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LIFESTYLE, EDUCATION, TECHNOLOGY

Сборник текстов и упражнений
по английскому и немецкому языкам для студентов
аэрокосмических специальностей очной формы обучения

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ОБЩИЕ СВЕДЕНИЯ

В современном и высокотехнологичном, быстро меняющемся мире для молодых людей актуально и даже модно быть в курсе последних событий, уметь обсуждать проблемы, касающиеся их непосредственно. Сборник текстов и упражнений «Lifestyle, Education, Technology» включает в себя современную информацию по интересующим студентов темам. Такие темы, как внешность человека, его характер, проблемы и роль семьи в современном обществе, секрет успеха и образование всегда были и остаются актуальными в современной жизни. Тексты, рассказывающие о людях, добившихся успехов в реальной жизни, являются примером того, что стать успешным человеком на самом деле возможно. Для этого необходимо иметь такие качества, как целеустремленность и трудолюбие.

Поскольку сборник предназначен студентам технических специальностей, в него включены тексты, так или иначе касающиеся современных технологий, научных разработок, образовательных программ и исследований в различных областях.

Цель данного сборника – развитие у студентов навыков чтения, говорения и письма. Тексты подобраны из аутентичной технической и публицистической литературы и подверглись лишь незначительному сокращению и адаптации. Особенностью данного сборника является использование двух языков – английского и немецкого. Большинство заданий рассчитано на развитие у студентов способности работать самостоятельно в парах или группах с бумажными и электронными источниками. Упражнения имеют в основном коммуникативный характер, побуждая к высказываниям в ситуациях, приближенных к условиям реального общения.

Большое внимание в сборнике уделяется письменным заданиям, где студентам предлагается написать эссе, составить воображаемые интервью, поделиться на следующем уроке с другими студентами новой, найденной в сети информацией. Особое внимание уделяется домашней работе, выполняя которую студенты чувствуют мотивацию для дальнейшего изучения темы, расширяют и закрепляют знания, полученные на аудиторном занятии.

Послетекстовые упражнения разнообразны и включают в себя работу в парах, разнообразные дискуссии и поиск синонимов и антонимов.

Задания в сборнике рассчитаны на студентов от среднего уровня, выше среднего и до продвинутого. Работая с данным сборником, студенты значительно пополнят свой словарный запас и расширят кругозор, научатся структурировать свою работу в аудитории и дома, составлять персональные словари, находить нужную информацию в Интернете и делиться ею с аудиторией. Список рекомендуемых источников представлен в конце сборника.

Сборник предназначен для студентов всех специальностей ИИТК, соответствует программам ФГОС ВПО по английскому и немецкому языкам и рассчитан на три семестра. Предполагается его использование в комплексе с базовым учебником по грамматике.

Желаем всем успеха в работе!

Section 1. LIFESTYLE

Unit 1. PEOPLE'S APPEARANCE

1. Useful vocabulary. Write down the words and translate them. Use a dictionary to build up more associations/collocations of each word. Make as many sentences as you can about your friend's appearance. Learn the words by heart.

General: beautiful (to describe women), handsome (to describe men), good-looking (for both), pretty (often a girl), attractive.

Height and build: tall and slim, medium height and build, short and fat, medium height and vary muscular, slim ("thin" is more negative meaning) skinny (very negative), fat ("overweight" is more neutral).

Hair: straight, wavy, curly, fair (blond, light brown), dark (dark brown, black).

Special features: pale skin, dark skin, broad shoulders, beard, moustache.

Asking questions about the appearance:

What does she look like? – She is quite tall with short fair hair.

How tall is she? – About 1 meter 65.

How much does she weigh? – I don't know it may be rude to ask. Probably about 45 kilos.

2. Discussion. Answer these questions about your appearance. Ask another person these questions.

1. How tall are you?
2. How would you describe your build?
3. How much do you weigh?
4. What kind of hair have you got?
5. What colour is it?
6. Would you like to be different? If so, what would you like?
7. Do you think you have any special features?
8. Are there any special features you would like to have?
9. Do you like beards?
10. Can you think of a famous woman you would like to describe as beautiful and a famous man you would describe as good-looking?

3. Read and translate the text. Circle any words you do not understand. In groups, pool unknown words and use dictionaries to find their meanings.

Text A. BEUTY

People say that beauty is in the eye of the beholder. That means if someone thinks someone else is beautiful, then they are beautiful. I think the idea of beauty is interesting. Why do we think some things or some people are beautiful and others aren't? Some people think a building is beautiful, while others think the opposite. People nowadays spend too much time and money on beauty. I agree with the expression "beauty is only skin deep". This means that what's really important is someone's heart and character, not what they look like on the outside. It's a little strange, and unfair, that you have to be beautiful to be a top actress or even a news reader on TV. I think there should be equal rights for most of us "non-beautiful" people.

4. Independent work.

1. Search the Internet and find more information about beauty. Talk about what you discover with your partner (s) in the next lesson.

2. Write a magazine article about beauty. Read what you wrote to your classmates in the next lesson. Give each other feedback on your articles.

4. Make a poster about beauty. Show it to your classmates in the next lesson. Give each other feedback on your posters.

5. Read and translate the text. Circle any words you do not understand. In groups, pool unknown words and use dictionaries to find their meanings.

Text B. SITE FOR BEAUTIFUL PEOPLE ONLY

BNE: "Dear Guest, Welcome to the most beautiful and coveted network in the U.S." This is the greeting you receive at a new and exclusive Internet site that has just been launched in the U.S. Membership requirements are very specific – you must be very beautiful or handsome. If you don't have a great body or a model's face, you are rejected. The site's introduction says: "It is a meeting place which is reserved for people who, because of their attractive appearance and personal qualities, stand out from the majority."

It is a social networking site for dating and friendship. Applicants are accepted or turned down based on scores given to their photos by existing members. The site recommends the photos should be sexy but not pornographic. People can submit their photo and details up to 50 times. This gives wannabe beauties and hunks lots of time to improve their looks. Greg Hodge, managing director in the U.S., said the site exists: "So that people who are sick of wasting time and money meeting unattractive people on the Net can meet others they deem aesthetically pleasing."

6. Work in pairs.

1. Talk about the sites you like visiting on the Internet. How often do you visit new sites? What kinds of sites have you added to your favorites? Do you regularly visit English language or learning sites?

2. Decide which of these topics or words are most interesting and which are most boring.

Guests / beautiful people / beauty / coveted things / networking / the elite / friendship / dating / Internet dating sites / model looks

7. Quick discussions.

1. Students A think beauty and looks are not important to be successful in life. Students B think being beautiful or handsome is very important to have a successful life.

2. Spend one minute writing down all of the different words you associate with the word "beautiful". Share your words with your partner and talk about them. Together, put the words into different categories.

3. In pairs tell each other what you think your good points are. Talk about your looks and personality. Say nice things about your partners' looks and personalities.

8. Look at the article's headline and guess whether these sentences are true (T) or false (F).

1. An Internet site has started that only accepts beautiful people. T/F
2. The site started last year in Japan and is now in the U.S. T/F
3. You don't need a great body to join the site. T/F
4. The site is a place where ordinary people can date beautiful people. T/F
5. Membership is based on scores your photo gets from members. T/F
6. Pornographic photos will make your entry into the site easier. T/F
7. You can try to join as many as 50 times. T/F
8. The site is for people fed up with meeting ugly people on the Net. T/F

9. Match the following synonyms from the article.

1) coveted	a) refused
2) greeting	b) candidates
3) launched	c) fed up
4) rejected	d) desired
5) stand out	e) post
6) applicants	f) started
7) submit	g) believe
8) wannabe	h) attract attention
9) sick	i) welcome
10) deem	j) hopeful

10. Match the following phrases from the article (sometimes more than one combination is possible).

1) the most beautiful and	a) and details
2) the greeting	b) qualities
3) membership requirements are very	c) the majority
4) personal	d) turned down
5) stand out from	e) you receive
6) applicants are accepted or	f) pleasing
7) submit their photo	g) coveted network in the U.S.
8) lots of time	h) of wasting time and money
9) sick	i) specific
10) aesthetically	j) to improve their looks

11. Discussion. Students ask each other questions.

Student A's questions:

1. What did you think when you saw this headline?
2. Did the headline make you want to read the article?
3. Would you like to join BeautifulPeople.net?
4. What do you think of people who want to join this site?
5. Do you think this site is just for vain people?
6. What does this kind of site say about the world?
7. Do you worry about your looks and body?
8. Would you like to meet and date people from this site?
9. Do you think there is too much elitism in the world?
10. Do your "personal qualities" make you stand out from the majority?

Student B's questions:

1. Did you like reading this article?
2. What did you think about what you read?
3. What kind of social network do you have?
4. Would you like to give scores to the photos posted to the site?
5. Would you try to join the site 50 times?
6. Would you like to change your looks?
7. Have you ever thought about having cosmetic surgery?
8. What are you sick of wasting time and money on?
9. Do you think the Internet is a good place to meet and date people?
10. Did you like this discussion?

12. After discussion. Join another partner/group and tell them what you talked about.

1. What question would you like to ask about this topic?
2. What was the most interesting thing you heard?
3. Was there a question you didn't like?
4. Was there something you totally disagreed with?
5. What did you like talking about?
6. Do you want to know how anyone else answered the questions?
7. Which was the most difficult question?

13. Speaking about looks. You have been offered the chance to have free cosmetic surgery. Talk to your partner (s) about your opinion on various parts of your face and body and give them a score from 1 to 10. What would you like to change? Fill in the table below:

Bodyparts	Your opinion and score	Changes you would like to make
Hair		
Wrinkles		
Eyes		
Nose		
Ears		
Mouth		
Chest		
Bottom		
Legs		
Other		

14. Independent work.

1. Search the Internet and find more information on BeautifulPeople.net. Share your findings with your class in the next lesson.

2. X-People.Net: Create an idea for your own Internet site. You must replace the "X" in the heading with an adjective. Write down the aims of the site, the membership requirements and what members can do online and offline. Describe your sites to your classmates in your next lesson. Did you all want to join each other's sites?

Unit 2. FAMILIES

1. Useful vocabulary. Write down the words in to your personal glossary and translate them. Use a dictionary to build up more associations/collocations of each word. Make as many sentences about your friend's family as you can. Learn the words by heart.

Family: husband, wife, spouse; father, mother, parents; son, daughter, child, children; brother, sister, siblings, twins; grandfather, grandmother, grandparents; grandson, granddaughter, grandchild, grandchildren; great-grandfather, great-grandmother, great-grandchild; stepfather, stepmother, stepbrother, stepsister; half-brother, half-sister; adopted son, adopted daughter, adopted child; foster family, foster father, foster mother, foster parents, foster son, foster daughter, foster child.

Relatives: uncle, aunt; nephew, niece; cousin, first cousin, second cousin; close relatives, distant relatives; my family, my relatives, my folks, my kin.

Relatives by marriage: in-laws, father-in-law, mother-in-law, son-in-law, sons-in-law, daughter-in-law, daughters-in-law; brother-in-law, brothers-in-law, sister-in-law, sisters-in-law.

2. Discussion. Work in pairs. Ask and answer questions about friends.

1. What comes to mind when you hear the word "family"?
2. How important is your family to you?
3. How important are you to your family?
4. Would you like / Do you have your own family?
5. Do you prefer spending time with your family or friends?
6. Are there any strange people in your family?
7. Are you jealous of any of your family members?
8. Do you get on well with all of your family members?

9. How often do you have big family get-togethers?
10. How much of a family person are you?

3. Read and translate the text. Circle any words you do not understand. In groups, pool unknown words and use dictionaries to find their meanings.

Text A. FAMILY

What does family mean to you? In a perfect world, all families should be happy and everyone should get on well together. I know a lot of families that have many problems. Brothers and sisters who don't like each other, parents who never talk to each other. I wonder why this is. How can you live so close to your family members and feel apart from them? There is a lot of talk in the news about the breakdown of family life. Divorce is rising everywhere in the world. This means single parents have less time to spend with their children, which creates problems. Maybe the stress of modern life puts too much pressure on families. It seems as though family life was better a generation or two ago. Is this true for families in your country?

4. Independent work.

1. Search the Internet and find more information about family. Talk about what you discover with your partner in the next lesson.
2. Write a magazine article about family. Read what you wrote to your classmates in the next lesson. Give each other feedback on your articles.
3. Make a poster about family. Show it to your classmates in the next lesson. Give each other feedback on your posters.

5. Read and translate the text. Circle any words you do not understand. In groups, pool unknown words and use dictionaries to find their meanings. Choose several of the words from the text. Use a dictionary to build up more associations/collocations of each word.

Text B. INTERNET HELPS FAMILIES STAY MORE IN TOUCH

Much has been said about how anti-social the Internet and mobile phones are. The truth is however, according to new research, communication technology is bringing people closer together. A study by the Pew Internet and American Life Project found family members were keeping in regular contact today more than ever before. And this is all down to e-mail, chat,

our cellphones and SMS messaging. It makes sense. Years ago, it took a long time to write a letter, then find an envelope and go to the post office to buy a stamp and post it. Today we write mails while we wait for our change in the convenience store and they're sent in an instant. Having free Internet telephone calls also helps us to stay in touch more often and for longer. Everyone's at it, from five-year-olds to tech-savvy grandparents.

According to the Pew survey, technology has a very positive effect on communication within families. Researchers asked 2,252 adults whether new technologies had increased the quality of communication with their family. Fifty-three percent said it increased communication with family members they did not live with, two per cent said technology decreased this. Numbers were similar for those living in the same house as their family. The project director Lee Rainey said: "There's a new kind of connectedness being built inside of families with these technologies". Survey co-author Barry Wellman agreed: "It used to be [that] husbands went off to work, wives went off to a different job or else stayed home… and the kids went off to school… and not until 5:30, 6 o'clock did they ever connect," he said.

6. Answer the following questions.

1. Did you like reading this article?
2. Who is the biggest user of technology in your family?
3. Do you think technology has increased the quality of communication in your family?
4. How might technology decrease the quality of communication?
5. How could families become even more connected?
6. Do you sometimes wish you weren't so connected?
7. What will be the next big thing that will connect us all?
8. Would you like a permanent, open connection to anyone you choose?
9. Is your family good at staying in touch?
10. What questions would you like to ask project director Lee Rainey?

7. Pair works. Decide which of these topics or words from the article are most interesting and which are most boring.

Anti-social / communication technology / keeping in contact / SMS / envelopes / positive effects / family communication / connectedness / wives staying at home

Have a chat about the topics you liked. Change topics and partners frequently.

8. Speaking about technology. Say if you could or couldn't do without it: Which of these things are most important to you? Rank them in order.

_____ envelopes and stamps
_____ fax
_____ SMS
_____ chat
_____ mobile phone
_____ e-mail
_____ telephone
_____ answering machine
_____ web cam

9. Look at the article's headline and guess whether these sentences are true (T) or false (F).

1. Communication technology is reuniting people separated at birth. T/F
2. Family members are in more regular contact today than ever before. T/F
3. You often needed a stamp to keep in contact years ago. T/F
4. Many of our parents' parents now keep up with technology. T/F
5. Technology has had a very negative effect on family communication. T/F
6. 2 % of a survey said technology worsened family communication. T/F
7. Families are building network connections inside their homes. T/F
8. A researcher said families only used to communicate in the evenings. T/F

10. Match the following synonyms from the article.

1) much	a) quickly
2) according to	b) writer
3) down to	c) inside
4) in an instant	d) almost identical
5) savvy	e) as stated by
6) within	f) linking
7) decreased	g) a lot
8) similar	h) know-how
9) connectedness	i) lowered
10) author	j) because of

11. Match the following phrases from the article (sometimes more than one combination is possible).

1) technology is bringing people	a) sense
2) keeping in	b) being built
3) It makes	c) instant
4) sent in an	d) the Pew survey
5) Everyone's at	e) families
6) According to	f) closer together
7) communication within	g) they ever connect
8) family members they	h) it
9) There's a new kind of connectedness	i) regular contact
10) not until 5:30, 6 o'clock did	j) did not live with

12. Independant work.

1. Make a poster about the types of communication technologies you use. Show your work to your classmates in the next lesson. Did you all have similar things?

2. Write a magazine article about how people are connected nowadays. Include imaginary interviews with an ordinary person and the boss of a communication technology company. Read what you wrote to your classmates in the next lesson.

3. Write a letter to Lee Rainey. Ask him three questions about his research. Give him three suggestions on what aspects of society he should study.

Unit 3. FRIENDS

1. Useful vocabulary. Write down the words into your personal glossary and translate them. Use a dictionary to build up more associations/collocations of each word. Make as many sentences as you can about your friend' character. Learn the words by heart.

Words describing character with positive and negative meaning: warm and friendly – cold and unfriendly, kind – unkind; nice, pleasant – horrible, unpleasant; generous – mean; optimistic – pessimistic; cheerful – miserable; relaxed – tense; strong – weak; sensitive – insensitive; honest – dishonest.

Qualities you need in a work situation with negatives: hard-working – lazy; punctual – not very punctual; reliable – unreliable; clever, bright – stupid, thick; flexible – inflexible; ambitious – unambitious; shy – self-confident; reserved – emotional.

Using nouns: to have common sense, to use one's initiative.

We can use a number of adjectives before friend: an old friend – someone you have known for a long time; a close friend – a good friend, someone you like and trust; your best friend – the one friend you feel closest to; colleagues – the people we work with.

2. Discussion. Work in pairs. Ask and answer questions about friends.

1. Are friends sometimes more important than family?
2. Do you agree with the expression "a friend in need is a friend indeed"?
3. How similar are you to your friends?
4. Do you think you have a special understanding with your friends?
5. At which stages of life is it easier to make friends?
6. Are your childhood friends those you have strongest bonds with?
7. What's the nicest thing you've ever done for your friends?
8. How often do you fall out with your friends?
9. If you could choose any friend in the world, who would it be?
10. What is the most valuable thing you have to offer as a friend?

3. Read and translate the text. Choose several of the words from the text. Use a dictionary to build up more associations/collocations of each word.

Text A. FRIENDS

I think I have the greatest friends in the world. They are just as important to me as family. In fact, they are my family, really. My best friends and I all grew up together and shared so many experiences together. We know everything about each other. I would do anything for my friends and I'm sure they'd do anything for me. I'm sure there's nothing in the world that could stop us from being friends. I've also made lots of other good friends from university and the different places I've worked. They are also important to me. We are now all over the world and it's sometimes difficult to meet each other, but we stay in touch. One day I'd like to get all of my friends together for a big party. That'd be great fun.

4. Independent work.

1. Search the Internet and find more information about friends. Talk about what you discover with your partner in the next lesson.

2. Write a magazine article about friends. Read what you wrote to your classmates in the next lesson. Give each other feedback on your articles.

3. Make a poster about friends. Show it to your classmates in the next lesson. Give each other feedback on your posters.

5. Read and translate the text. Choose several of the words from the text. Use a dictionary to build up more associations/collocations of each word.

