work, you should replace it.

An empty tank is another common fault in the car. Having noticed a fuel warning light on the instrument panel of your car you should fill up the tank with more petrol.

Dirty spark plugs are also certain to cause a problem. To drive the car it is important to clean them regularly and adjust the gap in the spark plugs to the proper width. If the gap is not correct the engine will not run well.

If your car still does not start, the petrol pump may be broken, or the fuel pipe may be blocked. Having discovered a broken pump, it is a good idea to repair or replace it. If the fuel pipe is blocked, take it off and unblock it.

Having heard a loud CLICK! when you turn the key, you are sure to realize that the starter motor may be jammed. If it is, you can try to release it pushing the car forwards and backwards(in the 2nd gear).If the car still doesn't starts, the starter motor should be repaired or even replaced.

If you are a poor mechanic, stopping at service stations periodically you will save at least time and money .As they say, prevention is better than cure.

Ex. 25 Answer the following questions.
1. Do modern cars need servicing regularly?
2. What are the three most common faults in the car?
3. What should you do if the battery appears to be dead?
4. What does a fuel warning light show?
5. Why is there no spark sometimes?
6. What is likely to happen to the petrol pump?
7. How can the fuel pipe become blocked?
8. How do you know that the starter motor is likely to be jammed?

Ex. 26 Read the dialogue and learn what faults can occur in a car.

Peter: Alex, I would like you to have a look at my car, please.

Alex: What's wrong with it?

Peter: I don't know. Having just started the engine stops again.

Alex: There is no petrol in the tank, I'm afraid.

Peter: On the contrary! The tank is full and the battery seems to be in order.

Alex: Let's go into the garage then and ask Denis to have a look at it. He is said to be a good car mechanic and is sure to find the fault in your car.

Peter: OK. Considering the situation, we are going to need his help.

(a couple of hours later)

Peter: What are you busy with?

Denis: I'm repairing the engine of your car.

Peter: But what has happened? It's quite new as far as I know.

Denis: Don't you understand that you should newer operate the engine if the air filter is out of order? Well, having entered the engine, dust and dirt damaged the cylinders, pistons and piston rings.

Peter: OK, I get it, I should have changed the filter.

Denis: Yes. By the way, have you ever checked your spark plugs?

Peter: Let's see… But they are as good as new!

Denis: Certainly, they are all right. Having cleaned and tested them, I only have to repair the engine now.

Peter: Oh, now it's clear why there was no spark.

Denis: And there wouldn't be. Being covered with oil the spark plugs will not give a spark. That's why your engine stops.

Peter: I see.

Ex. 27. Complete the following dialogues.

a)   – Vlad, …?

        – …

        – What's wrong with it?

        – …

b)   – …

        – The tank is full, I have checked it.

        – What about the …?

        – …

c)   – Well, let's go into the garage and …

        – Is he good at repairing cars?

        – …

        – OK. …

d)   – The engine seems completely … . What can it be?

        – Look here, the spark plug is … .

        – … The car won't start as … .

UNIT 8
ГЕРУНДИЙ(THE GERUND)
А) Теоретическая часть

Эта неличная форма глагола имеет свойства как глагола, так и существительного. Подобной неличной формы в русском языке нет. Как существительное он может выполнять в предложении функции подлежащего, дополнения, определения и обстоятельства с предлогом. Как глагол может иметь после себя прямое дополнение и определяться наречием, иметь перфектную форму, категорию залога, а также выражать действие как процесс.

Герундий образуется от основы глагола с помощью суффикса – ing.

To transl<u>ate</u> – translat<u>ing</u>, to read – read<u>ing</u>.

Формы герундия (на примере правильного глагола)

Tense Voice	Active	Passive
Indefinite	asking	being asked
Perfect	having asked	having been asked

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Формы герундия   (на примере неправильного глагола)

Tense Voice	Active	Passive
Indefinite	giving	being given
Perfect	having given	having been given

Формы Indefinite Gerund обозначают действия, одновременные с действием, выраженным глаголом-сказуемым.

He likes <u>inviting</u> friends to his place. Он любит <u>приглашать</u> друзей к себе.

He likes <u>being invited</u> to his friends. Он любит, <u>когда его приглашают</u> к себе его друзья.

Перфектные формы герундия (Perfect Gerund) обозначают действия, предшествующие действию, выраженному глаголом-сказуемым.

He is proud <u>of having invited</u> this man to his place. Он гордится тем, что <u>пригласил</u> этого человека к себе.

He was proud <u>of having been invited</u> to the party. Он гордился тем, что <u>его пригласили</u> на вечер.

Функции герундия

В предложении герундий или герундиальный оборот может быть:

1. Подлежащим. <u>Reading</u> technical books is important for every specialist.

<u>Чтение</u> технической литературы важно для каждого специалиста.

Или: Каждому специалисту важно читать техническую литературу.

<u>Smoking</u> is not allowed here. <u>Курить</u> (<u>Курение</u>) здесь не разрешается.

2. Определением.

There are different ways of <u>obtaining</u> this substance. Существуют различные способы <u>получения</u> этого вещества.

3. Именной частью сказуемого. His hobby is <u>driving</u> a car. Его хобби – <u>вождение</u> (<u>водить</u>) машину (ы).

4. Прямым дополнением. The floor of the office needs <u>painting</u>. Пол этого офиса нуждается в <u>покраске</u> (<u>нужно покрасить).</u>

В вышеприведённых функциях герундий переводится существительным или инфинитивом.

5. Предложным дополнением. They spoke about their <u>travelling</u>. Они говорили о своём <u>путешествии</u> (том, <u>как они путешествовали</u>).

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В данной функции герундий переводится существительным или придаточным предложением.

6. Обстоятельством. <u>Learning</u> rules without examples is of little use. <u>Изучение</u> правил (<u>изучать</u> правила) без примеров приносит мало пользы.

Обратите внимание на предлоги, стоящие перед герундием:

By <u>doing</u> that you'll save a lot of time. <u>Делая</u> это, ты сэкономишь много времени.

Thank you <u>for coming</u>. Спасибо за то, <u>что вы пришли.</u>

Before going home, she locked the door of shop. <u>Прежде чем идти домой</u>, она заперла дверь магазина.

Герундиальный оборот

Герундий может определяться существительным в притяжательном или общем падеже, а также притяжательным или указательным местоимением. Такие герундиальные обороты обычно переводятся придаточным предложением, вводимым словами:

то, что; в том, что; тем, что; о том, что и т.п.

<u>John's returning</u> so late stayed unnoticed.

То, что Джон вернулся так поздно, осталось незамеченным.

<u>His returning</u> home so late surprised nobody.

Его возвращение домой так поздно никого не удивило.

Речевые структуры:

1. Excuse my coming late.

Извините за опоздание.

Простите меня за то, что я пришел поздно.

2. I am surprised at his being awarded the prize.

Меня удивляет, что ему дали премию.

3. The author reports having applied a new method.

Автор сообщает о том, что он применил новый метод.

4. He remembers having been asked to make a report.

Он помнит, что его попросили сделать доклад

В)Практическая часть

Ex. 1. Paraphrase the sentences using the Gerund when it functions as the Subject. Follow the model.

Model: It is interesting to read books. Reading books is interesting.

1. It is harmful to smoke. 2. It is necessary to write without mistakes. 3. It is interesting to play chess. 4. It is difficult to speak English. 5. It is

useful to read aloud. 6. It is not allowed to talk at the lessons. 7. It is necessary to consult the dictionary. 8. It is important to write dictations.

Ex. 2. These sentences have a different structure but the same meaning. Change the structure of the sentences below so as to keep their meanings.

Model: *To make a hologram is rather difficult.*

<u>Making</u> a hologram is rather difficult.

1. To produce a powerful beam of light is possible with the help of a laser.

2. To recognize a problem is the first step to its solution.

3. To establish relationship between natural phenomena is a major task of his theory.

4. To introduce the invention into practice sometimes requires more effort than making it.

5. To point out the mistakes to some people proves quite difficult.

6. To analyze the evidence correctly requires a lot of attention.

Ex. 3. Translate the following sentences with the Gerund in the function of the prepositional object.

1. They spoke of organizing a library, 2. I think of going to Minsk. 3. Thank you for having informed me about it. 4. You must be proud of being students. 5. Are you pleased at being a member of the expedition? 6. He tells me of his going on a business mission tomorrow. 7. He translated the story without using the dictionary. 8. I congratulated my friend by sending a telegram.

Ex. 4. Translate the sentences with the Gerund in the function of the adverbial modifier.

1. After returning to Minsk he resumed his work. 2. Before starting the engine you should carefully clean, and oil it. 3. It is easy to remember the spelling of the new words by repeating them several times. 4. You will never be able to translate correctly without knowing grammar well. 5. Instead of going home he continued his work. 6. After reading the article he made a short summary of it. 7. You can produce this solution by melting those liquids. 8. He opened the box without damaging the cover.

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Ex. 5. Say if it is impossible (hard, difficult, easy, etc.) to do these things.