Text B. RENT-A-FRIEND AGENCIES GROWING IN JAPAN

There are many new ways of making friends in today's world. The best known of these is meeting new pals online. The Japanese are doing things a little differently. There is a growth in rent-a-friend agencies. The only catch is that the friends you meet will not become your true friends. You simply rent one when you need one for a specific occasion. The friends for rent are professional fakers. They will pretend to be anyone you want them to be. They serve a very useful purpose in Japan, where it's very important to keep up social appearances. If you do not have a best man for your wedding or you need a rich aunt to seal a business deal, rent-a-friend agencies will provide you with the perfect impersonator.

Britain's Guardian newspaper reports on Ryuichi Ichinokawa, the owner of the "I want to cheer you up" agency. He has been the best man at weddings, making jokes about happy couples he did not know, and has acted as the uncle of students at school sports days. The Guardian says: "He dutifully cheered them on, recorded their efforts on his handheld video camera and joined in the adult-and-child races." Ichinokawa charges just over $150 as a rental charge, but says there are extra fees for singing at a karaoke party or making a speech at a wedding. Ryuichi says he plans everything in detail so he doesn't embarrass his client. He boasts: "In three and a half years I've never once been caught out."

6. Discussion. Work in pairs. Ask and answer these questions.

1. What did you think when you read the headline?
2. What springs to mind when you hear the word "friend"?
3. Do you have enough friends or would you like more?
4. How good are your friends?
5. What do you think of the rent-a-friend idea?
6. Do you think the Japanese do things differently?
7. Can you think of a time when you needed a fake friend?

8. What pretend friend would you like this week?
9. Would find-a-friend agencies work in your country?
10. Would you like to work as a rental friend?

7. Read the headline. Guess if 1–8 below are true (T) or false (F).

1. Most Japanese people rent their friends. T/F
2. Friends from rent-a-friend agencies usually become lifelong friends. T/F
3. The friends you rent will pretend to be anyone you ask them to be. T/F
4. People rent friends in Japan to maintain their public image. T/F
5. The owner of a friend-rental agency often knows the bride at weddings. T/F
6. The owner cheered for children he never knew at a school sports day. T/F
7. You have to pay extra for your rented friend to sing or make a speech. T/F
8. The agency owner said he was found out as a fake just three times. T/F

8. Match the following synonyms from the article.

1) ways	a) costs
2) pals	b) ideal
3) catch	c) brides and grooms
4) purpose	d) disadvantage
5) perfect	e) shame
6) happy couples	f) methods
7) fees	g) function
8) detail	h) brags
9) embarrass	i) friends
10) boast	j) accuracy

9. Match the following phrases (sometimes more than one choice is possible).

1) ways of making	a) useful purpose
2) doing things a	b) at weddings
3) need one for a	c) in detail
4) They serve a very	d) friends
5) keep up social	e) you up

6) I want to cheer	f) for singing
7) the best man	g) little differently
8) there are extra fees	h) been caught out
9) he plans everything	i) specific occasion
10) I've never once	j) appearances

10. Independent work.

1. Make a poster about your friends, past and present. Show your work to your classmates in the next lesson. Did you all have similar things?

2. Write a magazine article about someone who rented a friend. What was the occasion? Include imaginary interviews with the person who rented the friend and the rented friend. Read what you wrote to your classmates in the next lesson. Write down any new words and expressions you hear from your partner.

3. Write a letter to Ryuichi Ichinokawa. Ask him three questions about his rent-a-friend agency. Give him three suggestions on what other things he could rent people for. Read your letter to your partner in your next lesson. Your partner will answer your questions.

Unit 4. LIFESTYLE

1. Useful vocabulary. Write down the words into your personal glossary and translate them. Use a dictionary to build up more associations/collocations of each word. Make as many sentences as you can about your everyday life. Learn the words by heart.

Sleep: to wake up, to lie in bed, to get up, to go to bed, to fall asleep, can't get to sleep, to oversleep, to have late night, to have a nap, to have a lie in.

Food: to have breakfast, lunch, dinner, to have a snack, to live alone, to make one's own breakfast or dinner, to feed a pet.

Keeping clean: to have a bath, a shower, to have a shave, to have a wash, to wash one's hair, to brush one's teeth.

Work: to leave home, to go to work, to have a lunch break, to leave work, to get home.

Evenings: to stay in, to go out, to have a rest, to have friends for dinner, friends come round for a chat, to play chess, cards.

Houswork: to do the shopping, to do the washing (to wash the clothes), to do the washing up (to wash the dishes).

2. Discussion. Work in pairs. Ask and answer your questions about life and success.

1. What is the meaning of life?
2. What's your biggest goal in life?
3. Do you have a good quality of life?
4. What is your biggest success in life?
5. What small successes do you have every day?
6. How would you define success?
7. Is success a journey or a destination?
8. What is your formula or recipe for success?
9. Does success keep you happy?
10. Do you think you can teach someone to be successful?

3. Read and translate the text. Choose several of the words from the text. Use a dictionary to build up more associations/collocations of each word.

Text A. LIFESTYLE

Everyone wants a good lifestyle. I do too. I want a good job that is quite near my house – I don't want to spend a long time on trains and buses. I also want a nice house where I can relax. I like decorating and shopping for furniture. I also want lots of friends so I can do stuff with them. My idea of a good lifestyle is being happy at work, going to the gym or going out for a meal after work, and spending the weekends with friends doing things or going places. Of course I have to have a holiday every year in another country. I haven't got that lifestyle yet because I haven't got enough money. I'm a little jealous of my friend's lifestyle. She has everything and is always going out and having fun.

4. Independent work.

1. Search the Internet and find more information about lifestyle. Talk about what you discover with your partner (s) in the next lesson.

2. Write a magazine article about lifestyle. Read what you wrote to your classmates in the next lesson. Give each other feedback on your articles.

3. Make a poster about lifestyle. Show it to your classmates in the next lesson.

5. Read and translate the text. Circle any words you do not understand. In groups, pool unknown words and use dictionaries to find their meanings.

Text B. STEVE JOBS

Steve Jobs was the co-founder and CEO of Apple Inc. and former CEO of Pixar Animation Studios. He was the largest individual shareholder in Walt Disney. Jobs' name is associated with innovative products like the iPod, iPhone, iTunes and iPad. He was a much-respected corporate leader whose management style is studied worldwide. His attention to design, function and style won him millions of fans.

Jobs was born in San Francisco in 1955. He became interested in computers when he was a teenager and attended lectures after school at Hewlett Packard. In 1974, Jobs got a job as a technician at the video game maker Atari. He saved enough money to backpack around India and then returned to Atari, where he met Apple co-founder Steve Wozniak.

Jobs and Wozniak founded Apple in 1976. Jobs persuaded Wozniak to make a computer and sell it. Together, they developed the Mac. It was the first small computer with a user-friendly interface to be commercially successful. Jobs also built the computer on which the World Wide Web was created. He developed a passion for style and functional perfection, which became Apple trademarks.

Jobs guided Apple to be a major player in the digital revolution. The introduction of the iMac and other cutting-edge products made Apple a powerful brand with a loyal following. Jobs also enjoyed considerable success at Pixar. He created Oscar-winning movies such as "Toy Story" and "Finding Nemo". Jobs' advice for success is: "You've got to find what you love." He died in October 2011, aged 56.

6. Match the words from the article on the left with their synonyms on the right. Are your answers the same as other students'?

Paragraphs 1 and 2:

1) CEO	a) followers
2) individual	b) Chief Executive Officer
3) fans	c) went to
4) attended	d) went back
5) backpack	e) single
6) returned	f) travel

Paragraphs 3 and 4:

7) persuaded	g) innovative
8) passion	h) characteristics
9) trademarks	i) love
10) major	j) lots of
11) cutting-edge	k) big
12) considerable	l) convinced

7. Match the following phrases from the article.

1) former CEO	a) passion for style
2 the largest individual	b) as a technician
3) innovative	c) to make a computer
4) Jobs got a job	d) with a loyal following
5) backpack	e) of Pixar
6) Jobs persuaded Wozniak	f) find what you love
7) a user-friendly	g) around India
8) He developed a	h) shareholder in Walt Disney
9) made Apple a powerful brand	i) products like the iPod
10) You've got to	j) interface

8. Spell these jumbled words from the text correctly.

Paragraph 1:

1) co-freduno and CEO of Apple Inc.
2) He was the atrsgel individual shareholder
3) He was a much-respected corporate rldeae
4) His attention to iegdsn

Paragraph 2:

5) when he was a tereange
6) teatdedn lectures after school
7) a job as a ianeinctch
8) packacbk around India

Paragraph 3:

9) Jobs and Wozniak duofend Apple in 1976
10) they peevoeddl the Mac
11) a ssipnao for style
12) Apple kmtsrderaa

Paragraph 4:

13) a major player in the itadlig revolution
14) other cutting edeg products
15) a powerful brand with a yolla following
16) Jobs' ieavdc for success

9. Put the words back into the correct order.

1. the Walt largest Disney individual He shareholder was in
2. name associated innovative Jobs' is with products
3. computers was He in he teenager interested when a became
4. Jobs a as technician got job a
5. around backpack to money enough saved He India
6. a Jobs Wozniak make computer persuaded to
7. which Wide created on World was computer the Web the
8. He style for passion a developed
9. in digital a player the revolution major
10. love got find you You've to what

10. Pairwork. Answer these questions then add your own questions.

1. What do you know about Steve Jobs?
2. Would you like to have met Steve Jobs?
3. What would you like to know about Steve Jobs and why?
4. What did you learn from this text about Steve Jobs?
5. What questions would you like to have asked Steve Jobs?
6. What would his answers be to those questions have been?

11. Independent work.

1. Search the Internet and find more information about Steve Jobs. Talk about what you discover with your partner (s) in the next lesson.

2. Write a magazine article about Steve Jobs. Include an imaginary interview with his friends and rivals. Read what you wrote to your classmates in the next lesson. Give each other feedback on your articles.

3. Write a letter to Apple. Ask the company three questions about Steve Jobs. Give him three suggestions on what the company should do now he has gone. Read your letter to your partner (s) in your next lesson. Your "Apple expert" partner (s) will try and answer your questions.

4. Write a paragraph explaining why Steve Jobs was a genius.

Section 2. EDUCATION

Unit 1. HIGHER EDUCATION

1. Vocabulary. Read the word list aloud, pay attention to Russian equivalents.

Exams and Qualifications

to take / to retake	держать/пересдавать экзамен
an examination (exam)	
to pass / to fail in an exam	сдать/не выдержать экзамен
to get / to give a mark (a grade)	получить/поставить оценку
an entrance exam	вступительный экзамен
to get a degree / a diploma	получить степень/диплом
Bachelor of Arts (B.A.)	бакалавр гуманитарных наук
Bachelor of Science (B.Sc)	бакалавр технических наук
Bachelor of Engineering (B.Eng.)	бакалавр техники
Master of Arts (M.A.)	магистр гуманитарных наук
Master of Science (M.Sc.)	магистр технических наук
Master of Engineering (M.Eng.)	магистр техники

Words related to higher education

to enter the university	поступать в университет
to graduate from the university	окончить высшее учебное заведение
a graduate	выпускник высшего учебного заведения
a post-graduate	аспирант
a first-year student / a freshman	первокурсник
a second-year student / a sophomore (Am. En.)	второкурсник
a senior student	студент-старшекурсник
to be trained	обучаться
tuition	обучение
a tutor	преподаватель университета
a tutorial	практическое занятие
major	главный предмет
to major in / to specialize in (physics)	специализироваться по (физике)

to do special subjects	изучать специальные предметы
to come in useful	пригодиться в будущем
to attend classes	посещать занятия
to skip / to miss a lecture	пропустить лекцию
a grant / a scholarship	стипендия
an academic year	учебный год
a term / a semester	семестр
to study hard	учиться упорно
a dormitory / a hostel	студенческое общежитие
to provide with	обеспечивать чем-нибудь
facilities	условия, оборудование
to be at one's disposal	быть в чьем-либо распоряжении
to be free of charge	быть бесплатным
to make progress in	делать успехи в чем-либо
to develop physical abilities	развивать физические способности

2. Read the text and find the answers to the following questions.

1. Does SibSAU participate in international academic programs?
2. What countries does our university cooperate with?
3. What areas does SibSAU train specialists in?
4. How long are students trained for a Bachelor's and Master's Degree?
5. Why is practical work so important?
6. Who can get a state grant?
7. How many students of our university live in dormitories?
8. What facilities are at students' disposal?

Text A. MY UNIVERSITY

Let me introduce myself. My name is Victor Smirnov. I'm 17 years old. I left secondary school and entered the Siberian State Aerospace University. I'm a first-year student now. There are 24 students in our group. We are all good friends.

Our university is one of the best universities in our city. It cooperates with many foreign countries of the world such as Germany, the Czech Republic, France, the USA, China and others. The best students are sent abroad to continue their education on a students' exchange program.

The students of our university can become specialists in such spheres as rocket and space production, civil aviation, information technologies, international business, finance, management, humanities. We are trained for 4 years for a Bachelor's Degree and 6 years for a Master's Degree.

As for me I study at the Institute of Computer Science and Telecommunications. I major inprogramming. I know programming languages quite well and I'mgood at compiling programs.

Tuition is closely connected with practice. When seniorstudents have practice they work in the afternoon and study in the evening. It is not easy to work and study at a time but practical work helps us to do special subjects and besides it will come in useful in future.

The students of our university get a state grant if they study hard, don't miss classes during the term and pass their exams well. Those who fail in exams don't receive it. The students who come from other towns live in dormitories. The Students' Campus consists of three dormitories where more than 850 students live.

The sport center with 4 gyms and a stadium, the house of Water Sports, the Culture House, the library, computer classes, Internet are at our disposal free of charge. The library providesus withnecessary textbooks, journals and reference literature. Students can work in the reading room preparing for seminars.

So, the students of our university have all opportunities to make progress in study and developtheir physical abilities as well.

3. Divide the text into main parts, title them and write down key words for each part.

4. Match the words on the left with their synonyms on the right.

1) to finish	a) to skip
2) to specialize	b) scholarship
3) a first-year student	c) tuition
4) to miss	d) a hostel
5) a term	e) to supply
6) a dormitory	f) to leave
7) a grant	g) a freshman
8) to provide	h) to major
9) teaching	i) a semester

5. Match the words on the left with their opposites on the right.

1) to enter	a) to start
2) to fail	b) to miss
3) to leave	c) minor
4) to attend	d) to graduate
5) major	e) to pass

6. Match the words to make word combinations and translate them.

1) to develop	a) the exam
2) to live	b) the University
3) to do	c) hard
4) to get	d) progress
5) to fail in	e) special subjects
6) to major	f) a grant
7) to work	g) physical abilities
8) to enter	h) in a dormitory
9) to make	i) in math

7. Match the word combinations with their equivalents in Russian. Make up your own sentences with them.

1) to graduate from	a) пропускать лекции
2) to major in	b) быть в чьем-либо распоряжении
3) to make progress	c) обеспечивать что-либо
4) to be trained	d) получать стипендию
5) to fail in an exam	e) пригодиться в будущем
6) toskiplectures	f) окончить высшее учебное заведение
7) to provide with	g) обучаться
8) to get a grant	h) старшекурсник
9) to be at one's disposal	i) делать успехи
10) a senior student	j) провалить экзамен
11) to come in useful in future	k) специализироваться

8. Fill in the gaps with the proper words. The first letter of each word is given.

1. **E** _____ exams are usually held in summer.
2. The University provides students with a **d** _____ if they need.
3. Well-equipped laboratories are at our **d** _____ .
4. What subject do you **m** _____ in?
5. He always has good results in exams because he studies **h** _____ .
6. When I graduate from the University I'll get a degree of **M** _____ of **S** _____ .
7. I failed my exam, so I'm going to **r** _____ it next month.

9. Give a word or phrase that means the following.

1. A university teacher.
2. Money given by the government which enables a person to study.

3. A degree awarded after 4 years training.
4. The main field of study in which a university student specializes.
5. A period of an academic year.
6. Accommodation for those who come from other towns and villages.
7. To move forward, to advance in one's study.

10. Discuss these questions in pairs.

1. Why did you choose this university among all others?
2. What exams did you pass to enter the university?
3. What do you major in?
4. What other subjects do you study?
5. What subjects are you good at?
6. Is it difficult or easy for you to study here?
7. Is being a student more study or fun for you?
8. Are you going to continue your study after receiving a Bachelor's Degree?
9. Do you think it's necessary to study for MSc? Why?
10. Would you like to get further education abroad?
11. Do you think you'll be able to find a job after graduating from the university?

11. Work in pairs. A journalist of a student newspaper or magazine wants to take an interview from a university student. Discuss issues related to study, problems a freshman faces, ways of spending free time, the teacher-student relationship and so on. You may use questions of exercise 8 and think of some more questions to make your interview interesting.

12. Work in groups. To learn more about the Siberian State Aerospace University find more information on its site. Make a presentation about the university. You may choose any of these topics: "The history of the University", "Educational structure of SibSAU", "The faculty I study at", "Famous SibSAU graduates", "Students' life in SibSAU", "University symbols and traditions".

13. Read and translate the text.

Text B. THE UNIVERSITY OF OXFORD

Among 46 universities in Great Britain Oxford University is at the top. It has 38 colleges and six halls of residence. Oxford is the oldest and

best-known university in the world. It was founded in the 11th century. It really began to grow when the University of Paris expelled all foreign students in 1167 and English students returned to England. The most important courses at first were Theology and Latin.

For a long time only men were admitted to the university. Women could attend lectures from about 1880 but it was only in 1920 that Oxford awarded degrees to female students for the first time. Oxford appointed its first female professor in 1948.

Oxford is an international university. Applicants from all over the world apply to the University. But only successful candidates who have good results in the national examination or the special Oxford entrance examination and who have gone through the competitive interview are admitted to the university.

Teaching is somewhat informal and personal. Usually an undergraduate spends an hour a week with his tutor in a small group of students. Each of them has to write an essay for the tutor which serves as the basis for discussion. At the end of the tutorial students are given a new essay title and a list of books that might be helpful in preparing for the essay. Lectures and seminars are normally optional. So, in theory, students spend five days out of seven being idle: sleeping, taking part in sports activities, acting in drama clubs, arguing in Debating clubs and so. But, in practice, most students are enthusiastic about academic life and can work on each essay for many days.

At the end of three years all students face a dreadful ordeal: “Finals”. The “victims” are obliged to dress up for the occasion in black and white. They crowd into the huge examination building and sit there for three hours hoping they are writing beautiful prose. In the afternoon they have another three hours of writing. After three or five days of this torture they assemble for the public degree ceremony at which graduates are awarded the Bachelor’s Degree.

Notes to the text
to expel – исключать
dreadful ordeal – ужасное испытание
torture – пытка, истязание

14. Decide if the sentences after the text are true or false.

1. Women have been admitted to the university since the time of its foundation. T/F

2. Students are selected only on the basis of their results in the special Oxford entrance examination. T/F

3. Attendance at lectures and seminars is compulsory. T/F

4. To pass final examinations is a torture for most undergraduates. T/F

15. Match the following titles with the passages of the text. Think of your own headings.

Strict selection / Academic life / Historical facts / Hard times / Only for male students

16. Find in the text the answers to these questions.

1. What do these numbers mean? (1167, 38, 46, 1920)
2. What test is the final for applicants?
3. How is the training process carried out at Oxford University?
4. Do you think to study there is more difficult and exciting than at our university?

17. Read the text and find the answers to the given questions.

Text C. STUDENT LIFE IN INTERNATIONAL UNIVERSITY IN MOSCOW

1. What are the aims of the Students'Council?

The university creates a unique cultural and educational atmosphere for its students. And sooner or later it becomes more home than just an educational institution for them. The university has a special body which represents students' rights and interests – Students' Council. Its basic aim is to develop and support students' self-government. Within the scope of its objectives, the Students' Council develops ties with major youth organizations in Russia, Europe and America, provides assistance to the Scientific Students' Society, maintains contacts with University graduates, arranges and holds traditional annual events such as "First year student initiation", "University birthday", "Graduates' day", Arts school festival", "October show" and also it holds educational exhibitions and charity events. All departments of the university have their own Students' Councils which actively cooperate with each other.

2. How can students realize their artistic talents?

A flow of creation is constantly felt in the air of the International University. Artistic talents can be realized in the Art School. It has a number of studios at students' service – music, singing, drama, fine arts, photo studios and others. The majority of IUM students participate

enthusiastically in the activities of the Art club. The club traditionally invites Russian and guest celebrities. One can always find something to enjoy in the university art gallery.

3. What sports facilities help students to develop their physical abilities?

The university has an imposing sports complex – 2000 square meters of opportunities for sports fans. It was opened in 2003 in the "Kuntsevo" campus and has spacious gyms and an equestrian complex. Sports sections run regular trainings and competitions, the most popular among them are aerobics, basketball, football, rugby, volleyball, ski race, etc. The University teams compete successfully at different championships both among students and professional sportsmen.

4. What medical services can students receive at the university?

The Health Care Centre supports the well-being of International University students and staff through an extensive program of services. Good health is an essential part of a successful educational experience. The centre daily provides ambulatory and acute care. In 1997 the University launched a special healthcare program. Its purpose is to provide pre-clinical diagnostics to prevent diseases and popularize healthy style of living. An individual course of medical treatment can be developed for each student.

18. Work in pairs. Discuss with your partner the work of your Students' Council.

1. Who is the head of the Students' Council at SibSAU?
2. Are you a member of the Students' Council? Would you like to be?
3. What qualities should a member of the Students' Council possess?
4. What is the aim of the Students' Council?
5. Does the Students' Council help students to adapt to students life?
6. Does the Students' Council help to create an atmosphere of respect and care?
7. What events does the Students' Council organize?
8. What activities did you take part in?
9. Did you enjoy them?
10. What other activities would you like to be held at your university?

19. Write an essay on the following topics.

1. The most remarkable day in my student life.
2. The event impressed me most of all.

20. Make a presentation about a cultural or sports event in which you took part.

Useful language:
As you already probably know…
The event I'd like to tell you about…
… was held…
… took part…
… made great impression on…
… are looking forward to…

21. Read and comment on the following sayings.

1. An educated man is one who can entertain a new idea, entertain another man and entertain himself. (*Sydney Wood*)

2. A certificate does not make you certified. Attitude, performance, commitment to self and team – these and a certificate make you certified. (*Author Unknown*)

Unit 2. STUDY TIPS

1. Vocabulary. Read the word list aloud, pay attention to Russian equivalents.

skills	навыки
efficiently	эффективно
devote to	посвящать
to take notes	вести записи
to manage	управлять
abbreviation	сокращение
copy	копировать, переписывать, списывать
review	повторять, пересматривать
make comment	комментировать
margin	поле (книги), край, полоса
coherent	ясный, понятный, последовательный
legible	разборчивый, четкий
distract	отвлекать
summarize	подводить итог, кратко передавать содержание
recite	излагать по памяти
to memorize	запоминать, заучивать наизусть
an outline	план, конспект
highlight	выделять

check	проверять
feel confident	чувствовать себя уверенно

2. Read and translate the text.

Text A. HOW TO IMPROVE YOUR STUDY SKILLS

Written by William J. Rapaporta college professor of the State University of New York at Buffalo

I am going to give you some suggestions on how to study efficiently. They worked for me when I was in high school, college, and graduate school. They worked equally well for me in humanities courses (like philosophy and literature) and in science courses (like math and computer science). But, as everyone's learning style is different, some of my suggestions may not work for you, at least not without some individual modifications (изменения). Nevertheless, I urge you to try them.

Manage Your Time. School is a full-time job. And managing your time is important. How much time should you devote to studying? A recent survey (обзор) in the Chronicle of Higher Education suggested that students are not studying enough. So, how much is enough? If you assume (предполагать) that your education is a full-time job, then you should spend about 40 hours/week on it. Figure that 1 academic credit equals about 1 hour. So, if you're taking 15 credits, then you're spending about 15 hours in class. Subtracting that from 40 gives you 25 hours that you should be spending studying at home (or in the library).

Take Complete Notes. Good studying at home begins with good notes taken in class. The key idea of taking good notes in class is to write down as much as possible. There are several reasons to take notes that are as complete as possible. It will force you to pay attention to what's going on in class. It will keep you awake! There will be less that you'll have to remember.

Use Abbreviations. Taking complete notes will require you to write fairly quickly and, as a consequence, to use abbreviations. If you send text messages on your cell phone, then you know the sort of abbreviations I'm talking about. A related idea is based on a system of shorthand called Speedwriting. If u cn rd ths, u cn lrn spdwrtg.

Ask Questions & Make Comments. If you have a question or something comes to mind as you're taking notes, you have two choices: You can contribute to the class discussion by asking your question or

making your comment. Or you can write your question or comment down in your notes not to forget it. You can then always bring it up later, either in class or one-on-one with the teacher or a fellow student. One technique that I use to be able to distinguish my own questions or comments from the rest of the notes is to put them in the margin and/or to surround them with big, bold square brackets [like this.]

Copy Your Notes at Home. Of course you should study your class notes at home; but just (re-)reading them is too passive. One of the themes of this guide is that studying must be active. What I suggest is that you study your notes by re-writing them. The main idea behind re-writing your "raw" class notes (besides making them more legible and organized) is that the very act of copying them is one of the best ways of studying them! Re-organize your notes in a more logical or coherent fashionnumbering main ideas (and separating them with a line), using an "indented bullet" style for details.

Don't Take Notes on a Computer. I do not recommend taking notes on a laptop computer during class. Rewriting on a computer might have some advantages in terms of keeping track (прослеживать) of your notes or, especially, searching them. And, of course, you can edityour computer file later, but editing is not the same as copying, and I am recommending copying as a means of studying (for one thing, it forces you to (re)-read all your notes). As Usama Fayyad has said, computers are great at book keeping but not yet great at recording impromptu (экспромт) ideas, thoughts, feelings. For that, paper is still far superior. You can hold it, fold it, put it in your pocket, look at it again later when it's convenient. Moreover, the main use of your notes should be for summarizing them to make a study guide for exams. In that case, handwritten notes would serve as well as online ones, especially if you're tempted to create the summary merely by cutting and pasting your computer file rather than by rewriting. Worse, you may be tempted to use the computer that you're ostensibly (мнимый, показной) taking notes on to surf the Internet, look at email, or chat with friends. Don't! Turn off your computer, cell phone, anything else that might distract you.

Study Hard Subjects First & Study in a Quiet Place. Each night (or day) when studying or doing your homework, do those subjects first for which you need to be active and energetic. Leave the easier, or more fun, subjects to later. Don't eat your dessert first! Study in a quiet place with as few distractions as possible. Do not listen to music or TV. It is virtually impossible to do two things at once if one of them is studying.

3. Match the words on the left with their synonyms on the right.

1) to control	a) to review
2) to resume	b) to highlight
3) to draw away one's attention	c) to take notes
4) clear	d) to distract
5) to revise	e) to summarize
6) experience	f) to manage
7) to emphasize	g) legible
8) to write down	h) skills
9) readable	i) coherent

4. Fill in the gaps with the proper prepositions. Translate the word combinations into Russian. Use them in your own sentences.

devote _____ studying, spend about 40 hours/week _____ it, to pay attention _____ what's going on, to put them _____ the margin, study your class notes _____ home, a means _____ studying, listen _____ music, look _____ email, turn _____ your computer, a study guide _____ exams

5. Discuss the following questions in pairs.

1. How much time should you devote to studying a day?
2. And how much time do you really spend on it?
3. Why is it necessary to take complete notes in class?
4. What does this abbreviation "if u cn rd ths, u cn lrn spdwrtg" mean?
5. Do you have your own system of abbreviations? Can you give any examples?
6. What are pros and cons of using abbreviations in taking notes?
7. What will you do: you want to ask a question but don't want to interrupt a teacher?
8. Why is it useful to re-write "raw" class notes at home?
9. How can you re-organize your class notes?
10. Do you agree with Usama Fayyad's opinion about computers?
11. Which way of taking notes do you prefer: on a computer or by hand?
12. Do you start doing your homework with hard or easy tasks? Why?
13. What tasks are harder or the hardest for you? (solving problems, writing essays/reports, memorizing foreign words/dates/numbers) etc.

6. Read and translate the text.

Text B. STUDYING FOR EXAMS

Manage Your Time. The first rule is: Don't cram (зубрить)! Begin studying about 1 week before the exam. Spend at least an hour each night (or day) studying for the exam.

How Not to Study. Believe it or not, re-reading your textbook has little or no benefit when you are studying for a test. Most students don't realize this, because they have an illusion of competence (that is, you think you know the material better than you really do) when they re-read notes and textbooks, especially when re-reading passively instead of actively. One method of studying that is better than passive re-reading is the "read-recite-review" ("3R") method: read the text, set the text aside and recite out loud all that you can remember, and then read the text a second time.

More importantly, you learn better and remember more from repeated testing (from both in-class quizzes and from self-testing at home) than from repeated reading. So when your teacher gives you lots of quizzes or tells you to memorize basic facts, don't complain! That's the best way to learn and to remember what you learn.

Make a Study Outline. Use your recopied class notes, together with your highlighted text and notebook, to make an outline of the material. Try to put as much as possible onto the front sides of only 1 or 2 sheets of paper (like those plasticized crib sheets that are often sold in college bookstores). Then do all your studying from these. You could even combine this outline with "flash cards".

Make "Flash Cards". For any subject, you can make a set of "flash cards". But I suggest using regular 8 1/2" × 11" paper, not index cards. Divide each page in half, vertically. On the left, write a "question" that requires an "answer", e.g., the name of a theorem, a term to be defined, the statement of a theorem, etc. On the right, write the answer, e.g., the statement of the theorem named on the left, the definition of the term on the left, the proof of the theorem stated on the left, etc. Then memorize the questions and answers – but do not simply recite them by heart. Instead, write down the answers: cover the right-hand side (the answers) with a blank sheet of paper, and write down the answers. When you finish a page, check your work and repeat writing the answers to the questions you missed until you get them all correct.

Stop Studying When You Feel Confident. How do you know when you've studied enough? It's not when you're tired of studying! And it's not when you've gone through the material one time! You should stop only

when you get to the point that you feel confident and ready for whatever will be on the exam – when you're actually eager to see the exam to find out if you guessed its contents correctly.

7. Match the words on the right with their synonyms on the left.

1) sure	a) to memorize
2) to examine	b) a test
3) to learn	c) an outline
4) to say aloud from memory	d) to check
5) a plan	e) confident
6) a quiz	f) to recite

8. Find in the text English equivalents for the following phrases.

Не зубри; проговаривай вслух по памяти; прочитай текст во второй раз; повторное тестирование; самотестирование; не жалуйся; выделенный текст; чтобы сделать план-конспект материала; сделать комплект флеш-карт (карт памяти); термин, который нужно определить; слева; справа; рассказывать наизусть; добраться до сути

9. Discuss the following questions in pairs.

1. How much time do you devote to prepare for an exam?
2. What does "3R" method mean? Do you follow it?
3. How does making an outline of the material help to study for an exam?
4. Have you ever used "flash cards"? Explain how you can use them.
5. What other techniques do you use to study for an exam?
6. When can you consider yourself to be ready for an exam?

10. Read the text and answer the following questions: Which of these tips do you use? Which of them are the most effective in your opinion? Can you think of any other ways of learning new words?

Text C. HOW DIFFERENT STUDENTS ORGANIZE THEIR VOCABULARY LEARNING

1. I have a little notebook. It's an address book with the letters of alphabet, and I write the new **words** in two or three times a week. I write the English word first, then the translation, and a short sentence as an example. I try to learn ten new words a day.

2. I have a little notebook. I always have it with me. I try to fill one page a day. Sometimes I put words in groups, like fruit – all kinds of fruit. Or colours, or clothes, or things and the shops where you buy them. I have some grammar pages, where I write irregular verbs, or a page for prepositions. I think prepositions are difficult, for example: *on* Sunday, *in* the morning, listen *to* a concert, but you say *phone someone*.

3. I stick little bits of paper all over my house! Sometimes I write what the thing is on the mirror. I have a mirror on the door handle. I know it's funny. My friends think, "What's the matter with her?" but I like it. And sometimes I write the words that are new, from the last lesson, and I put the words on the kitchen door and I see them every two minutes!

4. I write words on a little piece of paper with the English on the one side and the Turkish on the other side. I write the English word in a **sentence** so I know how to use it, and what words it's used with. Then in my left pocket, I have the new words, and in the day, when I'm having a break or traveling on the bus, I take out the new words, and if I **remember** them they go to my right pocket. If I don't remember them, they go into my left pocket again.

5. I'm very lazy! I don't do anything special at all! But I read a lot. I always have an English book in my bag. There are a lot of simple books. Stories in easy English, they have questions at the back and they explain some difficult words, but I just enjoy the story and I think I learn new words because I see a word six, maybe seven times, and then I know it! And the stories are good!

6. I use a **visual** online dictionary. It is an interactive **dictionary** with pictures. It is an all-in-one **reference book** in which I can quickly locate the picture of a word. It's really an easy and accessible way of learning words.

7. I listen a lot. As I'm very busy I learn new words while jogging or driving to work. I download an audio English course into my MP3 player then listen and repeat the words. But I don't know how to write them.

8. I like to **look up** words in my dictionary. Especially, I like to find different parts of speech for the same word that is word families. For example, *act*, *actor*, *actress*, adjective *active*, adverb *actively*, noun *action*. I think that is very useful – see! *Use*, *useful*, *useless*! A word family! And something else! I always put a mark with my pencil next to the word I look up. Then, if I look up the same word again, I think, "I must learn it this time!"

11. Complete the sentences with the highlighted words from the text.

1. The book which lists and explains the words of a language is called a _____ .
2. The _____ is the largest grammatical unit used to express a statement, a question or a command.
3. A _____ _____ gives us some useful information.
4. When we speak we put our thoughts into _____ .
5. If you don't know the meaning of the word, _____ _____ in the dictionary.
6. Do you _____ where I put the key?
7. She has a _____ memory, she is able to remember things well she sees.

12. Work in pairs. Compare with your partner the styles of vocabulary learning described in the text. Discuss their pros and cons.

Useful language:

Point of view	Agreeing	Disagreeing
As for me… Personally, I think… In my opinion… Speaking for myself…	Yes, I agree. I think so too. That's true. Exactly.	I don't agree with you. That's different. However … Yes, but don't you think that…

13. Discuss the following questions in pairs.

1. What is the value of learning languages?
2. What's the best way to learn a foreign language?
3. Is it possible to learn a language without studying grammar?
4. How can the Internet be a helpful tool when learning a foreign language?
5. Is the classroom the best place to learn?
6. Why do some people have more difficulty than others when learning a language?
7. To what extent do you agree that it's better to learn a language as a child? Why or why not?
8. Is it important to know something about the culture of the country to speak its language well?
9. When you travel to a foreign country, is it always easy to use a foreign language?
10. Would you like to be a translator? Why? / Why not?
11. Is it possible to teach yourself a language?

12. What personal qualities do you need to be an effective language learner?

13. What careers are possible if you speak a foreign language?

14. Do you need to use a foreign language at your work?

14. Write an essay on the following sayings.

1. The law of interest says that in order to digest knowledge, it is necessary to absorb them with appetite. (*Anatole France*)

2. The more languages you know, the more of a person you are. (*The European Commission*)

3. Change your languages and you change your thoughts. (*Karl Albrecht*)

Unit 3. COMPUTER ENGINEERING CAREER

1. Vocabulary. Read the word list aloud, pay attention to Russian equivalents.

to permeate	проникать, распространяться
computer engineering	вычислительная техника
electrical engineering	электротехника
to create	создавать
a consumer	потребитель
to install	устанавливать
a tube	электронная лампа
connection	соединение
to design	проектировать
to construct	конструировать, создавать
to test	испытывать, проверять, тестировать
to involve	включать
a device	устройство, прибор
specialty	специальность, специализация
software applications	программные приложения
useful	полезный
skills	навыки
hardware tools	аппаратные, технические средства
to develop	развивать, разрабатывать
to contribute to	вносить вклад в
to solve a problem	решать проблему (задачу)
to team up with	объединяться с
to result in	приводить к
an automated system	автоматизированная система
to collaborate with	сотрудничать с

2. Read the text and find out what computer engineering means.

Text A. WHAT IS COMPUTER ENGINEERING?

Of the 14 branches of engineering tracked by the United States Department of Labor, computer engineering has grown the fastest over the last few decades. Once confined to university laboratories and big companies, computers now permeateour everyday lives. Computer engineers create objects and services that today's consumers often take for granted. Specifically, they design, construct, and test the computer systems that keep us going. It's not unusual to find a computer engineer involved in everything from cars to toasters.

Computer engineering was originally a branch of the larger specialty of electrical engineering, since early computers required engineers to physically install tubes and solder connections. In recent years, however, as electrical engineers focused on the skills of building actual computing devices, computer engineering emerged as a unique specialty. Computer engineers now focus more of their skills on designing useful software applications that take advantage of widely available hardware tools.

Notes to the text
to take for granted – считать само собой разумеющимся
solder connections – паяные соединения
to take advantage – пользоваться преимуществом
available – доступный

3. Find the words in the text with the following meanings.

1. a person who designs machines, engines, bridges, etc.
2. the physical and electronic parts of a computer
3. the instructions which control what a computer does
4. to put a computer program onto a computer so that the computer can use it
5. to make something new
6. an object or machine which has been invented for a particular purpose

4. Match the words from the text on the left with their synonyms on the right.

1) to permeate	a) to fix
2) to confine	b) to appear
3) a consumer	c) a pipe

4) to install	d) to limit
5) to emerge	e) to enter
6) a tube	f) a user

5. Match the words to make word combinations and translate them.

1) solder	a) engineer
2) create	b) an advantage
3) software	c) an object
4) computer	d) engineering
5) hardware	e) connection
6) electrical	f) tools
7) take	g) applications

6. Work in pairs.Discuss the following questions with your partner.

1. What caused fast development of computer engineering?
2. What specialty was computer engineering originated from?
3. What does computer engineering study?
4. What do computer engineers do?
5. What specialists does computer engineering department train?