Model: *to carry out underwater welding / to use robots*

It is hardly possible to carry out underwater welding <u>without using</u> robots.

to calculate at high speed / to apply a computer

to make further experiments / to estimate the results obtained

to control this robot / to reprogramme

to make the robot move / to use actuators

to make exact measurements / to use a laser

to apply new technologies in industry / to test them first

Ex. 6. Translate the following sentences. Learn the prepositions used before the Gerund.

1. She is surprised <u>at</u> hearing the news. 2. He is proud <u>of</u> winning the first prize. 3. Excuse me <u>for</u> coming so late. 4. She agreed <u>to</u> taking part in the rk immediately. 7. I thank you <u>for</u> calling on me. 8. He succeeded <u>in</u> writing a good composition.

Ex. 7. Paraphrase complex sentences into simple ones by using the Gerund.

<u>Model:</u> *When he was crossing the street he fell down.*

In crossing the street he fell down.

1. I was surprised when I heard his voice. 2. When I read the story I learned a lot of new expressions. 3. Before we wrote the test we listened to the teacher's explanation. 4. When he came home he found a letter. 5. Before she went to the South she consulted the doctor. 6. After they discussed the problem they adopted a resolution. 7. After he slept an hour he was able to continue his work. 8. When I listened to her story I decided to help her.

Ex. 8. Shorten these sentences but do not change their meanings.

<u>Model:</u> *Having made a hologram we drew up a laboratory report.*

<u>On (after) making a hologram</u> we drew up a laboratory report.

1. Having recognized the problem the scientist tried to find its solution.

2. Having changed the light spectrum we received another hologram.

3. Having invented the laser man expanded his possibilities.

4. Having studied the specific features of a new laser we put it into operation.

5. Having considered all the factors the engineers changed the whole system.

6. Having applied the laser at the works we increased the production dramatically.

Ex. 9. Define the functions of the Gerund. Translate the sentences into Russian.

1. Doing exercises every morning is necessary. 2. The engineer insisted on completing the work in time. 3. The method of experimenting usually gives excellent results. 4. Centrifugal training is an important element of preparing for space flight. 5. Experimenting is widely used in different branches of science and industry. 6. The main function of a transformer is changing voltage in the circuit. 7. The experimenting process generally takes considerable time. 8. On arriving at the port we began to repair the engine. 9. After having tested the motor the mechanic placed it at its place in the machine. 10. He could repair these parts without using a special device. 11. They started charging batteries. 12. The idea of water being carried through a pipe is very old. 13. By burning coal we may heat water in a boiler. 14. Special instruments for measuring cosmic rays are installed in any satellite. On having being adjusted the equipment operated properly. 15. We know of copper having been used as a conductor owing to its suitable characteristics. 16. They insisted on finishing the work not later than in a month.

Ex. 10. Join the two sentences into one using the Gerundial Construction functioning as the Subject.

Model: *He works at this problem. It is known to us.*

His working at this problem is known to us.

                  or:

He has made the experiment. It is important.

His having made the experiment is important.

1. They have obtained some new data. It is very important. 2. We had asked for help. It surprised him greatly. 3 He had stopped making experiments. It was unknown to us. 4. He had worked at the theory of magnetism. It helped him much. 5. He makes the calculations regularly. It helps us in our work. 6. They have repeated this operation many times. It is Important to remember. 7. He makes use of this device. It will give good results.

Ex. 11. Translate the following sentences Into Russian.

1. His having made such a discovery interested everyone. 2. Our having finished all the experimental part in time did not surprise them. 3. Their having obtained the new equipment will help them greatly. 4. Their being invited to the conference was known to us. 5. Her working in this field of physics was mentioned at the conference. 6. His having taken part in the conference was reported in the press. 7. His having failed in the examination was due to his illness. 8. Her not getting ready for the examinations was discussed at the meeting of the group.

Ex.12. Join to sentences into one. Pay attention to the use of prepositions.

Model: *Nitrogen is used in metal industry. We know that.*

We <u>know of nitrogen being used</u> in metal industry.

1. Silver and cooper are very good conductors of electricity. We are aware of that.
2. Freon destroy the ozone layer. We are afraid of that.
3. Robots will replace men. The idea of that goes back to ancient times.
4. Alice was making that hologram without any help. I was surprised at that.
5. The students should study the properties of carbon. The professor insists on that.
6. Radioactive carbon should be used to date ancient things. The scientists recommend that.

Ex.13. Rephrase the following questions and let your friend answer them. Use the prepositions where necessary.

Model: *Do you mind if I use your computer?*

-Do you mind <u>my using</u> your computer?

-No, I don't. You can use it whenever you want.

1. Would you mind if they create an intelligent robot?
2. Do you mind if I make a report on air pollution?
3. Do you insist that we should sign the Clean Air Act? (on)
4. Will they object if I use the laser without asking for their permission? (to)
5. Do you believe that we will restore the ecological balance on the planet? (in)
6. Are you sorry that you are late? (for)

Ex.14. Open the brackets and use the gerund in the Active or Passive Voice.

1.   Nobody is surprised at his (to receive) the Nobel prize for his discoveries in optics.

2.   We are interested in new technologies (to develop).

3.   Environmentalists insist on our (to cut) releases of CO_2 into the atmosphere.

4.   We hear of gases (to apply) to produce the flame temperature of 6,000 °F.

5.   I object to acetylene (to mix) with air in the workshop.

6.   We are against transport (to pollute) the atmosphere.

7.   The inventor made a report on the laser (to use) in surgery.

Ex. 15. Translate the following sentences paying attention to different forms of the gerund.

1.   I require thermal power stations being closed because of their damaging the environment.

2.   We hear of biosilk having been invented.

3.   Newspapers report of acid rains having destroyed life in several Swiss lakes.

4.   Global warming will cause polar ice melting.

5.   It is difficult to imagine robots having explored ocean depths autonomously.

6.   I know of toxic gases having been used during the last experiment.

7.   I am sure of having read this article earlier.

8.   Safely rules insist on acetylene being stored in the liquid state under pressure.

Ex. 16. Find Gerunds or Gerundial constructions in the following sentences.

1. The teacher insists on our coming on time.

2. We don't know much of the Challenger having failed its mission.

3. The value of his having discovered natural lasers is not realized completely yet.

4. The idea of connecting these wires was not mine.

5. Using renewable resources can significantly reduce the amount of air pollution.

6. I don't mind your reading science magazines in the reading room.

7. We hear of the up-to-date equipment being bought for your lab.

8. He was sure of repairing the ignition system without anybody helping him.

9. Exploring other worlds by means of robots soon will become a reality.

10. Seeing is believing.

UNIT 9
СОГЛАСОВАНИЕ ВРЕМЕН
А) Теоретическая часть

При переводе прямой речи в косвенную необходимо соблюдать правило согласования времен, если в главном предложении глагол-сказуемое употребляется в <u>Past Indefinite</u>:

Present Indefinite → Past Indefinite	I work → I worked
Present Continuous→ Past Continuous	I am working → I was working
Present Perfect → Past Perfect	I have worked → I had worked
Past Indefinite → Past Perfect	I worked → I had worked
Past Continuous → Past Continuous	I was working → I was working
Future Indefinite → Future-in-the-Past	I will work → I would work
can	could
may	might
must	had to

Примечания:

1. Помимо видовременных форм в придаточном предложении меняются указательные местоимения и наречия места/времени:

Here → there, this → that, these → those, now → then, right away, today → that day, tonight → that night, yesterday → the day before yesterday/the previous day, last night → the night before/the previous night, two days ago → two days before, tomorrow → the next day/the following day, next week → the next week/the following week, in a week → a week later

Примеры:

1. Jane <u>said</u> that she <u>felt</u> exhausted and <u>wanted</u> to go home right away. – Джейн сказала, что устала и хочет идти домой прямо сейчас.

2. Mother <u>said </u>to Ann that she <u>could</u> invite her friends to her birthday party. – Мама сказала Ане, что она может пригласить друзей на свой день рождения.

2. Повелительное наклонение в косвенной речи, т.е. команды, просьбы, обычно выражается инфинитивным оборотом. В качестве глаголов, вводящих косвенную речь, употребляются глаголы to tell, to order, to ask.

Примеры:

1. The policeman <u>asked</u> the man <u>to tell</u> him the facts. – Полицейский попросил мужчину рассказать ему факты.

2. Frank <u>asked</u> the girls <u>not to make</u> so much noise. – Фрэнк попросил девочек не шуметь.

3. В косвенном вопросе не происходит инверсии членов предложения, т.е. порядок слов такой же, как в обычном утвердительном предложении без использования вспомогательных глаголов и за подлежащем следует сказуемое.

Примеры:

1. The tourist <u>asked</u> <u>if</u> all <u>was</u> <u>included</u> into the hotel service. – Турист <u>спросил</u>, все <u>ли</u> <u>включено</u> в гостиничный сервис.

2. The girl <u>wondered</u> <u>how much</u> the dress <u>cost</u>. – Девушка <u>поинтересовалась</u>, <u>сколько</u> <u>стоит</u> платье.

4. Правило согласования времен не соблюдается, если глагол-сказуемое в главном предложении употребляется в форме настоящего или будущего времени; если сказуемое придаточного предложения выражено модальными глаголами <u>must, should, ought</u>; если сказуемое придаточного предложения выражает общеизвестный факт; в придаточных определительных, причинных и сравнительных с союзами <u>because, than, which</u>.

Примеры:

1. He <u>was not able to</u> translate that article from German because he <u>does not</u> <u>know</u> this language well enough. – Он <u>не смог</u> перевести статью с немецкого, потому что он недостаточно хорошо <u>знает</u> этот язык.

2. At the lecture on chemistry the students were told that the atom is devisible into still smaller particles. На лекции по химии студентам сообщили, что атом делится на еще более мелкие частицы.

В) Практическая часть
Ex. 1. Translate the following sentences paying attention to the Sequence of Tenses.
1. He said that his friend lived near the railway station.

2. My friend said he had a good dictionary.

3. They knew that the students were organizing a meeting.

4. Our teacher said the term "engineering" had many Russian equivalents.

5. The teacher was glad that the students were listening to him so attentively.

6. He was told that his friend was a good driver.

7. I knew that the students had organized a meeting.

8. The students said they had finished all their drawings.

9. He told us that all his drawings had been signed.

10. He said that he would always remember his first day at the university.

11. He told me that we should go to the plant on the following day.

12. They were told where they would have their industrial training.

13. I thought I should achieve good results.

Ex.2. Put the verbs in brackets into the appropriate tense-form. Mind the Sequence of Tenses.

1. She said that the course of study (last) five years so she (graduate) from the University in about four years. 2. She answered that she (not want) to run any risk of missing another bus. 3. He said he (become) an engineer when he (graduate) from the University. 4. The scientist said that he (devote) much time to the investigation in the field of atomic energy. 5. The representative of the scientific society told us that fully automatic factories (establish) in some branches of industry. 6. The specialists said that they (finish) the building of the bridge only by the end of the year. 7. The scientist informed us that more than 30 per cent of the land surface of the earth (represent) hot deserts.

Ex.3. Put the verbs of the main sentences into the Past Indefinite Tense and make the necessary changes in the subordinate clauses.

1. He says that plastics are good thermal and electric insulators.

2. The engineers think that plastics will find application as structural material and fittings.

3. The student asks whether plastics can be obtained from various kinds of primaries.

4. The students ask if reinforced plastics are extensively used.

5. We know that a number of higher learning establishments are installing electronic data processing systems.

6. The driver believes that no accident will happen during their drive.

7. The engineer is sure that he will receive the information in time.

8. He says that the plant intends to introduce the latest achievements of up-to-date technique.

Ex. 4. What opinion did these people express?

Model: *Laser operation is based on a simple behavior of atoms. I knew it.*

I knew that laser operation <u>was based</u> on a simple behavior of atoms.

1. Optical devices are hardly used in the scientific research. They announced it.
2. The Sun moves around the Earth. People believed it.
3. The microscope is used for observing stars. He said so.
4. Robots do not possess intelligence. I was sure.
5. Materials engineers do not synthesize new materials. She supposed it.
6. Any scientific research takes a lot of time and patience. The engineer thought so.

Ex.5. The researchers reported about an important experiment. What did they say? Use the verbs *to say, to report, to announce, to state, to point out, to claim.*

Model: *The research was carried out successfully. (to announce)*

They <u>announced</u> that the research <u>had been carried out</u> successfully.

1. We studied the possibilities of laser communication.
2. Miniature multifunction telescopes were developed for scientific observations.
3. The instruments were adapted to imaging and communication applications on Earth.
4. The multi-function telescope served three purposes: space navigation, communication and infrared spectrometry.
5. A prototype device was built and tested to demonstrate two of these functions.
6. The prototype instrument was assembled mostly from commercially available parts.

Ex. 6. Explain the difference between these sentences.
1. a) He said that the object was badly illuminated.

b) He said that the object had been badly illuminated during the experiment.

2. a) They noticed that the microscope was significantly modified.

b) They noticed that the microscope had been modified to increase magnification.

3. a) The observers reported that they recorded laser signals by means of a telescope.

b) The observers reported that they had recorded laser signals from the universe.

Ex. 7. Say what the scientists predicted long ago.
Model**:** *Man will invent artificial intelligence. (to be certain)*
The scientists <u>were certain </u>that man <u>would invent</u> artificial intelligence.

1. A super powerful microscope will produce images. (to be sure)

2. We will contact an alien civilization by means of a laser telescope. (to suggest)

3. Air pollution will cause the global warming of the climate. (to predict)

4. Energy will be obtained from alternative sources. (to assume)

5. Fascinating achievements will be made in the area of biotechnology. (to suppose)

6. Mars will be explored by completely autonomous robots. (to believe)

Ex. 8. Open the brackets and use the verb in the right form.
1. We learnt that laser communication (to be) practicable in the near future.

2. The engineers were surprised to see that modified robot (to move) like a human.

3. She was sure that she (to find) the most energy-efficient way if sending signals soon.

4. He found out that properties of a substance (to depend) on its structure.

5. I was afraid that she (to damage) the microscope objective lens.

6. Peter told me that he (to see) the William Hershel Telescope in operation.

Ex. 9. Correct mistakes.

1. We thought that those parts are combined to form a microscope.

2. He realized that he spotted a distant planet.

3. I was told that he takes part in the research

4. It was announced that engineers object to applying this technology.

5. He said that an artificial star was created with a laser telescope.

6. We supposed that the new approach will be more fruitful.

7. The investigators announced that they obtained a powerful microscope soon.

Ex. 10. Read the conversation and say what you have learnt about space shuttles.

Astronaut: Shuttles are fascinating vehicles. They appeared only in the 1980s and have already become irreplaceable.

Olga: Are they different from spaceships?

Astronaut: Certainly! They are reliable, recoverable and therefore reusable and less expensive. The hundredth successful launch was in October 2000.

Olga: Could you tell us how shuttles work?

Astronaut: Of course. At the take-off the boosters and the orbiter's engines have to initially provide about 30 MN of thrust to lift a 2,000 tonne shuttle off.

Olga: This must be very hard on the crew.

Astronaut: Indeed, during the take-off the crew can experience forces up to 3 times their own weight. When they are in orbit, however, they feel weightless.

Olga: And how does the shuttle find its way when in space?

Astronaut: Using the global positioning system (GPS), of course. Pilots essentially run the computers, which fly the shuttle.

Olga: How interesting! But how is electrical power supplied to all on-board systems of the orbiter?

Astronaut: Electricity is generated by fuel cells. They combine oxygen and hydrogen to make electrical for on-board systems and water for cooling.

Olga: What is the major role the shuttle plays today?

Astronaut: Well, it is used for building the International Space Station by delivering components built on the Earth and attaching them to existing modules in space.

Ex.11. Complete the dialogue.
- …?
- Well, they combine the features of a rocket, a spaceship, and an airplane.
- And do shuttles differ …?
- Of course they do! …
- I wonder how much power is necessary to …?
- …
- What does the crew experience …?
- …
- Do you know how shuttles navigate in space?
- … . They use …
- Is the electricity for the on-board systems provided by batteries?
- …
- Shuttles are very important for building …?
- …

Ex.12. Match a line in A with a line in B.
A
1. Do you know when shuttles appeared? 2. Did he tell you what he experienced at the take-off? 3. I wonder how the on-board computers fly the shuttle. 4. Where do the flight computes get the information about the position and the speed of the orbiter? 5. What did he say was the by-product of the fuel cell? 6. I wonder if tourists will fly to space in the near future.

B
a) Without any doubts.
b) Water.
c) From the GPS satellites.
d) They talk to each other and vote to settle arguments.
e) He felt his body thrice as heavy.
f) Sure. In the 1980s.

Ex. 13. Read the dialogue and learn about an unusual application of the laser telescope.

Peter: Pavel, have you heard about artificial stars?

Pavel: Not yet, but I'd like to know about them more, anyway.

Peter: Well, this article says they are created with the help of a laser telescope. One of these experiments is described here.

Pavel: Really? And what was the result of the experiment?

Peter: The reporter claimed that a bright sodium star, as big as about a natural star, had been generated.

Pavel: That sounds fascinating! How was the experiment carried out?

Peter: Oh, it was said in the article that the Solar Vacuum Tower Telescope had launched a 4-watt laser beam to the atmosphere and recorded the return light from the generated artificial star at the same time.

Pavel: Why do you think this artificial star has been created?

Peter: Well, there may be other reasons but I'm sure the star will serve as a model for further research of the universe

Pavel: Oh really? May be in this way we'll be able to establish interstellar communication?

Peter: That's a good idea, but the scientists will have to carry out a number of experiments to prove that.

Ex. 14. Complete the dialogue.

- How are artificial stars …?
- As far as I know, a laser telescope is ….
- And … about any successful …?
- Yes, yesterday I found out …
- … interesting … carried out?
- …
- I wonder why …
- Well …
- Do you suppose …?
- …

GLOSSARY

AAC - AAC is a music file format that is of higher quality than MP3.

account activity - Account activity is a withdrawal, deposit or transfer in a bank account.

account alert - An account alert is a service that notifies bank customers of suspicious activity.

accuracy - Accuracy is how correct a GPS's measurement is.

acquisition time - Acquisition time is how long a GPS takes to determine location.

active matrix display - An active matrix display is a type of screen that produces high quality, clear images.

actuator - An actuator is a piece of equipment that uses energy to make a robot move.

above the fold - If something on a website is above the fold, it is visible without scrolling down after the page has loaded.

ad product - An ad product is an advertising opportunity such as a banner that is located on a website.