7. Read and translate the text. Write down the areas described in the text in which computer engineers can work. In what sphere are you going to work? Share opinions with a partner.

Text B. WHAT DO COMPUTER ENGINEERS DO?

Computer engineers enjoy tremendous freedom in choosing the types of projects they want to work on. A computer engineer may decide to work on a project that he finds fascinating, or one that he has a personal connection to. For example, a computer engineer who suffered a loss in his family due to illness might invest his energy on developing medical devices to treat that illness. Often working on teams with engineers and designers from other disciplines, computer engineers can contribute toa wide variety of compelling projects. From designing new microchips to developing industrial robots, computer engineers use their skills to help businesses and consumers solve all kinds of problems.

In many cases, computer engineers' contributions aren't so obvious. For example, a computer engineer may team up with civil engineers on a river dam. His input can result in an automated system that manages consistent water levels in reservoirs or in local streams. He might

collaborate with automotive designers to createinternal systems that regulate fuel efficiency and tire pressure. With computers integrated in more and more products around the world, a computer engineer's career choices are nearly limitless.

Notes to the text
to suffer a loss – нести убытки
to treat illness – лечить болезнь
internal systems – внутренние системы
tire pressure – давление в шинах

8. Match the words from the text on the left with their synonyms on the right.

1) to create	a) to work out
2) input	b) to design
3) to solve	c) to cooperate
4) to develop	d) apparatus
5) to collaborate	e) entry
6) a device	f) to decide

9. Match the words to make word combinations and translate them.

1) to solve	a) system
2) to work on	b) choices
3) to develop	c) robot
4) an industrial	d) a problem
5) an automated	e) engineer
6) a civil	f) designers
7) limitless	g) a project
8) automotive	h) a device

10. Fill in the gaps with the prepositions from the box:

in	of	with	to	on	with

to team up _____ civil engineers, to work _____ a project, can result _____ an automated system, can contribute _____ a wide variety of projects, to solve all kinds _____ problems, collaborate _____ automotive designers

Use these word combinations in your own sentences.

11. Work in pairs. Name as many verbs as you remember to describe a computer engineer's job.

12. Read the text and find the information about what jobs computer engineering graduates can get and what these jobs involve. Fill in the chart:

Job title	Nature of work

Text C. WHAT CAN YOU DO WITH A COLLEGE MAJOR IN COMPUTER ENGINEERING?

Computer engineering majors enjoy the opportunity to build a set of core skills that businesses from many industries look for when hiring new staff members. Computer engineers from the same graduating class can be occupied in very different kinds of careers.

Design engineers set the stage for the development of innovative new products and services. Working in conjunction with specialist designers, a computer engineer may be called upon (призывать) to build the hot new product dreamed up by marketers or managers. Taking current trends and emerging technologies into account, a design engineer must solve problems in a way that can be easily replicated (копировать, воспроизводить) on a factory floor. With software pervading (пронизывать) just about every kind of consumer product, design engineers with a computer engineering background could find themselves developing everything from toaster ovens to trucks. Students who enjoy living and working on the cutting edge (передний край) of trends will love the opportunity to shape new generations of consumer goods.

For computer engineering graduates who want a little more predictability in their daily routines, large companies need quality control engineers. In this capacity, a computer engineer must use his or her keen observational skills to quickly analyze the output of a factory or an assembly line (сборочная линия, конвейер). They must quickly pull defective items from the distribution chain (торговая сеть), to prevent malfunctions that could cause inconvenience, injury, or even death. In addition, quality control

engineers must be able to identify consistent (постоянный) problems in a manufacturing process. By providing constructive solutions to ongoing problems, quality control engineers can improve the efficiency of a production facility. Their diligent work can produce a tremendously positive impact on a company's bottom line.

Development engineers take responsibility for a product after its initial production run. Unlike a design engineer, who dreams up new ideas from scratch (нуль), a development engineer examines ways to improve unpopular products and reinvigorate proven hits (активизировать проверенные хиты). In many cases, a development engineer's job can prove even tougher than that of a design engineer, since a development engineer must produce resultsthat meet the existing expectations of diverse (разнообразный) customer bases. Constant improvement and innovation are hallmarks (признаки) of the development engineering field. Fierce competition between companies produces stronger and faster equipment, along with groundbreaking (новаторский) new software applications. Many development engineers with computer engineering degrees work on advanced artificial intelligence projects designed to automate more and more of our everyday chores. Likewise, teams of designers integrate computing breakthroughs (прорыв) into medical research by developing intelligent pacemakers (кардиостимулятор).

Just as a commercial architect must figure out how to get more use from limited space, a computer architect examines new ways to make computers smaller while increasing their efficiency. Fueled by constant demand from businesses and consumers for lighter, cheaper, more powerful systems, computer architects work in highly competitive companies who want to gain market advantage by releasing the hottest and most popular systems. With computers appearing inside all kinds of other devices, today's computer architects have their work cut out for them. Computer engineering graduates have managed to insert fully functioning computers into automobile engines, into traffic lights, and even into batteries. Computer architects helped to shepherd global consumers from using film cameras to operating sophisticated digital imaging equipment.

13. Look at the list of IT professionals. What do they do? Think of some more jobs in computing. Share opinions with a partner.

1. Applications programmer.
2. Webmaster.
3. Software engineer.

4. Database administrator.
5. Systems programmer.
6. Security specialist.

14. Complete the definitions from the box with jobs.

hardware engineer	computer security specialist	
network administrator	help design technician	software engineer
blog administrator	DTP operator	webmaster

1. A _____ designs and develops IT devices.
2. A _____ writes computer programs.
3. A _____ edits and deletes posts made by contributors to a blog.
4. A _____ uses page layout software to prepare electronic files for publication.
5. A _____ manages the hardware and software that comprise a network.
6. A _____ designs and maintains websites.
7. A _____ works with companies to build secure computer systems.
8. A _____ helps end-users with their computer problems in person, by email or over the phone.

15. Work in pairs. Discuss if you would like to apply for one of the jobs listed in ex. 13, 14. What personal qualities and abilities are important for the chosen job?

Use the prompts: creativity, logical reasoning, patience, imagination, accuracy, diligence, self-discipline, efficiency, leadership skills, being good with numbers, drawing skills.

16. Read and comment on the following sayings.

1. Scientists explore what is; engineers create what has never been. (*Theodore Von Karman* (1881–1963), father of modern aerospace engineering)
2. Choose a job you love, and you will never have to work a day in your life. (*Confucius*)

Section 3. SCIENCE AND TECHNOLOGY

Unit 1. TECHNOLOGICAL PROGRESS AND NATURE

1. Useful vocabulary. Read, transcribe, translate and learn the new words by heart.

Word	Transcription	Translation	Word	Transcription	Translation
basic human need			drought		
renewal			to collapse		
to be crucial			inclemency		
to diminish			to result in		
to manage			to accentuate		
to be finite			poverty		
to improve			scrambled		
waste-water treatment			out-of-control fire		
to remove			to trap		
to pollute			to install		
energy			to originate		
aquatic plant			to evacuate		
duckweed			to shelter		
disaster			temporary		
injustice			to flourish		
to contribute to			obstacle		
causation			resistance		
impact			humidity		
deforestation			environment		
desertification			source		
to aggravate			to isolate		
flood			vehicle		
to afford			decline		
flimsy			irrigation		
to be vulnerable			to emphasize		

2. Read the text for gist. Underline the sentences which would be accepted as fact concerning the general idea. Then underline the sentence which focuses on one subarea of the general area of study. And finally find the sentence which indicates the author's topic.

Text A

Clean water is a basic human need. Its discovery, transport and systematic renewal have always been crucial to all but the least densely populated societies. Increasing population and industrial wastes together with diminishing sources of easily available energy with which to manage them, are converging to emphasize that all the earth's resources are finite. But the supply of clean water, though also finite, is at least infinitely renewable.

Among the various approaches to improving present technologies for waste-water treatment, several involve the use of plants which can remove pollutants and provide materials useful as animal feeds or energy sources. Various aquatic plants are being proposed in such approaches and the duckweeds, an essentially unique group of higher aquatic plants, in particular might be especially advantageous in such systems.

3. Skim the text and select the best summary from the three alternatives given below.

Text B

Disasters are not entirely due to the injustice of nature: the injustice of man also plays its part. Poverty contributes both to the causation and impact of disaster. It is a major cause of deforestation and desertification which aggravate floods and droughts. Poverty and the pressure of population drive the poor to live in increasingly dangerous places like slums perched on steep slopes or the flood- and cyclone-ridden islands. Poor people can afford only flimsy houses of wood, mud and straw liable to collapse in a heavy storm.

Serious disasters appear to be increasing in frequency. A study by the University of Bradford found that the average number per year rose from five between 1919 and 1951 to eleven between 1951 and 1971 and over seventeen between 1968 and 1971. It seems unlikely that nature's inclemency is growing at this rate. The increase is probably due to the increasing disaster-proneness of the poor. But disasters of themselves accentuate poverty and make their victims more disaster-prone for the future.

1. Poverty makes the poor more disaster-prone which results in more disasters and hence more poverty.
2. The homes of poor people are easily destroyed in disaster.
3. Poverty results in deforestation and desertification which contribute to other disasters.

4. The following groups of sentences are in scrambled order. Arrange them orderly by numbering them. When the sentence groups are read in the correct order, they will result in a coherent paragraph. One group of sentences does not fit at all.

____ a. Japan, a densely inhabited country, is bursting with people. Cities have extended outward and upward to their limits.

____ b. Comfort is not the only consideration, however. The underground cities must also be safe.

____ c. An out-of-control fire could trap thousands of people underground. To prevent such a catastrophe sensitive smoke detectors would be installed throughout. If a fire originated, people would be immediately evacuated upward or sheltered in a pressurized temporary waiting room.

____ d. In the future they may extend downward. Developers envision future underground cities of stores, offices, hotels and theaters extending for hundreds of miles.

____ e. To make the artificial environment appear more natural real sunlight would be reflected from the surface and abundant green plants would flourish everywhere.

____ f. These underground cities would be sustained by immense underground structures containing equipment to generate power, process waste and condition the air.

____ g. Planners predict that the biggest obstacle to future underground cities will be psychological resistance to living underground. They fear people may be unable to endue for days without seeing the real world.

____ h. The underground atmosphere would be carefully controlled to provide comfortable levels of temperature and humidity and to create the illusion of a natural environment.

____ i. Engineers are confident that the structures would be safe. They would be resistant to earthquake and water leakage and would not collapse from external pressure. Engineers admit that the structures would be vulnerable to fires.

____ j. Therefore, planners foresee few underground habitations. Instead, people would live above ground, but work, shop and enjoy themselves underground. Underground cities may be a good solution to Japan's shortage of space for expansion.

Now suggest the best heading for the passage.

5. Read the text in detail and label each statement below "true/false/not given" according to the author.

Text C

When plague was travelling across Europe in 1348 the authorities in Venice became more and more nervous as the new and terrible disease got closer to the city.

They had no idea what to do, and in the end consulted the city's astrologers. The astrologers suggested putting all travellers to Venice, together with their vehicles and ships, on an isolated island and leaving them there for some time. The astrologers didn't know how long they should stay there, and so they consulted the stars and came to the conclusion that forty days would be the best period. Starting from 30 March 1348 all travellers, ships and vehicles coming to Venice had to stay on the island, and they were only allowed into Venice after they had been on the island for forty days without developing plague. Other cities like Milan and Marseilles copied Venice in keeping travellers out of the city for a magic period of forty days. The word "quarantine", based on the Italian for "forty", is now used in many languages to describe isolation for people who may have contagious disease.

1. In the 14th century plague spread all over the world. T/F/nG
2. It was Venice authorities who suggested putting all the newcomers on an isolated island. T/F/nG
3. The stars told the astrologers to keep the newcomers on the island for a magic period of 40 days. T/F/nG
4. Some of the travelers did develop plague. T/F/nG
5. The word "quarantine" comes from the Italian language. T/F/nG

6. Scan the text to find answers to the following questions.

1. What is the reason for the decline of some civilizations in the past?
2. Who is responsible for irrigation catastrophes in modern times?

Text D

Irrigation catastrophes have befallen civilizations since the dawn of time. Archaeological evidence suggests that much of the Sahara was once a green and pleasant land until depletion of ground water turned it into desert. The Maya civilization in Mexico is thought to have ended because of a sudden drought. In what is now Arizona, Hohokam Indians developed

a remarkably sophisticated irrigation system. But too much irrigation waterlogs the ground and when the water evaporates it leaves salts behind. Just such a lethal salinization seems to have overtaken the Hohokam who died out suddenly in the early 15th century. Researchers maintain that, with the single exception of Egypt, no civilization based on irrigation has survived for long either because the water has run out or because of silt or salinization.

Yet it is modern engineering that has made possible irrigation disasters on a massive scale. One of the examples is the Aral Sea, once the world's fourth-biggest inland sea. The two rivers that feed the Aral, the Amu Darya and the Syr Darya, were diverted to irrigate cotton crops in the near-desert terrain of central Asia. The Aral soon started to dry up. Since 1960 it has shrunk by three-quarters in volume and almost all the fish have died out. A once-thriving fishing fleet that had supported several villages has disappeared. Moreover, rapidly rising salinity has killed many crops.

The history of the American west is another example of overexploitation of limited water resources mainly for the benefit of farmers at huge cost to federal and state taxpayers and with severe environmental side-effects.

7. Fill each of the numbered blanks in the passage with one suitable word. The first gap has been filled for you.

The future of the African elephant depends on man. No longer can human beings (1) _____ wild animals live (2) _____ harmony throughout vast areas of the continent as was possible in days gone (3) _____, for man's needs have increased as well as his numbers. There are regions, (4) _____ as the Congo forests and the equatorial Sudan, (5) _____ the old relationship may remain for a few more years or even generations, (6) _____ in general it has gone. Conservation, (7) _____ it is to be effective, must be a positive, constructive policy, and it is wishful thinking to imagine otherwise, particularly (8) _____ the case of the elephant. And if this is not yet true of the whole of Africa, it soon will be, for the increase (9) _____ the human population is almost universal. Where human beings and wild animals find themselves in competition (10) _____ each other, the animals will lose. Even if there appears to be enough room for both, man will not tolerate (11) _____ long a situation in which elephants and other creatures make even occasional raids (12) _____ his fields of crops. (13) _____ many years this has been

the major cause of conflicting interests and one of the reasons (14) _____ so many elephants have been shot to control their numbers.

1) and	6)	11)
2)	7)	12)
3)	8)	13)
4)	9)	14)
5)	10)	

Unit 2. COMPUTER TECHNOLOGY

1. Useful vocabulary. Read, transcribe, translate and learn the new words by heart.

Word	Transcription	Translation	Word	Transcription	Translation
communication			popular		
benefit			to obtain		
tremendous			to offer		
capability			to recall		
superhighway			split up		
to transmit			plush		
scholar			cumbersome		
access			expensive		
to access			to improve		
to be responsible			innovator		
educator			capacity		
to click			creativity		
to promote			to introduce		
media			profit		
hazardous			to contain		
perception			to anticipate		
oscillator			contribution		
creativity			to attach		
board			world wild		
degree			competitive		
executive			environment		
hierarchy			to devise		
invention			subsequently		
plaque			to be inevitable		
computer peripheral			technical innovation		
integrated circuit					

Adjectives and adverbs: austerely, current, electronic, eventually, leading, leafy, personal, piush, shabby.

Participles: born, met, put up, regarded.

Verbs: form, go, make, obtain, offer, recall, split up, study, take, tinker.

Now suggest the best heading for the article.

2. Skim the following text and underline its topic sentence. Then suggest the best heading for the passage.

Text A

In the past few decades computer technology has made tremendous progress in the world of communication to benefit humankind. The computer has the capability to communicate across long distances. Furthermore, an information superhighway has been created for the computer in which huge amounts of data can be transmitted around the world at high speed. Computer technology also makes it possible for computer networks to link academic, research and government organizations globally. For example, a primary means of communication using the computer is through the Internet. It enables scientists and scholars as well as educators and students to connect with worldwide research institutions and libraries. They can also access publications in their specific fields. Besides, using Electronic mail or E-mail allows scholars, researchers and businesses as well as families and friends to communicate quickly and easily.

3. Read the text in detail and label the statements "true/false/not given".

Text B

Almost everyone is aware of the latest technological revolution destined to change forever the way in which humans communicate, i.e. the information superhighway, best exemplified by the Internet. Millions of people around the world are linked by computer simply by having a modem and an address on the "Net" in much the same way that owing a telephone links us to almost anyone who pays a phone bill. In fact, since the computer connections are made via the phone line, the Internet can be envisaged as a network of visual telephone links. It remains to be seen in which direction the information superhighway is headed but many believe it to be the educational hope of the future.

The World Wide Web, an enormous collection of Internet addresses or sites, all of which can be accessed for information, has been mainly responsible for the increase in interest in the Internet in the 1990s. Before the World Wide Web the “Net” was comparable to an integrated collection of computerized typewriters but the introduction of the “Web” in 1990 allowed not only texts links to be made but also graphs, images and even videos. A Web site consists of a “home page”, the first screen of a particular site on the computer to which you are connected, from where access can be had to other subject related “pages” at the site and to thousands of other computers all over the world. This is achieved by a process called “hypertext”. By clicking with a mouse device on various parts of the screen a person can go “surfing” through a web of pages to locate whatever information is required.

Anyone can set up a site; promoting your institution, your company’s products or simply yourself is what the Web and the Internet is about. And what is more, information on the Internet is not owned or controlled by any one organization. It is true to say that no-one and therefore everyone owns the “Net”. Because of the relative freedom of access to information, the Internet has often been criticized by the media as a potentially hazardous tool in the hands of young computer users. This perception has proved to be largely false however, and the vast majority of users both young and old get connected with the Internet for the dual purposes for which it was originally intended – discovery and delight.

1. Everyone is aware of the information superhighway. T/F/nG
2. Using the Internet costs the owner of a telephone extra money. T/F/nG
3. Internet computer connections are made by using telephone lines. T/F/nG
4. The World Wide Web is a network of computerized typewriters. T/F/nG
5. The information superhighway may be the future hope of education. T/F/nG
6. The process called “hypertext” requires the use of a mouse device. T/F/nG
7. The Internet was created in the 1990s. T/F/nG
8. The “home page” is the first screen of a “Web” site on the “Net”. T/F/nG
9. The media has often criticized the Internet because it is dangerous. T/F/nG
10. The latest technological revolution will change the way humans communicate. T/F/nG

4. Read the article and fill in the gaps using the words that follow. You will need to change the form of some of the verbs. Use each word only once.

Text C

The monument to David Packard is a bronze (1) _____ on the lawn of a pleasant but not opulent house in a (2) _____ street in Palo Alto, California. The house was not his birthplace but its small and (3) _____ wooden garage is regarded as the genesis of Silicon Valley and the computer industry.