ADM - An ADM (Automated Dispensing Machine) is a hospital machine that measures out specific amounts of medication into containers.

affiliate - An affiliate is a person or business that directs Internet traffic to a business's website in exchange for a percentage of sales.

agent - An agent is a computer that observes and reacts to the conditions in a certain environment.

algorithm - An algorithm is a rule or set of rules that provides steps to take or questions to ask in order to solve a problem.

antivirus software - Antivirus software is a program that locates and eliminates computer viruses.

app - An app is an application with a specific function that you download onto your phone.

appearance - Appearance is the way that a web page looks.

array - An array is a group of disk drives that are connected and used as a single unit.

Artificial Intelligence - Artificial Intelligence is the branch of science that seeks to create computers and robots that can reason, learn and solve problems independently.

Assembler - Assembler is a low level programming language that translates between computer programs.

Attachment - An attachment is a file sent as part of an email.

automatic document feeder - An automatic document feeder (ADF) is a device that feeds multiple pages into a scanner.

autonomous - A robot that is autonomous can operate on its own without help from humans.

avatar - An avatar is an image in a computer game that represents a person.

anchor - An anchor is a word, phrase, or image that includes a hyperlink and can be used for navigation.

animated - An animated GIF is the combination of multiple GIF files in one advertisement to create animation.

anti-antivirus virus - An anti-antivirus virus is a computer virus that attacks and often disables anti-virus software.

anti-virus software - Anti-virus software searches a computer system for computer viruses.

Apple® - Apple0 is the company that produces Macs® and other computing products.

applet - An applet is a small application that is embedded in a webpage.

attack - An attack is an attempt to get through computer security.

audit log - An audit log is a record of who has accessed a computer system and what actions they took.

authenticate - To authenticate something is to make sure that it is legitimate.

Automation - Automation is the use of programmed machines to perform tasks without human assistance.

bandwidth - Bandwidth is a measurement of the amount of information that a computer network can send or receive. High bandwidth allows images and websites to load quickly on the Internet.

banner - A banner is a rectangular graphic on a website that advertises a business.

brick and mortar - A brick and mortar is a business that operates in a physical location instead of online.

back end - If something is back end, it occurs at the end of a prect or job.

backdoor - A backdoor is a hidden way to get by security in computers and programs, sometimes intentionally created.

backup - To backup is to create a duplicate copy of data that is stored on a separate hard drive or computer system to prevent the loss of the data.

bar coding - Bar coding is a system in which doctors scan medicines and match them to patients.

Basecamp0 - Basecamp0 is a program offered by the company 37 signals that organizes prects and can be accessed by multiple users simultaneously.

bank fraud - Bank fraud is a crime in which someone uses bank funds without permission.

barcode - A barcode is an arrangement of lines and spaces that represent data.

BASIC - is a high level programming language that was invented in the 1960s and is declining in popularity.

bill pay is a service provided by banks that allows customers to automatically pay bills online.

Bit - A bit is the smallest unit of computer data.

bit size - A computer's bit size measures the number of bits that the CPU can access at once.

bitmapped graphic - A bitmapped graphic is an image that is made up of many small points.

bitrate - is a measurement of the amount of data that is processed.

black and white An image or picture that appears only in black, white, and varying shades of gray is black and white.

biog - A biog is a website where a person writes posts about his or her feelings, thoughts, activities, etc.

Bluetooth is a wireless network that connects your phone with other devices, such as a computer.

boolean operator - A boolean operator narrows a database search with words like "and," "or" and "not."

Broadband - Broadband is a system that allows computers to transfer large amounts of information.

bus speed - A computer's bus speed measures how many times the CPU can access a group of bits per second. This is measured in MHz.

block -To block something is to prevent access to it.

biog - A biog is a personal website that is maintained by an individual.

bug - A bug is a flaw in a computer program.

Case - A case is an enclosure that holds the computer's components.

CAT-5 (Category 5) cables CAT-5 cables are the standard cables that connect computers to networks.

cell - A cell is a unit of a spreadsheet that holds a piece of information.

cell phone - A cell phone is a telephone that you take with you to make calls anywhere.

certificate authority - A certificate authority creates, offers and verifies reliable digital certificates.

C C is a programming language that is used to program operating systems.

C# C# is a programming language that was invented as an alternative to Java.

C++ C++ is a programming language that adds object-oriented programming capabilities to C.

Calibration - is the act of adjusting printers and scanners to display colors correctly.

Call - waiting is a feature of some cell phones. It alerts you that someone is calling while you are on the line with someone else.

Caller ID - is a feature of some cell phones that tells you the name and number of the person calling you.

Capacity is the amount of space an MP3 player has to store files.

Cartography is the art of mapmaking.

Case - based reasoning is the process of using information from previous experiences to solve new problems.

A catalog is an inventory of books in a library.

CCD (charge-coupled device) is a light-sensitive chip that is used when capturing digital images.

CD-A A CD-R is a blank CD that can have information written on it only once.

CD-AW A CD-RW is a blank CD that can have information written on it multiple times.

cell phone - A cell phone is a wireless phone that sends and receives data at a certain frequency of energy.

cognitive scientist - A cognitive scientist is a person who studies the mind and thought processes.

compiler - A compiler changes human-readable source code into machine code that a CPU can understand.

computer language - A computer language (also known as a programming language) is used by computer programmers to create instructions that a computer can understand.

computer vision - Computer vision is the field and technology of making computers that have the ability to see.

consciousness - Consciousness is the state of being aware of oneself and one's actions.

coordinates - Coordinates are groups of numbers that describe location.

CPU (Central Processing Unit) is the part of a computer that handles most of the processing of files and data.

clip art is electronic artwork that can be used in publications.

code is a set of words and signs that give instructions to a computer.

codec - a codec is a piece of videoconferencing equipment. It codes signals that go out and reads signals that come in.

coding - is the programming language that makes up a website.

compatibility is the ability of one program or file to work with a different program.

comprehensive layout - A comprehensive layout is a nearly complete version of a publication.

computer - A computer is an electronic device that manipulates data.

configuration - The configuration of a network is the group of settings that control how information is sent and received on a network.

Content is the material on a web page, including text and graphics.

Contrast is the amount of difference between the dark areas and light areas of an image.

crop - To crop is to cut off unwanted parts of an image.

CSS (cascading style sheets) is a simple language that decides how a web page looks.

cycle - To cycle a device on a network means to turn it off and then turn it on again or to unplug it from its power source.

CAD (Computer-Aided Design) is the use of a computer to design things such as machines or buildings.

A campaign is an agreement between an advertising company and a client that outlines which types of advertisements are to be used, where they are to be placed, and how long they will appear.

Card scanning is the practice of capturing the personal information stored on credit cards, debit cards, or passports.

CBT (Computer-Based Training) is the use of a computer to train employees.

CDN A CON (content delivery network) is a system of computers on a network containing copies of data that nearby users can access.

COSS (Clinical Decision Support System) is a system that helps doctors diagnose problems. It also suggests treatment options.

to centralize things is to bring from multiple places and make them available in one location.

Click tracking is the process of counting and keeping track of the number of clicks an advertisement receives.

The click-through rate is the ratio of clicked advertisements to the number of advertisements that are viewed.

cloud computing is use of the Internet tor software and other resources.

color matching is the ability to create colors as you see them on the screen.

color-coding is the practice of labeling things with different colors in order to tell them apart.

command line - A command line is a word or phrase that makes a computer perform an operation.

commission - A commission is the amount of money charged by a website tor hosting advertisements.

component - A component is a part of something bigger.

Computer- Aided Manufacturing [NOUN-UNCOUNT-US] Computer Aided Manufacturing is the use of computers to control production equipment.

configure - To configure something is to modify or arrange it so that it works in a certain way.

A cover letter is a document that explains why a person is applying tor a job and why that person believes he or she is qualified tor that job.

CPC (cost per click-through) is a pricing model wherein rates are charged according to how many clicks an advertisement receives.

CPM (cost per 1 ,000 impressions) is a pricing model wherein rates are charged according to how many thousands of people view the advertisement.

CPOE (Computerized Provider Order Entry) is a system that lets a doctor till out electronic orders.

to customize something is to change it to meet your individual needs and purposes.

cyber - it something is cyber, it is related to computers or the Internet.

A cyber criminal is a person who uses computers and the Internet to commit crimes such as identity theft and fraud.

A dashboard is a display on a computer that shows commonly or recently used tiles and programs.

deployment is introducing new software into a group of hardware.

Detect - to detect something is to discover it.

A duty is a task that someone is responsible tor completing at a job.

A DVD (Digital Video Disc) is a storage disc that is read by a laser and can store media tiles such as videos and images.

Data are numbers that can be entered into a computer.

Data processing is the act of entering, using or manipulating data with computers.

Database - A database is a large group of data organized in a computer system. It allows you to search and find information easily.

dedicated system - A dedicated system includes all the necessary components of videoconferencing together as a set.

Desktop - A computer desktop is everything that a user sees on a computer screen.

A desktop computer is a computer that is small enough to use at a desk, but too big to carry around.

Desktop - publishing software Desktop publishing software is a computer program that is used to make page layouts.

Desktop publishing is art of using computers to design finished, printable documents.

DHCP (Dynamic Host Configuration Protocol) The DHCP is a system for computer networks to receive IP addresses and other configuration information.

A digital certificate is an electronic document that proves an online business or person is who that business or person claims to be.

A disk drive reads information from a magnetic spinning disc.

A document is a file created on a word processing program.

document sharing is a feature of some videoconferencing systems. It allows everyone participating in the videoconference to look at and edit the same document.

domain name - A domain name is a set of words and letters that identify a company or address on the Internet.

To drag files, folders or icons is to move them around on a desktop.

data compression is the process of storing information using less storage space by reducing the number of bits it takes up.

data plan - A data plan is a contract from a cell phone service provider that states what online services are available on a cell phone and how much that transfer of data will cost.

To decode a file is to return it to its original format.

dial-up is an Internet connection using a modem and regular telephone lines.

digital - If a file is digital, it is stored electronically as a series of ones and zeros.

A digital camera is a device that records images to be looked at on a computer.

digital zoom is how a digital camera increases the display size of an image subject, reducing image quality.

DIMM (Dual lnline Memory Module) is a newer type of memory module. It sends 64 bits of data to the CPU.

dock - A dock is a device that connects an MP3 player to a computer.
download -To download something is to transfer a file or program from the Internet to a personal computer or device.
DPI (dots per inch) is the number of dots used per inch to create an image.
drive power - Drive power is the energy that makes a robot move.
driver A driver tells a device how it should communicate with a computer.
DSL DSL (digital subscriber line) is a high-bandwidth connection using normal telephone lines.
dynamic model A dynamic model is a mathematical model of the forces that allow a robot to move.
Ebook – An ebook is a book that is available online.
Ejournal – An ejournal is a scholarly publication that is published online.
An electronic funds transfer is the act of moving money from one account to another by using a computer.
electronic statement An electronic statement is a summary of account activity that is viewable on a computer, but not on paper.
elevation 0] Elevation is the height of something above sea level.
An email is an electronic message sent from one user to another.
An enabling device is a device that a person activates to allow a robot to move.
An end-effector is the hand or tool at the end of a robot's manipulator. It is the part of the robot that moves or picks up objects.
EPC An EPC (electronic product code) is a number used to identify specific individual items.
equality constraint An equality constraint is a value that specifies the end-effector's position and movements.
ergonomic Something that is ergonomic has been designed to prevent injury from using it repeatedly.
EZproxy is a library server program that allows remote users to access the library's electronic materials.
e-commerce is the purchase or sale of items on the Internet.
echo-cancellation is a process that reduces the amount of echo heard by participants of a videoconference.
An electronic page is a computerized version of a piece of paper.
electronic paper 3) Electronic paper is a special digital screen that can be read like paper.
Electrostatic printing is a method that uses the forces of electricity to print.
An email address is a location to which electronic messages can be delivered.

An email client is a program that receives, sends and stores email on a computer.

encoding is the act of changing data so that no one can read it until it is changed again.

Expansion cards are extra circuit boards that are used to increase the functions of a computer.

An exposure is the length of time film is open to light when taking a picture.

An editor is a program that is used to create and change files.

An egress filter prevents harmful software from leaving a network.

An EHR (Electronic Health Record) is a computerized version of a patient's health record.

elasticity is a computer system's ability to gain or lose computer resources as a user sees tit.

An electronic bulletin board is a shared tile that can be used to spread information.

An embedded system is a combination of hardware and software designed to perform a specific task.

EMM EMM (Electronic Materials Management) is a system that helps hospitals keep track of medications and medical supplies.

Encoders are devices that convert mechanical information into electronic signals.

An Ethernet network is a high-speed network that links computers together.

fan A fan moves cool air onto computer components inside the case.

FAQs (Frequently Asked Questions) are a set of questions and answers that are provided on a website to provide users with information that users commonly want to know.

A field is a category in a database that holds a particular type of information.

A folder holds and organizes files and documents on a computer.

font is the style of the typed characters on a document.

A format is a file's type. Different files might not work in different programs.

formatting is the design of the words on a document.

A formula is any mathematical calculation that you perform in a spreadsheet.

A function is a mathematical instruction that performs a specific calculation in a spreadsheet, such as adding a set of values.

functionality is the ability of different elements of a website to work together.

A failure occurs when a disk drive malfunctions and the data stored on it cannot be accessed.

A feed is a format that lets you easily read updated news about something.

Flash memory is a data storage medium that is used with digital cameras.

A floppy disk is a flexible magnetic storage disk encased in a square plastic shell that is used to transfer data.

A forum is a website where people can discuss a certain topic.

To freeze is to become unresponsive and stop functioning.

A false negative is when anti-virus software incorrectly indicates that an infected file is clean.

A false positive is when anti-virus software incorrectly indicates that a clean file has been infected with a computer virus.

Fault tolerant is the ability to continue functioning even though an error has occurred.

File archiving is the process of organizing computer files in an orderly way. This lets you retrieve them easily.

A firewall is a program that restricts access on a network.

flash Flash is a media format that can be used to add videos, animations, and other media to a website.

fraud Fraud is an action that results in the loss of another person's property.

A free software license allows users to change and distribute programs.

Frequency capping is the process of ensuring that a specific website visitor does not see the same advertisement an excessive number of times.

gallery is a collection of icons or pictures that have been organized in a file or page.

Geo targeting is the process of showing advertisements in geographical areas where they are relevant.

A GUI (graphical user interface) is how a user interacts with a computer using images and text.

Gaming is the activity of playing games online on a computer.

A gigabyte is a unit of measurement of hard drive capacity.

GPS (Global Positioning System) is a collection of 24 satellites that give accurate position and navigation data to people all over the Earth.

Graphic communications is the study of sending and receiving visual messages.

A graphic editing program is a computer program that lets you change different aspects of an image.

A graphical user interface (GUI) is an operating system that uses icons to represent programs and files and allow users to access to them.

Graphics are images on a computer, in a book or magazine, etc.

A handheld PC is a computer that is smaller, slower and less powerful than a laptop and used to browse the Internet and check email.

A hard drive stores data electronically.

Hardware refers to the physical parts of a computer.

A heat sink transfers heat away from nearby components of a computer.

HTML (Hypertext Markup Language) is a computer language that is used to construct web sites on the Internet.

An http is a part of an Internet address that allows a computer to connect to the site.

A hyperlink is a word or image on a web page that you can click on to go to a different web page.

A handle is a name that a person creates to access an account on a computer or website.

A hard drive is a device in a computer that stores all of its information permanently.

A heuristic is a type of algorithm designed to find a suitable solution to a problem when no . perfect solution or answer is known.

A hotspot is a location (like an airport or a cafe) that provides wireless Internet access to users.

A hacker is a person who exploits computer hardware and software for their own purposes.

To hang a website is to prevent it from loading all the way.

A host is a computer system that has a computer virus attached to it.

HTML (hypertext markup language) is a way to alter the look of text on web pages.

laaS (infrastructure as a service) delivers such elements as servers and software over the Internet.

Identity theft is the process of stealing another person's personal information and using it for personal gain.

imbed is to become a part of something.

implanted microchip An implanted microchip is a tiny device in a person's body that releases specific amounts of medicine.

infect a computer is to contaminate it with a computer virus.

An ingress filter prevents harmful software from entering a network.

To install something is to add a new component or program to a computer or system.

An integrated circuit is a small chip that has several electronic devices attached to it.

interactive If something is interactive, it will respond to a user's commands.

An interface provides a way for a user to interact with a computer.

Interoperability is the ability to easily send or combine electronic health data from one system into another.

An intruder is a person or program that attempts to access a network or computer without permission.

Identity theft is the crime of using other people's personal information to take their money or buy items in their name.

An index is a categorical list of books in a library.

An inkjet printer is a device that uses ink to produce documents and images on paper.

An instant message is a text-based conversation in real time.

Integrity is a device's ability to perform consistently without error.

An ISP (Internet service provider) is a company that provides Internet access.

An icon is a picture that represents something on a computer.

information security J Information security is the act or process of keeping information safe and preventing others from seeing it.

The Internet is a worldwide network of computers.

IP (Internet Protocol) address An IP address is a group of numbers that identify a computer on a network.

An ISP (Internet Service Provider) is a company that gives its customers access to the Internet, email addresses and data storage.

JPEG (Joint Photographic Experts Group) is a kind of computer file used it to store pictures on a computer.

Java is an object-oriented programming language.

Joints are the places where the parts of a robot connect. They allow the robot's parts to rotate.

A keylogger is type of tran virus that tracks what keystrokes are entered into a computer.

A keyword is a term or phrase that is created to describe a webpage, so that it can be found in a search engine.

A keyboard is a set of buttons that is used to enter information into a computer.

laptop A laptop is a computer that is small enough for you to carry around and use anywhere.

layout Layout is the way that items are arranged on a document.