It was here, in the 12-by-18ft building (4) _____ in 1905 that Packard and his friend Bill Hewlett began in the autumn of 1938 to (5) _____ with their new (6) _____, an electronic audio oscillator. So powerful was the legend of Hewlett-Packard's origins that today in the computer industry a failure is (7) _____ not with "back to the drawing (8) _____" but "back to the garage".

Packard was (9) _____ the son of a successful lawyer and high-school teacher in the town of Pueblo, Colorado, and despite the family's (10) _____ for a law career, he (11) _____ a master's (12) _____ in electric engineering at Stanford. He (13) _____ under Professor Frederic Terman who was concerned that so many of his brightest graduates went "back east" to (14) _____ their living. The Professor, now (15) _____ as the father of the US electronics industry, wanted them to (16) _____ their own companies on an industrial (17) _____ the university owned. Packard and his fellow student Hewlett were among the first to (18) _____ advantage of the offer.

They formed their partnership on New Year's Day 1939 with just $538 in (19) _____. "We were not interested in making money", Packard (20) _____ later, "but if you couldn't get a job, you made one for yourself. Our first several years we made only 25 cents an hour".

However, in the first year they had a (21) _____ of $1, 539 on sales of "inventions to order" of $5, 369. Their company became a (22) _____ supplier of (23) _____ instruments and equipment that (24) _____ led the partners into the burgeoning (25) _____ of computers. They built their first model in 1966 but made more money on the (26) electronic *calculators* they introduced in the early 1970s.

Today Hewlett-Packard is the second largest (27) _____ company in the United States. Forbes magazine estimated Packard's (28) _____ fortune at $3.7 billion, but he lived (29) _____ and did not subscribe to the (30) _____ "downsizing" mania in which hundreds of thousands of Americans from lathe operators to senior (31) _____ have lost their jobs.

Packard wrote down his management beliefs when the company (32) _____ public in 1957. It scorns a strict (33) _____ but encourages individual creativity while urging a "company culture" of respect and trust. Packard believed in dispersing power and would (34) _____ divisions after they reached 1, 500 employees. Executives at HP had no limousines or private dining-rooms, and Packard did away with (35) _____ offices, installing cubicles without doors instead while encouraging engineers to leave their work out so others could come by and tinker or (36) _____ ideas.

Nouns: board, capital, computer, degree, executives, field, hierarchy, invention, plaque, profit, site, wishes.

Adjectives and adverbs: austerely, current, electronic, eventually, leading, leafy, personal, plush, popular, shabby.

Participles: born, met, put up, regarded.

Verbs: form, go, make, obtain, offer, recall, split up, study, take, tinker.

Now suggest the best heading for the article.

5. Read the text for general meaning and answer the questions that follow.

Text D

Until the late 1970s the computer was viewed as a massive machine that was useful to big business and big government but not to the general public. Computers were too cumbersome and expensive for private use and most people were intimidated by them. As technology advanced, this was changed by a distinctive group of engineers and entrepreneurs who rushed to improve the designs of then-current technology and to find ways to make the computer attractive to more people. Although these innovators of computer technology were very different from each other, they had a common enthusiasm for technical innovation and the capacity to foresee the potential of computers. This was a very competitive and stressful time and the only people who succeeded were the ones who were able to combine extraordinary engineering expertise with progressive business skills and an ability to foresee the needs of the future.

Much of this activity was centered in the Silicon Valley in northern California where the first computer-related company had located in 1955. That company attracted thousands of related businesses and the area became known as the technological capital of the world. Between 1981 and 1986 more than 1000 new technology-oriented businesses started there. The Silicon Valley attracted many risk-takers and gave them an opportunity to thrive in an atmosphere where creativity was expected and rewarded.

Robert Noyce, a graduate of the Massachusetts Institute of Technology, started working for one of the first computer-related businesses in 1955. While working with the pioneers of computer engineering he learned many things about computers and business management. As an engineer he co-invented the integrated circuit which was the basis for later computer design. This integrated circuit was less than an eighth of an inch square but had the same power as a transistor unit over 15 inches square or a vacuum tube unit that was 6.5 feet square. As a businessman, Noyce co-founded Intel, one of the most successful companies in the Silicon Valley and the first company to introduce the microprocessor. The microprocessor chip became the heart of the computer making it possible for a large computer system that once filled an entire room to be contained on a small chip that could be held in one's hand. The directors of Intel could not have anticipated the effects that the microprocessor would have on the world. It made possible the invention of the personal computer. Noyce's contributions to the development of the integrated circuit and the microprocessor earned him both wealth and fame before his death in 1990. In fact, many people consider his role to be one of the most significant in the Silicon Valley story.

The two men who first introduced the personal computer (PC) to the market had backgrounds unlike Robert Noyce's. They had neither prestigious university educations nor experience in big business. Twenty-year-old Steven Jobs and twenty-four-year-old Stephen Wozniak were college drop-outs who had collaborated on their first project as computer hobbiests in a local computer club. Built in the garage of Jobs's parents, this first PC utilized the technology of Noyce's integrated circuit. It was typewriter-sized, as powerful as a much larger computer, and inexpensive to build. To Wozniak the new machine was a gadget to share with other members of their computer club. To Jobs, however, it was a product with great marketing potential for homes and small businesses. They brought different abilities to their venture: Wozniak was the technological wizard and Jobs was the entrepreneur. Wozniak designed the first model, and Jobs devised its applications and attracted interest from investors and buyers.

From the very beginn ing Apple Computers had been sensitive to the needs of a general public that is intimidated by high technology. Jobs insisted that the computers be light, trim and made in muted colors. He also insisted that the language used with the computers be "user-friendly" and that the operation be simple enough for the average person to learn in a few minutes. These features helped convince a skeptical public that the computer was practical for the home and small business. Their second model, the Apple II, was the state-of-the-art PC.

As the computer industry developed the need for many new products for the personal computer began to emerge. Martin Alpert, the founder of Tecmar, Inc., was one of the first people to foresee this need. When IBM released its first PC in 1981, Alpert bought the first two models. He took them apart and worked twenty-four hours a day to find out how other products could be attached to them. After two weeks he emerged with the first computer peripherals for the IBM PC and he later became one of the most successful creators of such devices.

Alpert had neither the technical training of Noyce nor the computer clubs of Jobs and Wozniak to encourage his interest in computer engineering. His parents insisted that he study medicine. He became a doctor but his interest was in electronics which he studied passionately himself. His first electronics products were medical instruments. It was his wife who recognized the potential of his projects and helped him to run his business successfully. It was not until 1983 that Alpert stopped practicing medicine and gave his full attention to Tecmar.

Computer technology has opened a variety of opportunities for people. Those who have been successful have been alert technologically, creatively and financially. Whereas some have been immediately successful, others have gone unrewarded; some failure is inevitable in an environment as competitive as the Silicon Valley. Rarely in history have so many people been so motivated to create. Many of them have been rewarded with fame and fortune and the world has benefited greatly from this frenzy of innovation.

1. How was the first personal computer different from the computers that preceded it?
2. How is the Silicon Valley related to the computer industry?

6. Now read the text intensively and label the statements that follow "true/false" according to the text.

1. Robert Noyce graduated from a prestigious university and gained engineering expertise before he devised the integrated circuit. T/F
2. Robert Noyce was one of the pioneers of the computer industry. T/F
3. The microprocessor influenced the world in ways that its inventors did not foresee and subsequently led to the invention of the integrated circuit. T/F
4. Wozniak and Jobs used the state-of-the-art technology developed by Noyce when they devised the first PC. T/F
5. Jobs did not want the PC to be as intimidating to the general public as previous computers were, so he insisted that it include features that were practical and attractive. T/F

6. Martin Alpert foresaw that the success of the first IBM personal computers was inevitable, so he bought the first two models and devised ways to change them. T/F

7. Alpert's wife was skeptical about the potential of her husband's technical innovations. T/F

8. Alpert's interest in technology was more passionate than his interest in medicine. T/F

7. Suggest the best heading for the Text (Task 5).

Unit 3. GENERIC ENGINEERING

1. Useful vocabulary. Read, transcribe, translate and learn the new words and expressions by heart.

Word	Transcription	Translation	Word	Transcription	Translation
to clone			creature		
to shift			immune system		
nucleus			immoral use		
adult			genome data		
cell			to supplement		
genetic			grant-in-aid		
to lack			sequence		
versatility			to ensure		
transplant rejection			application		
to avoid			to have access		
creation			to face		
mankind			to correspond		
side-effect			competitiveness		
environment			subtle		
disaster			cheap		
to be dangerous			flexible		
to escape			imagination		
consequence			ingenuity		
modification			capacity		
genetically mismatched grafts			molecular		

2. Skim the text and underline the topic sentence in each paragraph. Then suggest the best heading for the text:

Text A

Cloning or nuclear transfer involves shifting the nucleus of an adult cell into an egg which has had its nucleus taken out. The resulting cell or zygote then has all the genetic material and biochemical machinery it needs to get on with the business of becoming an embryo. It also becomes a ready source of embryonic stem cells which can transform themselves into the different cell types needed to build a body. Most adult cells lack this versatility. But when their nuclei are transferred into eggs something happens which gives them the potential to get into new lines of work.

Many researchers and needy patients are hopeful that embryonic stem cells might one day provide a supply of replacement tissue for organs worn out through disease and old age. Because the transplanted nucleus could come from one of the patient's own cells the resulting stem cells would be genetically identical to the donor. Therefore any "spare parts" grown from such cells and popped back into the patient might avoid the problem of transplant rejection which comes with genetically mismatched grafts.

But cloning is a troublesome business. Experience with species cloned thus far including sheep, cows and pigs shows it to be very inefficient; according to one estimate it would take 280 human eggs to produce a single line of embryonic stem cells. Human eggs are in short supply and hard enough to obtain for routine *in vitro* fertilization, let alone to meet the additional demands of therapeutic cloning.

There are ethical dilemmas to deal with too. Therapeutic cloning is essentially the same as reproductive cloning. Regulations in Britain which were recently amended to allow research into therapeutic cloning stipulate that the cloned embryo must end its days in the laboratory within 14 days of creation. Even with this safeguard, together with stern prohibitions on the reproductive cloning of humans in most countries with sufficient resources to do it, many feel therapeutic cloning is a step too far.

3. Read the following passage and decide which ten sentences or clauses in it are irrelevant. Try to explain why it is so.

Text B

Genetics is a subject which is rather complicated for the public. As the science of genetic engineering advances, science fiction is being turned

into reality and it is, in my opinion, a great improvement. Such developments, however, are totally unacceptable to a large proportion of the general public. Many people object to the use of genetic engineering in food production and are also worried about the safety of beef products. In research centers throughout the world experiments are being carried out to produce genetically modified plants that can resist pests or produce a higher yield or last longer. Genetic engineering will lead to a healthier diet for all of mankind and, consequently, an even better standard of living. For example, tomato products are already being sold which do not spoil quickly. They are labeled by people as "Frankenstein" tomatoes. The main concern of many people is that these changes are unsafe.

Safety is also a primary concern of people in other areas of life, e.g. the side-effects of medicines. They fear that such alterations will in turn ultimately lead to changes in the environment and food chain, which scientists have not thought of. Scientists are responsible for many disasters: there are countless stories about waste being spilled into rivers and the sea. Similarly, people are anxious that certain altered micro-organisms which are dangerous might accidentally escape into the environment with catastrophic consequences. Can scientists confirm categorically that the modifications they have made to the structure of plants and animals will not affect the health of both humans and animals since innocent creatures need protection against experiments?

Another major argument against is that the morality of using genetic engineering is questionable. Recently, the general publics were shocked and disturbed to see on TV and in many newspapers the sight of a mouse which had been genetically engineered to have no immune system. What disturbed most people was the sight of a human ear growing under the skin of the mouse's back. Such bizarre images should not be shown on TV. The ear was developed for cosmetic reasons, for example to help deformed children. While everyone would agree with the aim of helping people with physical deformities, few people could not but be appalled at the immoral use of helpless animals in this way. Many animal lovers feel that they must protect the rights of animals.

These are but a few examples of the main arguments against the practice of genetic engineering. Undoubtedly, there are many arguments in favour, for example, a better quality of food.

4. Here is an article from the "New Scientist" magazine in jumbled order. Read the paragraphs and arrange them orderly.

Text C

____ a. Involvement with the genome project is important for Britain. Whoever gets the human genome data first will decide what will happen to them and will be in an unassailable position to dictate terms over its commercial, including its medical exploitation. Britain has to buy itself a seat at the international bargaining table, and we will probably have less than five years to establish our credentials. Bidding will not wait for the project to be completed – it will start as soon as there is anything worth selling.

____ b. And what about Britain's contribution to the project? With classic British understatement, the government has agreed to support a British project to map the human genome by supplementing the Medical Research Council's grant-in-aid by £11 million over three years.

____ c. The human genome is about a meter of DNA containing three billion pairs of chemical building blocks known as bases. The American government has committed itself to discovering the sequence of bases in this DNA. The project will probably cost more than $10 billion.

____ d. The strength of the British approach lies in its potential to put the powerful techniques of molecular genetics into the hands of people who have an important biological problem to solve. So the best strategy, at least for Britain's small-scale studies, is to find a way of ensuring that research groups with interesting biological, commercial or medical problems have help with the methodology and technology of molecular genetics. Rather than having a methodology looking for applications, we should ensure that anyone with a good problem has access to this methodology.

____ e. Can anything be done with £11 million in the face of this colossal American effort and the possibility of a corresponding effort by the Japanese? Is it worth doing anything at all?

____ f. Given the competitiveness of the human genome game, is the £11 million enough to ensure that Britain is taken seriously? In all probability, yes, provided thatthe money is spent imaginatively. A subtle, finely tuned approach may still mean that British research is world-class even if it is relatively poorly funded.

Now that you have done the first part of the task and can read the article in its original form, study the list of points about each paragraph. The points are not in order too. Arrange them in the correct order.

____ a. Strength of UK approach

____ b. Reasons for UK involvement

____ c. UK funding
____ d. Recommended strategy
____ e. Definition of human genome
____ f. US commitment
____ g. Expected cost of US research

5. Fill each of the numbered blanks in the following passage with one suitable word.

New technologies, like all technologies, are morally neutral. (1) _____ their advent makes the world a better place or (2) _____ depends on the uses to which they are put. And that, (3) _____ turn, depends upon the decisions of many people, especially of politicians, managers, trade union leaders, engineers (4) _____ scientists. The new technologies, cheap, flexible, dependent (5) _____ knowledge and information as their main input, can free human being from many (6) _____ their current constraints, (7) _____ example constraints of resources and geography. (8) _____ the new technologies could also enable those with power to control their fellow citizens even more effectively than in the most efficient dictatorships (9) _____ the past. The new technological society will make colossal demands on our imagination and ingenuity and on the capacity of our institutions to respond (10) _____ new challenges.

Unit 4. SOME THEORETICAL ISSUES AND SCIENTIFIC DISCOVERIES

1. Useful vocabulary. Read, transcribe, translate and learn the new words by heart.

Word	Transcription	Translation	Word	Transcription	Translation
incidence			crude		
distribution			impurity		
to engage			to annihilate		
physiological			bloodstream		
predisposition			antiseptic		
to imitate			coincidence		
globalization			casualty		
abandonment			invisible		
to coincide			to point at		

End table

Word	Transcription	Translation	Word	Transcription	Translation
to occur			to embark		
domestic			general use		
property			to trace out		
penicillin			ancient		
staphylococcus			to accomplish		
bacteria			extraordinary		
to be uncovered			accuracy		
to destroy			to position		
microbe-colony			observation		
liquid			prediction		
harm			ultimate		
right hand preference			behavioral manipulation		

2. Read the sentences below which are in scrambled order. Arrange them orderly by numbering them. When the sentences are in correct order they will result in a coherent paragraph.

_____ a. The second type of theory suggests that social or environmental pressures (or both) lead to the high incidence of right hand preference in man.

_____ b. Unfortunately, these theories are difficult to test since written references to the distribution of hand preferences throughout history are rare.

_____ c. It is common knowledge that contemporary man prefers to use his right hand when performing tasks requiring one hand.

_____ d. This theory is supported by human and animal studies that have attempted to alter hand preference through behavioral manipulation.

_____ e. Basically, there are two types of theories that attempt to explain the development of right hand preference in man.

_____ f. Nearly all cultures have art forms that depict human beings engaged in different activities.

_____ g. The first maintains that there are physiological predispositions, possibly inherited, which lead to the preference of one hand over the other.

_____ h. We might expect that such drawings and paintings would imitate the distribution of hand use that the artist actually observed in his culture.

_____ i. There are, however, other sources which can be used to investigate historical trends in the distribution of hand preference.

3. Read the text and choose from the list a–n the best phrase to fill each of the spaces. Some of the suggested answers do not fit at all. The exercise begins with an example.

Text A

Many think that globalization is a recent development, (1) ___*c*___. This fact is apparent from a new study by sociologists Christopher Chase-Dunn of the University of California and his colleagues. Their data (2) _____ show that the initial wave of globalization began about 1830 and peaked about 1880. During this time international commerce, with the abandonment of mercantilism, first became a force in the lives of ordinary people. Before the 19th century international trade was a paltry affair (3) _____. This early wave is associated with the growth of railroads, more efficient ocean transport and the political victory of manufacturing and trading interests over those of the landowners, (4) _____. (Those laws imposed duties on imported corn and thereby kept prices high.) The second wave coincided with the rise of electricity and steel around 1900 and peaked in the 1920s. The current wave began after World War II (5) _____.

Decreasing costs of transport and communication underlie the long-range increase in world trade, (6) _____. Chase-Dunn cites "hegemonic stability" in which a great power provides stable conditions. The first and third coincide with, respectively, the eras of British and U.S. hegemony, but the theory does not account for the second wave (7) _____.

During most of the 19th and early 20th centuries America did not follow Britain's free-trade policy (8) _____. The U.S. became more open to imports only after World War II. But it still lagged behind other major countries in trade participation – not surprising, considering its vast domestic market (9) _____. Nevertheless, the greater involvement of the U.S. has been the primary factor in world trade expansion since World War II.

In the long run it is very likely (10) _____ as the costs of transport and communication continue to decline. Perhaps the most formidable obstacle to trade growth in the near future is failure to reform government practices (11) _____. Transparency International, an organization funded by several European governments, polls well-informed individuals in more than 100 countries regarding the extent of misuse of public power for private benefit. Its 2003 report shows (12) _____. How governments deal with this issue of integrity could largely determine the next phase of worldwide trade.

a) that they fully offset the huge falls in transport costs

b) which occurred when Britain was in relative decline and the U.S. had not yet asserted its power

c) but its origins go back to the early 19th century
d) but no satisfactory reason explains the wave pattern
e) that international trade will continue to expand
f) which are based on the relation between imports and gross domestic product
g) that trust in the institutions of industrial nations averages 7.3 out of a perfect score of 10; developing countries average only 2.3
h) which could supply a larger variety of demands than smaller economies could
i) signaled by the 1846 repeal of the British corn laws
j) as a result of rising wages and living standards in Britain
k) mostly confined to luxuries such as spices and tobacco
l) that foster doubt and mistrust
m) as a result of the creation of international institutions such as the General Agreement on Tariffs and Trade, the predecessor of World Trade Organization
n) but instead imposed high tariffs to protect manufacturing

4. Read the questions first. Then scan the text to find answers to the questions.

1. For what purpose was penicillin used before Florey and Chain began their experiments?
2. What are the properties of penicillin?
3. Why did Florey go to America?