An LCD (Liquid Crystal Display) is a type of display that is created by liquid crystals and that is used in thin monitors.

local area network (LAN) A local area network is a network that connects a small group of computers.

A laser printer is a device that produces documents and images on paper with a laser beam.

latitude Latitude is an object's location north or south of the Equator.

license restriction –a license restriction limits who can use a library's electronic resources.

A link is a word or set of words on a website or document. When you click on it, it takes you to a different website.

A linker takes the machine code created by a compiler and makes it into an executable file.

lithium-ion battery is battery in cell phones that is small, light, and lasts a long time.

A lockout prevents people from accessing a bank account when the password is entered incorrectly too many times.

Longitude is an object's location east or west of the Prime Meridian.

lab-on-a-chip is a tiny device that holds cells and fluid that a doctor can analyze easily.

Latency is the time between the end of one computer communication and the start of another.

Linux® is a computer operating system. Linux® distribution A Linux0 distribution is a collection of software for Linux®.

log in is to provide a computer security system with the proper identification to use the computer.

Mac0 (Macintosh) is a type of computer from Apple®.

machine code is made up of the instructions that a CPU can process.

machine learning is a field of study concerned with creating algorithms that computers can use to learn from their experiences.

magnetic tape is a long, narrow piece of magnetized plastic that is used for storing information.

manipulator is the arm of a robot. The end-effector sits at the end of it.

malware is any type of malicious, harmful software.

mask is to block it from being viewed.

media player is used to play media such as videos and animations and can be embedded in a web page.

message board is an online application that displays and organizes messages from users.

microrobotic tweezers 2) Microrobotic tweezers are very tiny tweezers that allow a doctor to operate in extremely small or delicate areas.

Microsoft Office0 is a software package that offers word processing and spreadsheet programs.

Microsoft0 is the company that produces the Windows® operating system among other products.

MPEG is a video format that is used to compress videos into smaller files.

Multimedia is any type of media used on a webpage, including images, animations, and videos.

MB (megabyte) is a unit of measurement that measures how much information a computer stores.

media are the forms of mass communication available at the library, including images, films and periodicals.

megapixel megapixel is a measurement of image size.

memory storage density Memory storage density is the amount of data that can be contained within a given computer storage device.

MHz (megahertz) is a unit of measurement that measures the speed of a CPU.

MMORPG (Massive Multiplayer Online Role-Playing Game) is a type of online computer game in which many people interact with each other in a virtual world.

model based reasoning Model based reasoning is the process of making conclusions by examining cause and effect relationships.

modem is a device that allows computers to send and receive information over phone lines.

motherboard is the circuit board in a computer. It holds the CPU and all attachments.

MP3 is the standard format for digital audio files.

multi-thread To multi-thread is to use a computer to execute several threads of execution simultaneously.

macro is a short keystroke that performs a predetermined action.

mainframe is a very powerful computer that can process large amounts of data.

maximize is to make it fill an entire computer screen or desktop.

meta tag is text that is used in the codes of a web page to provide information about the site to search engines.

microphone is a device that is used to record sound.

minimize is to make it leave the screen without closing the window.

monitor is a screen that displays text, video, or images.

motherboard is a firm slotted board onto which computer circuitry is attached.

mouse is a small device that is used to move the cursor and select items on a computer screen.

multipoint videoconference A multipoint videoconference is a videoconference among people in three or more different locations.

navigation is the act of using and finding things on a website.

network is a group of computers that are connected in order to share data or communicate.

navigation is the act of creating a route to a destination.

natural language is the use of phrases from normal speech in search engines.

open source is open source, it can be distributed with the same basic source code.

open system is a system that can use many different types of machines.

OpenOffice® is an open source software package similar to Microsoft Office®.

optic scanner is a device that reads and records identification labels on medications. OS X® OS x0 is an operating system from Apple® for Mac® computers.

oscilloscope An oscilloscope is a device that allows the user to view the electrical voltage of a machine.

overwriting - virus An overwriting virus is a computer virus that copies its code over and destroys the files of the original data.

Offline - If something is available offline, it can be used when an electronic device is not connected to the Internet.

online banking is a service that allows people to manage finances on the Internet.

optical zoom is the use of the camera lens to make an image appear larger, retaining image quality.

offset lithography is a common form of printing.

online - If a computer is online, it is connected to the Internet.

operating system (OS) The operating system is the software that controls a computer.

operator An operator is a symbol in a formula that performs a particular calculation, such as a plus sign(+).

page layout - Page layout is the process of arranging text and graphics on a page.

page view - A page view is a request from a computer to load a page of a web site. They can be counted to analyze the number of people viewing a website.

password - A password is a set of letters and/or numbers that allow someone to use or access something on a computer.

PaaS PaaS (platform as a service) is a service where users receive a computing operating system and related components over the Internet.

PACS PACS (Picture Archiving and Communications System) is a system that captures and stores medical images from different sources.

Patch - A patch is a piece of code that is used to fix a flaw in a computer program.

pay as you go is a model for payment where customers pay according to how much they use a resource.

PC A PC (personal computer) refers to a computer that runs a Windows® operating system.

PCI compliance (payment card industry) - compliance is upholding certain security standards for accepting credit and other payment cards.

performance tuning - Performance tuning is the act of adjusting a network or system so that it works as efficiently as possible.

pharming is a process wherein thieves reroute people to a fake website that appears to be legitimate in order to trick them into giving away their personal information.

phishing is a process wherein thieves trick people into giving away their personal information through email.

PHP is a scripting language that is used to create dynamic web pages.

Piggyback is to gain unauthorized access to a computer system by taking advantage of the owner's legitimate connection.

popup is an advertisement that suddenly appears in a new window in an Internet browser.

prepress is the process of preparing a document, magazine or book to be printed on a large scale.

pretexting is a process wherein thieves trick people into giving away their personal information over the phone.

priority inversion - an inversion is a delay that occurs in a computer system when a lowpriority task is dealt with before a high-priority task.

private cloud - A private cloud is a service offered to specific users who have purchased it and is not available publicly.

processing speed is a measurement of how quickly a computer can perform tasks.

programmer - A programmer is someone who writes computer programs.

Protocol is a set of rules that must be followed for the sake of security.

public cloud - A public cloud is a service offered for any users on the Internet.

purge To purge is to delete files or data from a computer. quarantine [V-T-U1 To quarantine something is to place it in complete isolation where it cannot access or infect anything else.

PDA A PDA (Personal Digital Assistant) is a small computer that is used to organize a person's schedules and information.

peripheral A peripheral is a device that can be connected to a computer.

pixel 0] A pixel is one of the small dots that make up an image on a computer or television screen.

pointer A pointer is a small arrow that lets a user choose what to do on a computer.

POP3 A POP3 (Post Office Protocol) is a method that allows computer users to receive email from a server.

power supply A power supply delivers electricity to all parts of a computer.

printer A printer is a device that is used by a computer to transfer ink onto paper.

processor A processor carries out the instructions of computer programs.

paging file A paging file is the area on the hard drive where the computer stores data that doesn't fit in the RAM.

pattern recognition Pattern recognition is the process of classifying objects by examining their visual appearance.

PDA A PDA (personal data assistant) is a small, handheld computer.

PDF reader A PDF reader is a program that can open and display text or images.

pendant A pendant is a device that a person uses to control and guide a robot's movements.

PIN A PIN (Personal Identification Number) is a number assigned to bank account holders that helps banks identify the holder and maintain security.

playlist - A playlist is a list of songs created by an MP3 player user.

position - A position is an object's exact location.

post A post is a message or news item on a website.

profile - A profile is a webpage on a social networking site with personal or identifying information.

Publications - A publication is book or magazine that a publishing company releases to the public.

quality assurance - Quality assurance is the act of checking products for problems.

Query - A query is a search that locates all information of a specific type in a database.

RAID RAID is a method for combining multiple disk drives into a single storage unit that can increase computer performance dramatically.

RAM RAM (Random Access Memory) is a form of computer data storage. It is a physical device that holds data temporarily.

real time - If information is updated or shown in real time, it is updated or shown at the same time as new information is received.

redesign - To redesign a website is to change, add, or delete certain elements, but keep others.

redundancy - Redundancy is the inclusion of duplicate components in a system to maintain production when one component fails.

reliability Reliability is the probability that something will function properly and without any failures.

Replicate - To replicate is to make copies of oneself.

resident extension -A resident extension is an add-on to a computer virus that causes it to become a part of the host computer's operating system.

resident virus - A resident virus is a computer virus that becomes part of a file or disk drive but does nothing until activated by a trigger event.

Resume -A resume is a document that shows a person's education, work history and qualifications and is used when applying for jobs.

root directory - The root directory is the main directory of a file system and is where all other branches of the system come from.

rootkit -A rootkit is a type of computer virus that is created to gain total control over a computer system by overwriting parts of its operating system.

reflow - Reflow is a process that allows images or text to fit screens that are different sizes.

remote access - Remote access is the ability to use online library resources from outside the library.

ringtone - A ringtone is a sound or song that a cell phone plays when someone calls it.

robot - A robot is a moving machine that can complete tasks automatically.

robotics - Robotics is the scientific study of robots and their structure and movement.

RAM - RAM (Random Access Memory) is memory that can be quickly accessed.

resize - To resize is to make an image on a computer bigger or smaller.

resolution - Resolution is the ability of a computer or camera to produce a clear and detailed image.

router - A router is a device that allows more than one computer to connect to a network at the same time.

Saas - (software as a service) is a service where users receive applications over the Internet instead of buying and installing them.

Samba® - is a Linux® program that allows Linux® to act as a client on a Windows0-based network.

SATA - is an interface for connecting storage devices to a computer system.

scan - To scan a product is to use a laser to read bar codes and convert them to electronic signals.

serial robot - A serial robot is a robot that consists of a single series of joints linked together.

SIMM - A SIMM (Single lnline Memory Module) is an older type of memory module. It sends up to 32 bits of data to a CPU.

Site key - A site key is a security system that lets the bank and the account holder verify their identities to one another in online transactions.

site license - A site license allows users to access software regardless of their location.

smartphone - A smartphone is a cellular phone that also functions like a PDA.

social networking - Social networking is the activity of socializing online with other people. This takes place on social networking sites, forums, biogs, etc.

spam - Spam is unwanted email, like advertisements, sent to large groups of people. Some email providers direct spam to special folders so that users do not have to see or open it.

SSL connection - An SSL (Secure Sockets Layer) connection is a connection between two servers that encrypts information so that no one else can monitor or access the information exchanged.

sub-pixel rendering - Sub-pixel rendering is a process that increases the clarity of text on certain displays.

subscription - A subscription is the agreement to use something, often requiring a fee.

system requirements - System requirements are the hardware or software needed to run a program.

scalability - Scalability is a system's ability to change size as needed in a given situation.

scanner - A scanner is a device used to capture the personal information stored on credit cards, debit cards, and passports.

script - A script is a group of commands to be carried out automatically.

security - Security is a the state of being safe from attack.

security software - Security software is software that keeps a computer safe from threats such as computer viruses and cyber crimes.

Skype™ - is software than enables people to call one another using computers rather than telephones.

spyware - Spyware is a type of computer program that gathers someone's personal information without their knowledge.

sweep - To sweep a computer system is to search it for computer viruses.

system administrator - A system administrator is a person whose job is to manage and maintain a computer system.

scanner - A scanner is a device that is used for transferring printed documents and pictures into a computer system.

search engine - A search engine is a computer program that allows people to search for particular information, products, etc. on the Internet.

server - A server is a computer that connects many computers to hardware.

shopping cart - A shopping cart is a part of an online store that displays items that a consumer has selected for purchase, but has not yet paid for.

shortcut - A shortcut is an icon that has been moved to a desktop to make opening a file or program easier.

software -Software is a program or instruction that makes a computer perform a specific task.

sort -To sort is to arrange the information in a database in a specific way.

spell check - Spell check is a function that reviews a document for spelling errors.

spreadsheet -A spreadsheet is a computer program that organizes information and performs calculations.

STMP -A SMTP (Simple Mail Transfer Protocol) is a method that allows computer users to send emails to other users.

supercomputer - A supercomputer is a large computer that is built to process large amounts of information at a higher speed than other computers can handle.

table - A table is a single collection or arrangement of information in a database.

technical support - Technical support is the task of helping people use and understand technology.

T-1 - T-1 is a type of line used by businesses that connects many users at once to the Internet.

T-3 - T -3 is a powerful line made of 28 T-1 lines.

text To text someone is to send them a text message.

text message - A text message is a short, written message that a person sends to and from a cell phone.

touchscreen - A touchscreen is a display on some cell phones that you tap to access its features and applications.

transparency adapter - A transparency adapter is a device that is used with a scanner to capture seethrough documents like slides.

TCP/IP protocol - A TCP/IP protocol is a set of rules that determine how a computer connects to a network or the Internet.

technical - Something that is technical involves information from the areas of science and industry.

telecommute - To telecommute is to work at a location away from a main office by using technology.

Terminal - A terminal is a computer that allows users to input command lines.

toggle - To toggle is to move from one file or setting to another.

tour - A tour is a series of web pages that offer information about a product or site.

Tran horse - A Tran horse is a computer program that appears to be beneficial but is actually malicious.

troubleshooting - Troubleshooting refers to the process of identifying and fixing technical problems.

trust logo - A trust logo is a seal that appears on a web page and means that the security of information on that page is assured by an accredited company.

typography - Typography is a computer's use of typefaces.

template - A template is blank layout for certain types of documents.

tint - A tint is a small amount of a color in something.

touch Screen - A touch screen is a monitor that lets users interact with the computer by touching the screen.

traffic -Traffic is the total number of users that go to and view a website in a certain amount of time.

URL -A URL (Uniform Resource Locator) is the text and symbols that form a web address.

usability - Usability is how easy it is for a person to use a website.

USB - USB (Universal Serial Bus) is a commonly used type of connection or port to connect a peripheral to a computer.

username - A username is a name or code that identifies a person on a computer and allows that person to access his or her files

UPC -A UPC (universal product code) is a 12-digit number used to identify consumer items.

upgrade - To upgrade is to improve something, like a computer program or a type of service.

upload - To upload a file is to transfer it from a computer or device to the Internet or to another device, such as an MP3 player.

USB flash drive - A USB flash drive is a portable flash memory system that uses a USB interface to connect to a computer and transfer information.

Ubuntu0 - is an operating system based on Linux.

Unix® - is a specific type of computer operating system. Servers often use this operating system.

user-friendly - If something is user-friendly, it is easy to access and use.

utility computing - Utility computing is a way of selling computer use as a metered service like water and electricity.

virtual memory - Virtual memory is a method of computer data storage. The computer stores data on its hard drive instead of in the RAM.

virtual world - A virtual world is an online world where you can meet and interact with other people or computer players.

voice activation - Voice activation is a feature of some cell phones that lets you dial a number by voice instead of by hand.

voicemail - Voicemail is a feature that lets you listen to or leave an electronic spoken message on a cell phone.

VPN - A VPN (virtual private network} is a way to encrypt a connection when you use remote access.

vendor - A vendor is someone who distributes programs and utilities.

video subsystem - The video subsystem is the part of the computer that presents the visuals on the screen.

virus - A virus is a harmful computer program file that takes up residence in a computer without the owner's knowledge or permission.

virus removal software - Virus removal software destroys computer viruses, removing them from the files they have infected.

visual basic - Visual basic is a simple programming language with a graphical component.

video bridge - video bridge is a device that allows you to hold multipoint videoconferences. It connects calls from several different locations.

videoconference - A videoconference is a meeting or conversation between two or more people in different locations using computer technology.

visibility - Visibility is how easily people find a website using search engines, based on how many other websites link to it.

web browser - A web browser is a computer program that allows people to look at web pages on the Internet.

web design - Web design is the act or practice of determining how a website looks.

web development - Web development is the act or practice of determining how a website works.

web host - A web host is a company that provides the space for a web site on the Internet.

web site - A web site is a collection of related pages on the Internet that contains information, pictures, etc. and is usually published by a person, group, or company.

Webcam - A webcam is a small camera that connects to a computer. It broadcasts sound and video on the Internet.

webmail - Webmail is an email service that people access through a web browser, and which sends and receives email but does not store it on computers.

window - A window is a rectangle on the desktop of a computer monitor that displays a file or program. Its contents are independent of the desktop screen.

wireless Local Area Network (WLAN) - A wireless local area network is a network that connects computers to a network without cables.

word processing program - People use word processing programs to write on computers.

worksheet - A worksheet is a single page of a spreadsheet.

workstation - A workstation is a very fast computer that runs powerful work programs.

www - The www (World Wide Web) is the system of web pages, information, pictures, etc. that is available on the Internet.

waypoints - Waypoints are locations that you can mark or record in your GPS.

Wi-Fi - Wi-Fi (Wireless Fidelity) is a type of connection using wireless signals instead of a physical connection.

wireless router - A wireless router is a device that forwards data as a wireless signal.

web developer - A web developer is someone who builds a website.

web page analysis - Web page analysis is a process wherein the security of a website is determined in order to help computer users know whether or not the website is safe.

web portal - A web portal is a webpage that displays information gathered from several different places.

web-based - If something is web-based, it is available on the Internet instead of on a disk.

Windows® - Windows0 is the operating system created by Microsoft® that is used on many PCs.

worm - A worm is a type of malicious software that replicates itself through emails.

3G network - A 3G network is a wireless network that sends and receives data very quickly.

XML - (extensive markup language) is a programming language that is used to encode web pages.

zip drive - A zip drive is a removable disk storage system that is typically used to transfer data.

APPLICATION

USE MORE PICTURES FOR DESCRIPTIONS AND ORAL SPEACH

1)

2)

3)

4)

5)

6)

7)

8)

a new car

supporting a sports team

Why do people feel proud about these things?

a new baby

winning a prize

getting a new job

9)

Why have the people chosen to study in this way?