Text B

In 1928 Sir Alexander Fleming noted, after accidentally leaving a dish of staphylococcus bacteria uncovered, that some common green mould had grown among bacteria. As the mould grew, it formed a liquid which destroyed the nearby microbe-colonies. Fleming tried this liquid out on other types of bacteria and found that some were dissolved while others were left unharmed. He named the fluid “penicillin”, unaware that his chance discovery was to have tremendous consequences.

Fleming realized that penicillin had great antiseptic qualities, but the active principle in the mould was too unstable and difficult to extract. For a time, the only practical purpose of penicillin was to separate different types of bacteria from each other.

Ten years passed before any serious attempt was made to produce penicillin from liquid cultures of mould. Two scientists, Howard Florey and Ernst Chain, carried out a great number of experiments and eventually

succeeded in deriving a yellow powder from the liquid. The powder was crude and full of impurities; but it was a hundred times more active than the original discovery. It was found to possess two very important properties: it annihilated bacteria and did not harm body-tissues when applied locally to cuts and wounds. The next step was to find out whether penicillin could be introduced into the bloodstream and so be carried to every part of the body. When experiments were made with mice, penicillin acted in the same way in blood as it had done in water: the bacteria were killed and the blood-cells remained unaffected. The time had now arrived to see whether this powerful antiseptic could be used to combat human disease. Even though tests proved extremely difficult because only small amounts of the substance could be produced under laboratory conditions, results were miraculous. The remaining problem was to produce penicillin in large quantities. Because of the war, it was impossible for Britain to embark on large-scale production, and Florey was obliged to go to America. Soon sufficient qualities were available to effect a low mortality-rate among battle casualties. After the war penicillin came into general use.

Fleming has taken his place among the great benefactors of mankind, That the mould had grown by chance is of no coincidence. What matters is that he was there to observe it. Without his presence, this “chance” would have gone undetected and might never have occurred again.

5. Fill each of the numbered blanks in the following passage with one suitable word.

Many people persuade themselves that they cannot understand mechanical things, or that they have no head for figures. These convictions (1) _____ them feel enclosed and safe, and (2) _____ course save them a great (3) _____ of trouble. But the reader who has a head for anything at (4) _____ is pretty sure to have a head for whatever he really wants to put his mind to. His interest, say (5) _____ mathematics, has usually been killed by routine teaching, in exactly the (6) _____ way that the literary interest of most scientists, and for that matter of most non-scientists, has been killed by the set book and the Shakespeare play. Few people would argue that (7) _____ whose taste for poetry has not survived the examination syllabus are fundamentally insensitive (8) _____ poetry. Yet they cheerfully write off the large intellectual pleasures of science (9) _____ if they belonged only to minds (10) _____ a special cast. Science is not a special sense. It is as wide as the literal meaning of its name: knowledge. The notion of the specialized mind is, (11) _____ comparison, (12) _____ modern as the notion of the specialized man, “the scientist”, a word which is only some hundred years old.

6. Read the text intensively and outline the main points of Dr Spence's theory.

Text C

The ancient Egyptians were sticklers for detail. Despite their size the pharaohs' tombs are positioned with extraordinary accuracy – the east and west walls of the Khufu pyramid, for example, are aligned north-south to within one-twentieth of a degree. Over the centuries many competing theories have tried to explain how the pyramids' builders accomplished this feat of precision engineering. Was it luck, geometric prowess or the helping tentacle of a visiting alien? Now an Egyptologist seems to have solved the riddle – by looking at how the ancients got it wrong rather than how they got it right.

Using the heavens as a compass is complicated by precession – the slow swiveling of the earth's axis that causes the celestial north pole to trace out a circle every 25, 800 years. At the moment the celestial north pole is near the star Polaris; in 13, 000 years' time it will be near the star Vega. In the night sky of ancient Egypt, though, no such placeholder was present. Kate Spence of Cambridge University suggests that the pyramid builders must have used a couple of nearby stars to fix the location of the pole instead.

Dr Spence suggests that the Egyptians aligned the pyramids according to an imaginary line connecting two stars on opposite sides of the invisible pole – one in Ursa Major and one in Ursa Minor (familiar to Americans as the Big Dipper and Little Dipper). Using a plumb line an ancient Egyptian astronomer could have determined when the line linking the two stars was vertical. The point at which the plumb line met the horizon would then indicate precisely the direction of true north.

Or at least it would for a couple of years either side of 2467BC. Before and after that date this method would give an answer that was slightly wrong. But the error turns out to correspond closely with the observed errors in the pyramids' positions: the further their estimated dates of construction are from this window of accuracy, the larger the errors in their alignments. All of which strongly suggests that Dr Spence's method may indeed have been the one used to align the pyramids.

Furthermore, by working backwards from the alignment error this theory can be used to provide more accurate estimates of the dates of the pyramids' construction. Existing chronologies of ancient Egypt involve uncertainties of up to 100 years. But this new approach could narrow down that margin to just five years or so.

No doubt Dr Spence's work will disappoint some people – most notably those who take the meticulous design of the pyramids as evidence either of extraterrestrial intelligence or of the omniscience of the ancients. But, although this new hypothesis seems to demonstrate that the ancient Egyptians were unaware of the effects of precession, at least it restores credit for the design of the pyramids where it is due: they were built by ordinary men using the stars as their guide.

7. Read the text intensively. You might have to read between the lines for the answers. After each of the passages you will find a number of questions or unfinished statements. Choose the one which you think fits best according to the author.

Text D

What would it mean if we actually did discover the ultimate theory of the universe? The fact is we could never be quite sure that we had indeed found the correct theory, since theories cannot be proved. But if the theory was mathematically consistent and always gave predictions that agreed with observations, we could be reasonably confident that it was the right one. It would bring to an end a long and glorious chapter in the history of humanity's intellectual struggle to understand the universe. But it would also revolutionize the ordinary person's understanding of the laws that govern the universe.

In Newton's time it was possible for an educated person to have a grasp of the whole of human knowledge, at least in outline. But since then, the pace of the development of science has made this impossible. Because theories are always being changed to account for new observations, they are never properly digested or simplified so that ordinary people can understand them. You have to be a specialist, and even then, you can only hope to have a proper grasp of a small proportion of the scientific theories. Further, the rate of progress is so rapid that what one learns at school or university is always a bit out of date. Only a few people can keep up with the rapidly advancing frontier of knowledge, and they have to devote their whole time to it and specialize in a small area. The rest of the population has little idea of the advances that are being made or the excitement they are generating.

Seventy years ago, if Eddington is to be believed, only two people understood the general theory of relativity. Nowadays tens of thousands of university graduates do, and many millions of people are at least familiar with the idea. If a complete unified theory was discovered, it would only

be a matter of time before it was digested and simplified in the same way and taught in schools, at least in outline. We would then all be able to have some understanding of the laws that govern the universe and are responsible for our existence.

1. The ultimate theory of the universe:
a) could be accepted if based on objective, tested criteria;
b) might have been discovered a long time ago;
c) was discovered a long time ago but has yet to be tested;
d) would need conclusive proof to be accepted.

2. Discovery of the right theory could mean:
a) people would lose interest in the nature of the universe;
b) having to establish new laws to explain the universe;
c) reversing a trend which began after the time of Newton;
d) ordinary people understanding subsequent modifications to it.

3. Nowadays, who has a basic understanding of all human knowledge?
a) Science students at university and scientists;
b) Scientists;
c) Scientists working only in particular areas;
d) Nobody.

4. A complete unified theory would:
a) enable everyone to understand the general theory of relativity;
b) only require a degree in science to understand;
c) be understood to some extent by many ordinary people;
d) make humans act more responsibly.

Lektion 1. WAS IST FAMILIE HEUTE?

1. Lesen und lernen folgende Wörter.

der Bereich -(e)s, -e	область, сфера
der Besitzstand -(e)s, -stände	наличность имущества
der Erdnäher -(e)s, =	кормилец
die Erziehung =, -en	воспитание
der Familienvorstand -(e)s, -stände	глава семьи
der Haushalt - (e)s, -e	домашнее хозяйство
die Kirche =, -en	церковь
die Liebesheirat=, -en	брак по любви
die Sorge =, -en	забота
die Verteilung =, -en	распределение
das Weib - (e)s, -er	женщина, жена
das Zusammenleben -s, =	совместная жизнь
sich betätigen	заниматься
sich entwickeln	развиваться
kennen (kannte – gekannt)	знать кого-либо, что-либо
sich kümmern um Akk.	заботиться о ком-либо, о чем-либо
verdienen	зарабатывать
karitativ	благотворительный
mustergültig	образцовый, как образец
wirtschaftlich	экономический, хозяйственный
zuständig / verantwortlich sein für Akk.	быть ответственным за что-либо

2. Lesen und übersetzen den Text.

Text A. WAS WAR DIE FAMILIE FRÜHER?

Familie war bis tief in die Mitte des 19. Jahrhunderts hinein eine Form des Zusammenlebens, die weit mehr von wirtschaftlichen als sozialen Bindungen geprägt war. Das steckt auch im Ursprung des Begriffs *Familie*, der dem Lateinischen entstammt. Abgeleitet von *famulus* (der Haussklave), bezeichnete er den Besitzstand eines Mannes, des *pater familias*. Zu seinem Besitz gehörten nicht nur Weib und Kinder, sondern gleichermaßen – Vieh und Sklaven.

Die traditionelle Familie, wie wir sie kennen, ist wie die Liebesheirat eine Erfindung des Bürgertums im 19. Jahrhundert. Den Familienvorstand alter Schule beschrieb Thomas Mann in den *Buddenbrooks* mustergültig. Mehr und mehr entwickelte sich ein Modell, das auf traditioneller Rollenverteilung basiert: Der Vater ist Ernährer der Familie und somit für den außerhäuslichen Bereich zuständig. Er verdient das Geld und kümmert sich um die sozialen Kontakte. Der Lebensbereich der Frau war durch drei "K" – Küche, Kinder, Kirche – umschrieben: Mutter war dem Vater gegenüber für den Haushalt sowie für Erziehung und schulische Leistungen der Kinder verantwortlich, und wenn sie daneben noch Zeit fand, konnte sie sich gerne im Bibelkreis oder in karitativen Einrichtungen betätigen.

3. Antworten Sie auf folgende Fragen zum Text. Äußern Sie Ihre Meinung.

1. Welche Form hatte die Familie bis tief in die Mitte des 19. Jahrhunderts hinein?
2. Was bezeichnete der lateinische Begriff *famulus*?
3. Was gehörte damals zum Besitzstand eines Mannes?
4. Was bedeutete die traditionelle Familie im 19. Jahrhundert?
5. In welchem Roman wurde der Familienvorstand alter Schule beschrieben?
6. Welche Rolle spielt der Vater in der traditionellen Familie?
7. Wie war der Lebensbereich der Frau umschrieben?
8. Wofür war die Mutter dem Vater gegenüber verantwortlich?
9. In welchem Bereich konnte sich die Frau betätigen?
10. Wie verstehen Sie traditionelle Familie?

4. Finden Sie Komposita im Text und übersetzen sie.

5. Bilden Sie aus folgenden Wörtern die Antonympaare und übersetzen sie.

tief	jung
weit	zu Hause
traditionell	ledig
alt	klein
verantwortlich	seicht
wirtschaftlich	wenig
außerhäuslich	verantwortungslos
groß	nah
viel	ungewöhnlich
verheiratet	unwirtschaftlich

6. Lesen und übersetzen den Text.

Text B. WIE HAT SICH FAMILIE VERÄNDERT?

Das traditionelle Familienmodell dominiert nach wie vor. Durch die demographische Entwicklung und den Wandel der Lebensformen seit den 1960er Jahren hat die moderne Kleinfamilie ihre Stellung eingebüßt und befindet sich in der Konkurrenz mit zahlreichen anderen alternativen Lebensformen. Man spricht daher von einer Pluralisierung der Lebensformen. Indikatoren hierfür sind die sinkende Geburtenzahl, der Rückgang der Eheschließungen und das Ansteigen der Scheidungen.

Dieser Wandel der Haushalts- und Familienstrukturen zeigt sich vor allem in der Anzahl der Alleinerziehenden und der kinderlosen Ehepaare, sowie der nicht-ehelichen Lebensgemeinschaften. Durch die hohe Scheidungsrate entstehen auch immer mehr Stieffamilien (auch "Patchwork-Familien" genannt), in denen Kinder unterschiedlicher Herkunft leben.

Neben der "Normalfamilie" haben sich verschiedene alternative Lebensformen herausgebildet: die getrennten Familien, Einpersonenhaushalte, kinderlose Ehen, getrenntes Zusammenleben, Wohngemeinschaft, Fernbeziehung oder Commuter-Ehe (beide Partner arbeiten und wohnen während der Woche getrennt, und sehen sich oft nur am Wochenende); Kinder mit mehreren (biologischen und sozialen) Müttern und Vätern (Adoptiv-Familien oder Stieffamilien).

Als Gründe werden Vorrang von privaten Interessen und Freiheiten, einfachere Geburtenkontrolle, zunehmendes Lebensalter, Altersvorsorge, Technisierung der Haushalte angegeben, sowie die Angst der Aufgabe als Haupternährer der Familie nicht gewachsen zu sein.

Die Reform des Familienrechts brachte neben der Vereinfachung der Scheidung eine Verlagerung der Unterhaltsverpflichtung von der Fürsorge des Staates auf den besser verdienenden ehemaligen Ehepartner.

Der Wandel der Erwerbsarbeit und damit verbunden größere finanzielle Unsicherheit, die Emanzipationsbewegung der Frauen mit ihrem Wunsch nach Teilhabe am gesellschaftlichen und beruflichen Leben bot ihnen auf einr Seite mehr Möglichkeiten. Ihr Streben nach Selbstverwirklichung im Beruf geschieht oft auf Kosten von Mutterschaft.

Die Bildungsexpansion, und damit einhergehende lange Ausbildungszeiten, hatten zur Folge, dass die Jugend den Eintritt in die Phase der Verantwortlichkeit auf einen späteren Zeitpunkt verlagert.

Das alles sind Folgen der Individualisierungstendenzen: Das Streben nach Glück und Freiheit, in dem die Fürsorge für eine Familie als

Beschränkung der eigenen Individualität wahrgenommen wird, kollidiert mit der lebenslangen Verantwortung, die Familie mit sich bringt. Aber auch äußere Faktoren wie: Existenzsorgen und Arbeitslosigkeit können der Familie bedrohen. Die Kinder sind nachgewiesenermaßen ein Armutsrisiko.

7. Übersetzen Sie Wörter und lernen sie.

1. die Entwicklung, der Erwachsene, die Freiheit, die Fürsorge, die Möglichkeit, der Rückgang, die Scheidung, das Streben, die Verantwortlichkeit, der Wandel

2. bedrohen, beteiligen, entstehen, sich herausbilden, kollidieren, verbinden, verlagern, wachsen, zunehmen

3. beruflich, ehemalig, gesellschaftlich, sogenannt, unterschiedlich, zahlreich

8. Übersetzen zusammengesetzte Wörter und lernen sie.

die Lebensform, die Geburtenzahl, die Eheschließung, die Haushaltstruktur, das Ehepaar, die Lebensgemeinschaft, die Scheidungsrate, die Geburtenkontrolle, das Lebensalter, die Altersvorsorge, der Haupternährer, die Unterhaltsverpflichtung, der Ehepartner, die Erwerbsarbeit, die Emanzipationsbewegung, die Selbstverwirklichung, die Bildungsexpansion, die Ausbildungszeit, der Zeitpunkt, die Individualisierungstendenz, die Existenzsorge, das Armutsrisiko

9. Nennen Sie russische Äquivalente.

die getrennte Familie	традиционная семья
die Kleinfamilie	бездетный брак
die Stieffamilie/ Patchwork-Familie	совместное проживание
die Normfamilie	небольшая семья
der Einpersonenhaushalt	бюджет на одного человека
der Alleinerziehende	отношения на расстоянии
kinderlose Ehe	усыновленная семья
getrenntes Zusammenleben	одинокий
die Wohngemeinschaft	раздельное совместное проживание
die Fernbeziehung / Commuter-Ehe	внебрачная совместная жизнь
die Adoptiv-Familie	сводная / «лоскутная» семья
nichteheliche Lebensgemeinschaft	разведенная семья

10. Übersetzen Sie die Wörter mit derselben Würzel.

der Familienname, das Familienmodell, die Familienstruktur, das Familienleben, das Familienrecht, familiär, der Familienhaupt, die Familienerziehung, die Familiengeschichte, der Familienstand, das Familienfest, das Familienbild, die Familienkunde, der Familienrat, das Familienvermögen, die Familienverhältnisse

11. Finden Sie im Text deutsche Äquivalente.

лишаться своего положения, находиться в конкуренции, формировать альтернативный образ жизни, возникать из-за большого процента разводов, работать и жить раздельно, видеться только на выходных, указывать причины, предлагать больше возможностей, отодвигать на более поздний срок, воспринимать как ограничение индивидуальности, сталкиваться с ответственностью, угрожать семье

12. Diskutieren Sie über folgende Fragen.

1. Welche Gründe rufen die Pluralisierung der Lebensformen hervor?
2. Welche alternative Lebensformen haben sich herausgebildet?
3. Wie meinen Sie, warum entstehen alternative Formen?
4. Beeinflusst die Emanzipation der Frauen auf die Familiebildung?
5. Kann die Bildungsexpansion der Schaffung der Familie stören?

13. Lesen Sie und betiteln folgenden Text.

Die Familie ist die dritte Sphäre persönlicher Beziehungen. Im Unterschied zur Freundschaft und zur Liebe ist die Familie durch eine Triangularität gekennzeichnet: Vater, Mutter und Kind.

Familie ist ein ganz eigenes Universum. Zuerst einmal ist sie ein sozialer Raum.

Die Familie vermittelt folgende Tugenden wie Fleiß und Gehorsam, Konkurrenzdenken und Erfolgstreben, Verhaltungsmaßregeln und Disziplin.

Die Familien sind in der Regel der Ausgangspunkt für alle Bildungsprozesse. Hier werden die grundlegenden Fähigkeiten für schulische Lern- und lebenslange Bildungsprozesse geschaffen.

Gerade in Krisen und wirtschaftlich schwierigen Zeiten betonen die Menschen den Wert der Familie. Auch viele Jugendlichen sehen die Familiengründung als eines der größten Lebensziele an.

14. Sprechen Sie nach folgenden Themen.

1. Welche Rolle spielt die Familie heute?
2. Erzählen Sie über Ihre Familie.
3. Wie stellen Sie sich Ihre zukünftige Familie vor? Beschreiben Sie sie.