ТАБЛИЦА НЕПРАВИЛЬНЫХ ГЛАГОЛОВ

Infinitive	Past simple	Past participle	Перевод
be [bi:]	was [wɔz], were [wɜ:]	been [bi:n]	быть
beat [bi:t]	beat [bi:t]	beaten ['bi:tn]	бить
become [bi:kʌm]	became [bi:keim]	become[bi:kʌm]	становиться
begin [bi'gin]	began [bi'gжn]	begun [bi'gʌn]	начинать
bleed [bli:d]	bled [bled]	bled [bled]	кровоточить
blow [blou]	blew [blu:]	blown [bloun]	дуть
break [breik]	broke [brouk]	broken ['brouk(e)n]	ломать
bring [briŋ]	brought [brɔ:t]	brought [brɔ:t]	приносить
build [bild]	built [bilt]	built [bilt]	строить
burn [bɜ:n]	burnt [bɜ:nt]	burnt [bɜ:nt]	гореть
burst [bɜ:st]	burst [bɜ:st]	burst [bɜ:st]	разразиться
buy [bai]	bought [bɔ:t]	bought [bɔ:t]	покупать
catch [kжtʃ]	caught [kɔ:t]	caught [kɔ:t]	ловить, хватать
choose [tʃu:z]	chose [ʃəuz]	chosen [tʃəuz(ə)n]	выбирать
come [kʌm]	came [keim]	come [kʌm]	приходить
cost [cɔst]	cost [cɔst]	cost [cɔst]	стоить
creep [kri:p]	crept [krept]	crept [krept]	ползать
cut [kʌt]	cut [kʌt]	cut [kʌt]	резать

do [du:]	did [did]	done [dʌn]	делать
draw [drɔ:]	drew [dru:]	drawn [drɔ:n]	рисовать, тащить
dream [dri:m]	dreamt [dremt]	dreamt [dremt]	мечтать, дремать
drink [driŋk]	drank [drӕŋk]	drunk [drʌŋk]	пить
drive [draiv]	drove [drouv]	driven ['drivn]	водить
eat [i:t]	ate [et]	eaten ['i:tn]	есть
fall [fɔ:l]	fell [fel]	fallen ['fɔ:lən]	падать
feed [fi:d]	fed [fed]	fed [fed]	кормить
feel [fi:l]	felt [felt]	felt [felt]	чувствовать
fight [fait]	fought [fɔ:t]	fought [fɔ:t]	бороться
find [faind]	found [faund]	found [faund]	находить
fit [fit]	fit [fit]	fit [fit]	подходить по размеру
fly [flai]	flew [flu:]	flown [floun]	летать
forget [fə'get]	forgot [fə'gɔt]	forgotten [fə'gɔt(ə)n]	забывать
forgive [fo'giv]	forgave [fo'geiv]	forgiven [fo'givn]	прощать
freeze [fri:z]	froze [frouz]	frozen ['frouzn]	замерзать
get [get]	got [gɔt]	got [gɔt]	получать
give [giv]	gave [geiv]	given [givn]	давать
go [gou]	went [went]	gone [gɔn]	идти
grow [grou]	grew [gru:]	grown [groun]	расти
hang [hӕŋ]	hung [hʌŋ]	hung [hʌŋ]	вешать
have [hӕv]	had [hӕd]	had [hӕd]	иметь

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hear [hiə]	heard [hɜ:d]	heard [hɜ:d]	слышать
hide [haid]	hid [hid]	hidden ['hidn]	прятать
hit [hit]	hit [hit]	hit [hit]	попадать в цель
hold [hould]	held [held]	held [held]	держать
hurt [hɜ:t]	hurt [hɜ:t]	hurt [hɜ:t]	ушибить
keep [ki:p]	kept [kept]	kept [kept]	содержать
kneel [ni:l]	knelt [nelt]	knelt [nelt]	стоять на коленях
know [nou]	knew [nju:]	known [noun]	знать
lay [lei]	laid [leid]	laid [leid]	класть
lead [li:d]	led [led]	led [led]	вести
lean [li:n]	leant [lent]	leant [lent]	наклоняться
learn [lɜ:n]	learnt [lɜ:nt]	learnt [lɜ:nt]	учить
leave [li:v]	left [left]	left [left]	оставлять
lend [lend]	lent [lent]	lent [lent]	занимать
let [let]	let [let]	let [let]	позволять
lie [lai]	lay [lei]	lain [lein]	лежать
light [lait]	lit [lit]	lit [lit]	освещать
lose [lu:z]	lost [lɔst]	lost [lɔst]	терять
make [meik]	made [meid]	made [meid]	производить
mean [mi:n]	meant [ment]	meant [ment]	значить
meet [mi:t]	met [met]	met [met]	встречать
mistake [mis'teik]	mistook [mis'tuk]	mistaken [mis'teik(e)n]	ошибаться
pay [pei]	paid [peid]	paid [peid]	платить
prove [pru:v]	proved [pru:vd]	proven [pru:vn]	доказывать

put [put]	put [put]	put [put]	положить
quit [kwit]	quit [kwit]	quit [kwit]	выходить
read [ri:d]	read [red]	read [red]	читать
ride [raid]	rode [roud]	ridden ['ridn]	ездить верхом
ring [riŋ]	rang [ræŋ]	rung [rʌŋ]	звенеть
rise [raiz]	rose [rouz]	risen ['rizn]	подниматься
run [rʌŋ]	ran [ræŋ]	run [rʌŋ]	бежать
say [sei]	said [sed]	said [sed]	говорить
see [si:]	saw [sɔ:]	seen [si:n]	видеть
seek [si:k]	sought [sɔ:t]	sought [sɔ:t]	искать
sell [sel]	sold [sould]	sold [sould]	продавать
send [send]	sent [sent]	sent [sent]	посылать
set [set]	set [set]	set [set]	ставить
sew [sou]	sewed [soud]	sewn [soun]	шить
shake [ʃeik]	shook [ʃuk]	shaken ['ʃeik(ə)n]	встряхивать
show [ʃəu]	showed [ʃəud]	shown [ʃəun]	показывать
shrink [ʃriŋk]	shrank [ʃræŋk]	shrunk [ʃrʌŋk]	уменьшать
shut [ʃʌt]	shut [ʃʌt]	shut [ʃʌt]	закрывать
sing [siŋ]	sang [sæŋ]	sung [sʌŋ]	петь
sink [siŋk]	sank [sæŋk], sunk [sʌŋk]	sunk [sʌŋk]	тонуть
sit [sit]	sat [sæt]	sat [sæt]	сидеть
sleep [sli:p]	slept [slept]	slept [slept]	спать

slide [slaid]	slid [slid]	slid [slid]	скользить
sow [sou]	sowed [soud]	sown [soun]	сеять
speak [spi:k]	spoke [spouk]	spoken ['spouk(e)n]	говорить
spell [spel]	spelt [spelt]	spelt [spelt]	произносить по буквам
spend [spend]	spent [spent]	spent [spent]	тратить
spill [spil]	spilt [spilt]	spilt [spilt]	проливать
spoil [spɔil]	spoilt [spɔilt]	spoilt [spɔilt]	портить
spread [spred]	spread [spred]	spread [spred]	расстилать
spring [spriŋ]	sprang [sprжŋ]	sprung [sprʌŋ]	прыгать
stand [stжnd]	stood [stu:d]	stood [stu:d]	стоять
steal [sti:l]	stole [stoul]	stolen ['stəulən]	красть
stick [stik]	stuck [stʌk]	stuck [stʌk]	колоть
sting [stiŋ]	stung [stʌŋ]	stung [stʌŋ]	жалить
sweep [swi:p]	swept [swept]	swept [swept]	выметать
swell [swel]	swelled [sweld]	swollen ['swoul(e)n]	разбухать
swim [swim]	swam [swem]	swum [swʌm]	плавать
swing [swiŋ]	swung [swʌŋ]	swung [swʌŋ]	качать
take [teik]	took [tuk]	taken ['teik(ə)n]	брать, взять
teach [ti:tʃ]	taught [tɔ:t]	taught [tɔ:t]	учить
tear [tɛə]	tore [tɔ:]	torn [tɔ:n]	рвать
tell [tel]	told [tould]	told [tould]	рассказывать

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think [θiŋk]	thought [θɔːt]	thought [θɔːt]	думать
throw [θrəu]	threw [θruː]	thrown [θrəun]	бросать
understand [ʌndə'stжnd]	understood [ʌndə'stud]	understood [ʌndə'stud]	понимать
wake [weik]	woke [wouk]	woken ['wouk(e)n]	просыпаться
wear [wɛə]	wore [wɔː]	worn [wɔːn]	носить
weep [wiːp]	wept [wept]	wept [wept]	плакать
wet [wet]	wet [wet]	wet [wet]	мочить
win [win]	won [wʌn]	won [wʌn]	выигрывать
wind [waind]	wound [waund]	wound [waund]	извиваться
write [rait]	wrote [rout]	written ['ritn]	писать

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Войтишенюк Елена Валерьевна

ТЕРМИНОЛОГИЧЕСКИЙ ИНОСТРАННЫЙ ЯЗЫК

**Практикум
для студентов специальностей
1-36 04 02 «Промышленная электроника»,
1-40 04 01 «Информатика и технологии
программирования», 1-53 01 07 «Информационные
технологии и управление в технических системах»
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