15. Sammeln Sie Argumente *für* oder*gegen* … und berichten sie.

Muster: Ich bin *für die Vernunftheirat*, *weil* die Vernunftheirat zuverlässigerund kräftiger ist.

1. Was wählen Sie *die Liebesheirat* oder *Vernunftheirat*?
2. Muss man *den Ehevertrag* abschließen?
3. Was ziehen Sie *schöne Hochzeit* oder *romantische Hochzeitsreise* vor?
4. Wie viele Kinder soll eine Familie haben: *ein* oder *mehr*?
5. Soll die Frau *den Haushalt führen* oder *arbeiten*?

16. Lesen und übersetzen den Text.

Text C. FAMILIE VON WERNHER VON BRAUN

Wernher Magnus Maximilian von Braun, so der vollständige Name, wurde am 23. März 1912 in der Stadt *Wirsitz* in Posen (im heutigen Polen) als Sohn einer aristokratischen Familie geboren. Er hatte einen alteren Bruder, Sigismund (geb. 1911), und einen jungeren Bruder, Magnus (geb. 1919).

Sein Vater, *Magnus Freiherr von Braun*, war ein hoher politischer Beamter, der verschiedene Funktionen in Berliner Reichsministerien, aber auch in den östlichen Provinzen innehatte. Er war ein deutschnationaler Antidemokrat, der aus seiner Ablehnung der Weimarer Republik keinen Hehl machte. Als Mitglied des Reichswirtschaftsrates und Direktor der Deutschen Raiffeisenbank blieb er jedoch eine einflußreiche Person des öffentlichen Lebens. Adolf Hitler ubernahm ihn nicht in sein Kabinett, woraufhin er sich enttäuscht auf sein Gut in *Oberwiesenthal bei Hirschberg in Schlesien* zurückzog.

Wernhers Mutter, *Freifrau Emmy von Braun*, wird als eine gebildete, weltoffene und warmherzige Frau geschildert. Sie war für den jungen Wernher eine wichtige Bezugsperson, von der er das Klavierspielen und fremde Sprachen sowie die Umgangsformen lernte, die später als *Von-Braun-Charme* sprichwörtlich wurden. Sie brachte Verständnis für ihren Sohn auf, der unermüdlich aktiv war und mit allem herumbastelte – ein Verständnis, das dem Vater vollkommen fehlte. Die Kindheit zwischen diesen beiden gegensätzlichen Polen hat Wernher von Braun geprägt. Eine wichtige Quelle der Inspiration war seine Mutter, zu deren Hobbys die Astronomie zählte. Zur Konfirmation schenkte sie ihrem Sohn 1925 ein

astronomisches Fernrohr, das die Leidenschaft auslöste, die ihn nicht mehr losließ. Beim Betrachten des Mondes fiel sein Entschluß, das Fahrzeug zu bauen, das man für eine Reise dorthin benötigt. In einer Familie, deren Söhne Landbesitzer wurden, zur Armee gingen oder in den Regierungsdienst eintraten, war Wernher ein *Sonderling*. Die familiäre Konstellation mit der verständnisvollen Mutter war eine ideale Situation, um die Verhaltensweisen einzuüben, mit denen von Braun später soviel Erfolg hatte. Er wurde zu einer vielseitig gebildeten Persönlichkeit, deren Ausstrahlung alle Menschen beeindruckte, die mit ihm in Kontakt kamen. Wernher von Braun wußte stets, was er wollte, und hatte ein sicheres Gespür dafür, welches Risiko er eingehen konnte, um seine Pläne durchzusetzen.

17. Überstzen sie fogende Wortverbindungen.

der vollständige Name, ein hoher politischer Beamter, verschiedene Funktionen, die östliche Provinz, ein deutschnationaler Antidemokrat, eine einflußreiche Person, das öffentliche Leben, einegebildete, weltoffene und warmherzige Frau, eine wichtige Bezugsperson, fremde Sprache, wichtige Quelle, ein astronomisches Fernrohr, gegensatzliche Pole, die vielseitig gebildete Persönlichkeit, die familiäre Konstellation, verständnisvolle Mutter

18. Finden Sie russische Äquivalente unter der Linie.

verschiedene Funktionen inne haben, keinen Hehl machen, eine einflußreiche Person bleiben, sich auf sein Gut zurückziehen, als eine gebildete Frau schildern, Verständnis aufbringen, eine Quelle der Inspiration sein, das Fahrzeug bauen, zu einer vielseitig gebildeten Persönlichkeit werden, die Menschen beeindrucken, ein Gespür haben, das Risiko eingehen, Pläne durchsetzen, die Verhaltensweise einüben, Erfolg haben

оказывать влияние на людей, быть источником вдохновения, оставаться влиятельным лицом, удалиться в свое имение, иметь успех, построить транспортное средство, иметь чутье, занимать различные должности, тренировать способ поведения, относиться с сочувствием, не делать тайны, описывать как образованную женщину, стать всесторонне образованной личностью, идти на риск

19. Charakterisieren Sie.

1. Wernher von Braun
2. seinen Vater
3. seine Mutter

20. Welche Bedeutung hatte die Familie für Wernher von Braun?

Lektion 2. AUSBILDUNG

1. Lesen und lernen folgende Wörter.

die angewandte Mechanik	прикладная механика
die Branche =, -en	отрасль
das Fach -(e)s, Fächer	предмет (обучения)
der Fachmann -(e)s, Fachleute	специалист
die Fachrichtung =, -en	специальность
der Flugkörper -s, =	летательный аппарат
die Fortbildung =	переподготовка
der Lehrstuhl -(e)s, ... stühle	кафедра
die Luftfahrt =, -en	гражданская авиация
die Maschinenkunde =	машиноведение
die Prüfung =, -en	экзамен
der Satellit -en, -en	спутник
das Steuerungssystem -s, -e	система управления
das Studienjahr -(e)s, -e	учебный год, курс (в вузе)
das Treibwerk -(e)s, -e	двигатель
die Verteidigungsfähigkeit =	обороноспособность
die Vorbereitung =, -en	подготовка
die Vorlesung =, -en	лекция
die Vorprüfung =, -en	зачет
die Weiterbildung/ Höherqualifizierung	повышение квалификации
die Wirtschaft =, -en	экономика, хозяйство
ablegen	сдавать (экзамены)
beginnen (begann, begonnen)	начинать
bekommen (bekam, bekommen)	получать
(sich) entwickeln	развивать (ся)
gründen	основывать
nutzen	использовать, эксплуатировать
schaffen (schuf, geschaffen)	создавать
verleihen (verlieh, verliehen)	присваивать, награждать

2. Lesen und übersetzen den Text.

Text A. SIBIRISCHE STAATLICHE UNIVERSITÄT FÜR LUFT- UND WELTRAUMTECHNIK

Bereits über 50 Jahre besteht unsere Universität. 1960 wurde die Technische Hochschule als Filiale der polytechnischen Hochschule beim Krasnojarsker Maschinenbauwerk gegründet. Am 1. September 1960 begann das erste Studienjahr für 200 Studenten in drei Fachrichtungen:

Projektierung und Bau der Flugkörper, Treibwerke der Flugkörper und Steuerungssysteme von Flugkörper. Das war einzige Universität von Ural bis Fernen Osten, die sich auf die Luft- und Weltraumtechnik spezialisiert. Der erste Direktor der Technischen Hochschule war E. N. Kapustjanskij, einer der Schüler von S. P. Koroljov.

Der hervorragende Wissenschaftler und Chefkonstrukteuer des Entwicklungsbüros der angewandten Mechanik M.F. Reschetnjov arbeitete seit 1972 als Professor des Lehrstuhles für Flugkörper. Er schuf sibirische Schule der Wissenschaftler und Entwickler der Raketen- und Weltraumsysteme und nahm persöhnlich an der Entwicklung unserer Hochschule teil. 1996 wurde unserer Hochschule den Namen von Akademiemitglied Reschetnjov M. F. verliehen, und 2002 bekam die Hochschule den Status der Universität. Die ganze Geschichte unserer Universität ist eng mit der Schaffung des großen Weltraumkomplexes in Krasnojarsker Region, der bis heute die wichtigsten Aufgaben der Verteidigungsfähigkeit des Landes und Eroberung des Weltalls löst, verbunden.

Die Universität realisiert berufliche Bildungsprogramme in 34 Fachrichtungen auf dem Gebiet der Projektierung und Erzeugung der Luft- und Weltraumtechnik, Informatik und Rechentechnik, Wirtschaft und Business. Heute gibt es folgende Institute und Fakultäten: Institut für Weltraumtechnik, Institut für Informatik und Telekommunikationen, Institut für Weltraumforschung und hohe Technologien, das Militärinstitut; Fakultät für Maschinenkunde und Mechanotronik,

Fakultät für Zivilluftfahrt und Zollsache, Ingenieur-Wirtschaftsfakultät, Internationale Businesshochschule, Fakultät für Körperkultur und Sport, Fakultät für Fern- und Zuschlagsbildung, Fakultät für Weiterbildung der Lehrkräfte, Fakultät für Höherqualifizierung und Fortbildung der Fachleute. In der Universität gibt es auch Aspirantur in verschiedenen Fachrichtungen.

Die Grundbetriebe der Universität als Bestandteil der Vorbereitung der Fachleute für die Luft- und Weltraumbranche sind das größte im Land Krasnojarsker Maschinenbauwerk und AG “Informations- Satellitensysteme”. Der Betrieb projektiert, erzeugt und nutzt die Weltraumnachrichtensysteme des Fernsehfunks, der Navigation und Geodäsie. In diesen Betrieben laufen die Studenten ein Praktikum durch.

Die Universität hat eine Erholungsherberge, ein Sport- und Gesundungslager, ein Stadion, einen Wassersportpalast und einige Sportsäle, und auch einen Studentenkulturpalast.

In der Univeraität arbeiten mehr als 700 Lehrer, darunter etwa 100 Doktoren und Professoren, 300 Kandidaten der Wissenschaften und Dozenten. Die Professoren und Lektoren halten Vorlesungen in verschiedenen Fächern und leiten Seminare.

Von der Univeraität wurde etwa 14 000 Fachleute für die Luft- und Weltraumtechniksbetriebe und andere wirtschaftliche Zweige des Landes vorbereitet. Das allgemeine Studentenkontingent der Univeraität beträgt etwa 10 000 Menschen.

3. Sagen Sie Grundzahlwörter und übersetzen die Sätze.

Muster: (в) 1945 (году) – neunzehnhundertfünfundvierzig;
(в) 2011 (году) – zweitausendelf

1. Ich wurde 1994 geboren.
2. 2003 kam ich in die erste Klasse.
3. Seit 2012 studiere ich an der Sibirischen staatlichen Universität für Luft- und Weltraumtechnik.
4. 1960 wurde die Technische Hochschule als Filiale der polytechnischen Hochschule beim Krasnojarsker Maschinenbauwerk gegründet.
5. 1989 wurde die Hochschule in selbstständige Hochschule für Weltraumtechnik reorganisiert.
6. Im September 1960 begann das erste Studienjahr für 200 Studenten.
7. Der hervorragende Wissenschaftler M. F. Reschetnjov arbeitete seit 1972 als Professor des Lehrstuhles für Flugkörper.
8. 1996 wurde unserer Hochschule den Namen von Akademiemitglied Reschetnjov M. F. verliehen.
9. 2002 bekam die Hochschule den Status der Universität.
10. 2010 feierte unsere Universität das 50-jährige Jubiläum.

4. Sagen Sie richtig Ordnungszahlwörter und übersetzen die Sätze.

Muster: ***am*** 7. (sieben***ten***) November – седьмого ноября;
am 25. (fünfundzwanzig***sten***) September – двадцать пятого сентября

1. Ich wurde (21 июня) 1994 geboren.
2. Das Studium beginnt (1 сентября).
3. Er fährt (29 августа).
4. Wir legen die erste Prüfung (12 января) ab.
5. (12 апреля) feiern alle den Tag der Kosmonautik.
6. Heute ist der (20 сентября).
7. Mein Geburtstag ist (19 мая).
8. Die Versammlung findet (3 октября) um 17. 00 im Auditorium 203 statt.
9. Wir besuchen (19 февраля), am Montag die wissenschaftliche Ausstellung.
10. Die Studenten der Gruppe nehmen (10 ноября) an der Konferenz teil.

5. Übersetzen folgende zusammengesetzte Wörter.

1. das Maschinenbauwerk, die Luft- und Weltraumtechnik, der Flugkörper, das Steuerungssystem, der Chefkonstrukteuer, das Entwicklungsbüro, der Weltraumkomplex, die Verteidigungsfähigkeit, das Bildungsprogramm, die Fachrichtung, die Rechentechnik, die Maschinenkunde, die Weltraumforschung, die Zivilluftfahrt, das Militärinstitut, die Körperkultur, die Fern- und Zuschlagsbildung

2. основное предприятие, составная часть, аэрокосмическая отрасль, информационно-спутниковые системы, системы космической связи, телевещание, ракетно-космический центр, база отдыха, спортивно-оздоровительный лагерь, студенческий дворец культуры, предметы по специальности

6. Übersetzen Sie Wörter mit der allgemeinsamen Komponente.

1. das Fach, der Fachmann, der Facharbeiter, die Fachbildung, das Fachbuch, die Fachschule, die Fachhochschule, fachlich, die Fachliteratur, die Fachprüfung, die Fachrichtung, die Fachkenntnisse, das Fachwort, das Fachwörterbuch, die Fachwissenschaft, die Fachzeitschrift, die Fachausstellung, fachkundig

2. der Student, der Studentenausweis, der Studentenaustausch, die Studentengesellschaft, die Studentenschaft, das Studentenheim, studentisch

***7.* Bilden Sie Synonympaare und übersetzen sie.**

die Universität	das Entwerfen
die Branche	die Fakultät
die Erzeugung	das Lernen
die Projektierung	anfangen
die Forschung	der Zweig
die Fortbildung	unterschiedlich
der Satellit	die Ausbildung
das Studium	sich beteiligen
die Wirtschaft	mitarbeiten
der Wissenschaftler	der Weltraum
die Bildung	die Weiterbildung
das Institut	die Hochschule
der Betrieb	die Erforschung
der Weltall	ausnutzen
beginnen	die Ökonomik
nutzen	bedeutend
teilnehmen	das Werk

zusammenarbeiten	der Trabant
hervorragend	die Produktion
verschieden	der Gelehrte

8. Übersetzen Sie folgende Wortverbindungen.

1. als Filiale der polytechnischen Hochschule gründen, in selbstständige Hochschule reorganisieren, sich auf die Flug- und Weltraumtechnik spezialisieren, einer der Schüler von S. P. Koroljov sein, als Professor des Lehrstuhles für Flugkörper arbeiten, sibirische Schule der Wissenschaftler und Entwickler der Raketen- und Weltraumsysteme schaffen, an der Entwicklung der Hochschule teilnehmen, den Namen verliehen, den Status der Universität bekommen, die Aufgaben der Verteidigungsfähigkeit und Eroberung des Weltalls lösen, berufliche Bildungsprogramme realisieren

2. быть составной частью подготовки специалистов для аэрокосмической отрасли, проектировать и производить системы космической связи телевещания и навигации, проходить практику, иметь базу отдыха, читать лекции по различным предметам, изучать предметы по специальности, сдавать экзамены и зачеты, подготовить специалистов для аэрокосмических предприятий

9. Stellen Sie den Plan zum Text auf und erzählen über die Universität.

10. Merken Sie sich folgende Wörter.

das Akademiemitglied -(e)s, -glieder	академик
der Anhänger -(e)s, =	сторонник
die Einrichtung =, -en	оборудование
die Entwicklung =, -en	развитие, разработка
die Erde =	Земля
die Forschung =, -en	исследование
der Gründer -(e)s, =	основатель
der Nachfolger -(e)s, =	последователь
die Oberfläche =, -en	поверхность
der Raketenträger -(e)s, =	ракетоноситель
die Sendung =, -en	передача
der Stoff -(e)s, -e	материал, вещество
die Tragweite =, -en	дальность (действия)
die Verbindung =, -en	связь, сообщение
die Vereinigung =, -en	объединение

die Versorgung =, -en	обеспечение, снабжение
die Vervollkommnung =, -en	усовершенствование
der Zweig– (e)s, -e	отрасль
absolvieren (*die Hochschule)*	заканчивать (учебное заведение)
auszeichnen mit D.	награждать чем-либо
bestimmen	определять
dienen	служить
einberufen	призывать
entscheiden	решать
erlauben	позволять
erlmöglihen	делать возможным
fortsetzen	продолжать
leiten	руководить
richten	направлять
schaffen (schuf, geschaffen)	создавать
verbringen	проводить
verteidigen	защищать
verwirklichen	осуществлять
vorschlagen (schlug vor, vorgeschlagen)	предлагать
ausgezeichnet	отлично
bedeutend	значительный
beliebig	любой
gültig	действительный, действующий
führend	ведущий
sicher	безопасный, надежный
in die Bahn bringen	выводить на орбиту
den Beitrag leisten zu D.	вносить вклад во что-либо
das Praktikum durchlaufen	проходить практику

11. Lesen und übersetzen den Text.

Text B. MICHAIL FEDOROWITSCH RESCHETNJOV

Das Akademiemitglied Michail Fedorowitsch Reschetnjov war Anhänger und Nachfolger von S. P. Koroljov. Er war einer der hervorragenden Konstrukteure unserer Zeit und Gründer der ersten in der Welt Satellitensysteme der kosmischen Telekommunikationen. Um die Idee der globalen kosmischen Verbindung zu verwirklichen, wurden ganz neue Zweige der Wissenschaft und der Industrie geschaffen.

M. F. Reschetnjov wurde am 10. November 1924 im Dorf Barmaschowo des Snegirjevs Bezirkes bei Odessa in der Familie des Angestellten geboren. Seine Kinderjahre verbrachte er in Dnepropetrowsk. 1940 ging er an die Moskauer Luftfahrthochschule. Im Juni 1942 wurde er zum Militär einberufen, wo er bis zum Oktober 1945 diente. 1945 setzte er das Studium fort; das Vordiplompraktikum lief er unter der Leitung von M. K. Tihonrawov durch und verteidigte ausgezeichnet seine Diplomarbeit im Raketenbau.

1950 absolvierte er die Moskauer Luftfahrthochschule, er wurde ins legendäre Spezialkonstruktionsbüro (SKB-1) gerichtet. Dieses Büro leitete der hervorragende Konstrukteur der Raketentechnik S. P. Koroljov, der später seinLehrer wurde. Von 1950 bis 1959 arbeitete er hier als Ingenieur, führender Konstrukteur und stellvertretender Chefskonstrukteur. Die Hauptaufgabe von Reschetnjov war die Konstrukteurbegleitung der Serienproduktion der Raketen der mittleren Tragweite R-11M, die von dem Krasnojarsker Maschinenbauwerk produziert wurden.

Seit 1959 leitete er dieFiliale SKB-1 (später die Wissenschafts-und Produktionsvereinigung der angewandten Mechanik) in Krasnojarsk-26. Reshetnjov entwickelte die Systeme der Satellitenverbindung, der Sendung, der Satellitennavigation und Forschungsstellitensysteme. 1964 beendete OKB-10 die Erarbeitung des Universalraketenträgers “Kosmos-2/3”. Mit seiner Hilfe wurden die Satelliten in die Bahn gebracht. Viele von diesen Systemen erlmöglihten, die wichtigen Aufgaben der Versorgung der Verteidigungsfähigkeit unseres Landes zu entscheiden.

1965 übergab S. P. Koroljov die Erarbeitung des Verbindungssatelliten der Serie “Molnija” M. F. Reschetnjov. Auf diesem Satellit wurde die erste im Land Linie der Satellitenverbindung und der Fernsehsendung, welche Moskau und Wladiwostok verbindet, geschaffen.

Seit 1967 wurden die Satelliten-Navigatoren, die Satelliten-Retter und das Satellitennavigationsystem “Giopass”, in dem 25 Satelliten auf den Kreisumlaufbahnen ausgenutzt werden, entwickelt. Ende 70er Jahre waren grundlegende Prinzipien der Entwicklung der Inlandssysteme der kosmischen Navigation unter der Leitung von M. F. Reschetnjev erarbeitet. Auf ihrer Grundlage 1978 wurde das globale, komplizierte Satellitennavigationssystem “Zikada” geschaffen. Mit Hilfe dieses Systems können die Seeschiffe ihre Koordinaten in einem beliebigen Punkt des Weltmeeres unabhängig von den Wetterbedingungen mit der hohen Genauigkeit bestimmen.

M. F. Reshetnjov schlug vor, die kosmischen Aufnahmen der Oberfläche der Erde von der geostationären Umlaufbahn zu machen. Die in 1969–1981 geschaffenen Satellitensysteme “Geo-ID” und “Geo-IK” ermöglichten

umfangreiche Angaben über die Parameter der Erde: ihre Form, Größe, die Kreisenparameter, das Gravitationsfeld, die Oberflächengestalt usw.zu sammeln.

M. F. Reshetnjov leistete zur Vervollkommnung der kosmischen Technik, zur Mechanik der Kompositionstoffe, zur Kinematik der transformierten Konstruktionen, zur Erarbeitung der automatischer Einrichtungen den großen Beitrag. Seine Arbeiten eröffneten neue Richtungen auf dem Gebiet des speziellen Maschinenbaues, der Schaffung der Verbindungs-, Navigation- und Geodäsiesatellitenssystem.

M. F. Reschetnjov ist das gültige Mitglied der russischen Akademie der Wissenschaften, der Held der sozialistischen Arbeit, der Laureat der Lenin- und Staatspreise, der Präsident der sibirischen Abteilung der Ingenieurakademie russischer Föderation, Professor, Doktor der technischen Wissenschaften.

Den Namen von M. F. Reshetnjov tragen: die Wissenschafts-und Produktionsvereinigung der angewandten Mechanik in Gelesnogorsk, Sibirische staatliche Universität für Luft- und Weltraumtechnik, das Lyzeum № 102, der Platz und die Straße in der Stadt Gelesnogorsk und der kleine Planet № 7046 Reshetnjov (1977 QG2).

1998 wurde M. F. Reshetnjov (post mortem) mit der Medaille und dem Diplom des amerikanischen Institutes für Aeronaftik und Astronautik (AIAA) für den hervorragenden Beitrag zur Entwicklung der Satellitentelekommunikationen ausgezeichnet.

12. Übersetzen Sie Komposita.

das Satellitensystem, die Telekommunikation, die Kinderjahre, die Militärschule, die Luftfahrthochschule, der Flugmechaniker, das Jagdflugzeugregiment, der Raketenbau, der Chefskonstrukteur, die Wissenschafts-und Produktionsvereinigung, das Spezialkonstruktionsbüro, die Fernsehsendung, die Konstrukteurbegleitung, die Serienproduktion, die Satellitenverbindung, die Satellitennavigation, der Universalraketenträger, die Fernsehsendung

13. Finden Sie im zweiten Teil des Textes folgende Wörter.

спутники-навигаторы, спутники-спасатели, спутниковая навигационная система, круговая орбита, отечественная система, морские суда, погодные условия, параметры вращения, гравитационное поле, форма поверхности, композиционные материалы, геодезические спутниковые системы

14. Übersetzen Sie Wörter mit der allgemeinsamen Komponente.

1. der Flug, das Flugzeug, der Flugmechaniker, das Jagdflugzeugregiment, die Flugbahn, die Flugabwehrrakete, der Flugberater, flugbereit, der Flugdienst, der Flügel, flugfähig, die Fluggeschwindigkeit, die Flughöhe, die Flugkarte, der Flugkörper, der Fluglehrer, der Flugleiter, das Flugmodell, der Flughafen, der Flugplatz, die Flugpost, das Flugwesen, der Fluggast

2. die Rakete, der Raketenantrieb, die Raketenballistik, die Raketendüse, der Raketenfeststoff, der Raketenkopf, der Raketenkörper, der Raketenstart, die Raketenstufe, der Raketenträger, die Raketenwaffe, das Raketenwesen

15. Nennen Sie russische und deutscheÄquivalente.

1. die Idee verwirklichen, neue Zweige der Wissenschaft und der Industrie schaffen, das Studium fortsetzen, die Diplomarbeit verteidigen, die Hochschule absolvieren, als Ingenieur arbeiten, die kosmische Wissenschaft und Industrie entwickeln, die Satelliten in die Bahn bringen, Moskau und Wladiwostok verbinden, die Funkausrüstung erarbeiten, die Satelliten auf den Kreisumlaufbahnen ausnutzen

2. разработать отечественные системы, создать спутниковую навигационную систему, собрать обширные данные, усовершенствовать космическую технику, открыть новое направление, носить имя

16. Stellen Sie statt der Lücken passende Verben und übersetzen die Sätze.

1. Er _____ die Idee der globalen kosmischen Verbindung.
2. Man _____ ganz neue Zweige der Wissenschaft und der Industrie.
3. 1945 _____ er das Studium _____ .
4. Er _____ die Systeme der Satellitenverbindung, der Sendung, der Satellitennavigation und Forschungssatellitensysteme.
5. Der Universalraketenträger “Kosmos-2” _____ die Satelliten in die Bahn.
6. Diese Systeme _____ die wichtigen Aufgaben der Versorgung der Verteidigungsfähigkeit unseres Landes.
7. Die Satellitensysteme “Geo-ID” und “Geo-IK” _____ umfangreiche Angaben über die Parameter der Erde.
8. Seine Methoden _____ den Schutz der Raumschiffe von der Einwirkung der kosmischen Faktoren.

brachte, entscheiden, schuf, sichern, verwirklichte, entwickelte, setzte … fort, sammeln

17. Erzählen Sie über M.F. Reshetnjov nach dem Plan.

1. Hervorragender Gründer der Satellitensysteme.
2. Seine Kinder- und Studienjahre.
3. Die Arbeit unter der Leitung von S. P. Koroljov.
4. Die Tätigkeit der Wissenschafts-und Produktionsvereinigung der angewandten Mechanik unter der Leitung von M. F. Reshetnjov in Gelesnogorsk.
5. Die von M. F. Reshetnjov entwickelten Satellitennavigationssysteme.
6. Sein Beitrag zur Vervollkommnung der kosmischen Technik.
7. Seine Verdienste.

18. Lesen und übersetzen den Text über die Schul-und Studienjahre von Werner von Braun.

Text C. VERNER VON BRAUN

Schon in den ersten Schuljahren im französischen Gymnasium in Berlin schwanzte er den Physik- und den Mathematikunterricht, um zu Hause zu basteln. Er konstruierte ein Raketenauto, in dem er Feuerwerksraketen auf einen Bollerwagenmontierte, und jagte damit den Spaziergangern auf der TiergartenalleeAngst und Schrecken ein. Wernher hatte an die möglichenFolgen nicht gedacht; er sah in erster Linie die technische Leistung.

Wernher wurde danach mit dreizehn Jahren ins Hermann-Lietz-Internat in der Nähe von Weimar geschickt, das für seine modernen Erziehungsmethoden bekannt war. In der Freizeit nutzte er sein Fernrohr ausgiebig, um seine astronomischen Kenntnisse zu vertiefen und dem Traum von Raumflug nachzugehen. Ein wichtiger Impuls war schließlich Hermann Oberths Buch *Die Rakete zu den Planetenraumen*, das 1923 erschienene Grundlagenwerk der modernen Raketenforschung. Wernher hatte große Mühe, die vielen mathematischen Formeln zu verstehen. Doch der Traum vom Weltraumflug entfesselte in dem Jungen den Ehrgeiz, sein schwaches Fach Mathematik solange zu pauken, bis er *wenigstens die Hälfte des Buches* vonOberth verstand. Bald war er der beste Schüler der Klasse, der imApril 1930 sogar zur vorgezogenen Abiturprüfung zugelassenwurde. Wenn Wernher ein Ziel vor Augen hatte, war er nicht zubremsen.

Bereits während seiner Schulzeit unternahm er die ersten Schritte zur Realisierung seines Traums. Gemeinsam mit Mitschülern baute er ein kleines Observatorium, wobei er – wie später noch oft in seinem Leben – als Führer eines Teams agierte. Zudem beschäftigte er sich mit dem Projekt einer Mondreise und verfaßte ein Manuskript *Zur Theorie der Fernrakete*, das seinen hohen wissenschaftlichen Anspruch verdeutlicht.

Wernher von Brauns Jugend war von dem Traum geprägt, ins Weltall zu fliegen und die dafür erforderlichen Raketen zukonstruieren. Dieser Traum bestimmte die Entscheidungen fürseine berufliche Zukunft: er schrieb sich im Sommersemester 1930 an der Technischen Hochschule Berlin ein und nahm zugleich Kontakt mit den Raketenkonstrukteuren um Hermann Oberth auf. 1932 schloss von Braun sein Studium an der Technischen Universität Berlin ab und verpflichtete sich als Assistent im Heereswaffenamt. 1934 erhielt er die Doktorwürde in Physik. Seine Promotion über Flüssigraketen wurde als Staatsgeheimnis klassifiziert. 1937, also im Alter von 25 Jahren, wurde von Braun Direktor der deutschen Heeresversuchsanstalt in Peenemünde.

Später sagt man über ihn: “Wernher von Braun schloß einen Pakt mit dem Teufel, um große Raketen bauen zu können”.

19. Betiteln Sie den Text.

20. Finden Sie im Text die Sätze, dieWernher von Braun charakterisieren.

21. Erzählen den Text nach.

Lektion 3. NEUE TECHNOLOGIEN

1. Lesen und lernen folgende Wörter.

das All -s	космос, вселенная
die Beobachtung =, -en	наблюдение
die Erforschung =, -en	исследование
die Generation =, -en	поколение
die Gewährleistung =, -en	гарантия, обеспечение
dieRaumfahrt =, -en	космический полет
die Schwerelosigkeit =, -en	невесомость
die Sicherheit =, -en	безопасность
die Umwelt =, -en	окружающая среда
das Universum -s	космос, вселенная
die Untersuchung =, -en	исследование
der Verkehr -s	транспорт
bestimmen	определять

beteiligen an Dat.	участвовать в чем-либо
kreisen	вращаться
liefern	поставлять
reichen	простираться
umfassen	охватывать
überwachen	наблюдать
verfügen über Akk.	располагать чем-либо
vorhersagen	предсказывать
vorsehen	предусматривать
wettbewerbsfähig	конкурентоспособный
nachhaltig	продолжительный
umfangreich	обширный
zuverlässig	надежный

2. Lesen und übersetzen den Text.

Text A. RAUMFAHRTPROJEKTE DEUTSCHLANDS

Das Deutsche Zentrum für Luft- und Raumfahrt (DLR) ist das Forschungszentrum der Bundesrepublik Deutschland für Luft- und Raumfahrt, Energie und Verkehr. Es hat in Deutschland mit Hauptsitz in Köln mehrere Standorte. Die älteste Vorgängerorganisation des DLR wurde 1907 *von Ludwig Prandtl* in Göttingen gegründet. Das DLR verfügt über ca. 7.000 Mitarbeiter und unterhält 32 Institute, Test- und Betriebseinrichtungen in 16 nationalen Standorten. In seine umfangreichen Forschungs- und Entwicklungsarbeiten sind nationale und internationale Kooperationen eingebunden. Zudem hat das DLR Verbindungsbüros in Brüssel, Paris und Washington.

Die Aufgaben des DLR umfassen die Erforschung von Erde und Sonnensystem, die Forschung für den Erhalt der Umwelt und umweltverträgliche Technologien zur Steigerung der Mobilität sowie für Kommunikation und Sicherheit. Die fünf Forschungsbereiche des DLR sind Luftfahrt, Raumfahrt, Verkehr, Energie und Sicherheit. Die deutschen Aktivitäten in der Weltraumforschung reichen von Experimenten in Schwerelosigkeit, über die Erforschung anderer Planeten bis zur Umweltbeobachtung aus dem All.

Deutschland bleibt die größte Raumfahrtnation im europäischen Verbund. Bereits 2008 war Deutschland mit 603 Millionen Euro stärkster ESA-Partner und trägt auch in Zukunft rund ein Viertel aller Beiträge.

Deutsche Hochtechnologien werden die zuverlässige, nachhaltige Erforschung des Klimawandels, der Erdbeobachtung und Navigation gewährleisten. Der in Deutschland gebaute ESA-Satellit *GOCE* wird im Rahmen der Grundlagen- und Umweltforschung nützliche Daten für die Ozeanographie und Geophysik und für die Erforschung des Meeresspiegels liefern.

Kernpunkte des von den 18 Mitgliedsstaaten sowie Kanada beschlossenen Programms sind: die dritte Generation des europäischen Wettersatelliten *Meteosat*; die Gewährleistung des autonomen europäischen Zugangs zum All mit wettbewerbsfähigen Trägersystemen *Ariane 5*, *Sojus* und *Vega* und die Nutzung der Internationalen Raumstation ISS. Mehr als 40 Prozent der europäischen ISS-Experimente in der Mikrogravitationsforschung stammen von deutschen Wissenschaftlern. Die beschlossenen Programme sind die Voraussetzung, dass Deutschland und Europa Wetter, Naturkatastrophen und Klima in bislang unerreichter Präzision überwachen und vorhersagen können.

Höhepunkte der Weltraumforschung in den letzten Jahren sind – das Weltraumteleskop *Herschel/Planck* (Start: Frühjahr 2009), die *Mission Gaia* zur dreidimensionalen Vermessung unserer Milchstraße (2011) sowie die Reise der Raumsonde *Bepi Colombo* zum sonnennächsten Planeten Merkur (2014).

Die hochauflösende Stereokamera *HRSC* ist Deutschlands wichtigster Beitrag zur Mission *Mars Express* der Europäischen Weltraumorganisation ESA. Es ist die erste digitale Stereokamera, die zusätzlich multispektrale Informationen liefert, die die Grundlage für zahlreiche wissenschaftliche Untersuchungen sind. Der Start der *ExoMars*-Mission ist für das Jahr 2016 vorgesehen. Deutsche Wissenschaftler sind an 19 der geplanten 23 Forschungsinstrumente beteiligt.

*Galileo Galilei*ist Namensgeber eines ehrgeizigen europäischen Raumfahrtprojekts: des Navigationssystems Galileo. Satellitengesteuerte Navigation stellt eine Technologie der modernen Gesellschaft dar, die durch die rasch anwachsende Zahl von Anwendungsfeldern und gleichzeitig ein enormes Marktpotential in allen Bereichen des Verkehrswesens – der Luftfahrt, der Schifffahrt und dem Landverkehr – aber auch in der Geodäsie, der Landwirtschaft und nicht zuletzt in der Raumfahrt besitzt. Galileo ist das erste gemeinsame Projekt der Europäischen Weltraumorganisation ESA und der Europäischen Union (EU). Galileo soll eine zivile europäische Alternative zum amerikanischen GPS-System bieten und Europa einen Technologievorsprung im globalen Wettbewerb verschaffen. Das Galileo-System wird aus 30 Satelliten bestehen, die in einer Höhe von

etwa 24.000 Kilometern um die Erde kreisen. Für den Aufbau des Galileo-Satellitenssystems haben sich zwei Konsortien unter Führung deutscher Unternehmen beworben.

3. Finden Sie im Text Komposita mit den Wörtern *Forschung* und *Weltraum*.

4. Schreiben Sie aus dem Text Komposita aus und lernen sie.

5. Merken Sie sich folgende deutsche Abkürzungen.

DLR = Deutsches Zentrum für Luft- und Raumfahrt – Немецкий аэрокосмический центр;

ESA = EuropeäischeWeltraumorganisation – Европейская организация по изучению и освоению космоса;

EU = Europeäische Union – Европейский союз

6. Übersetzen Sie.

1. Немецкий исследовательский аэрокосмический центр имеет в своем распоряжении около 7 000 сотрудников и 32 института.
2. Задачами центра являются исследования окружающей среды, Земли и Солнечной системы.
3. Пять областей исследования центра: авиация, космос, транспорт, энергия и безопасность.
4. Германия является самой большой космической нацией в Европейском союзе.
5. Немецкие высокие технологии гарантируют надежные и продолжительные исследования в таких областях, как изменение климата, наблюдение за Землей и навигация.
6. Европейское космическое агентство объединяет 19 стран, в некоторых проектах также принимают участие Канада и Венгрия.
7. Цифровая стереокамера – это важнейший вклад Германии в Миссию «Марс Экспресс».
8. Навигационная система «Галилео» – это совместный проект Европейского космического агентства и Евросоюза.
9. «Галилео» является европейской альтернативой американской GPS-системе.

7. Verteilen Sie den Text, betiteln jeden Teil und erzählen den Text nach.

8. Lesen und übersetzen den Text.

Text B. NANOTECHNOLOGIE – EINE ZUKUNFTSTECHNOLOGIE

Nanotechnologie beschäftigt sich mit der Forschung und Konstruktion in sehr kleinen Strukturen: ein Nanometer (nm) entspricht einem millionstel Millimeter. Nano (griech: Zwerg) umfasst Forschungsgebiete aus der belebten und unbelebten Natur. Anwendungen entstehen in der Energietechnik (Brennstoff- und Solarzellen), in der Umwelttechnik (Materialkreisläufe und Entsorgung), in der Informationstechnik (neue Speicher und Prozessoren) und auch im Gesundheitsbereich. Nanotechnologie ist ein Oberbegriff für unterschiedlichste Arten der Analyse und Bearbeitung von Materialien, bei denen eines gemeinsam ist: Ihre Größendimension beträgt ein bis einhundert Nanometer (ein Nanometer ist ein millionstel Millimeter). Die Nanotechnologie nutzt die besonderen Eigenschaften, die für viele Nanostrukturen charakteristisch sind. Die mechanischen, optischen, magnetischen, elektrischen und chemischen Eigenschaften dieser kleinsten Strukturen hängen nicht allein von der Art des Ausgangsmaterials ab, sondern in besonderer Weise von ihrer Größe und Gestalt. Das heißt, dass Nanomaterialien mit gleicher Zusammensetzung aber unterschiedlicher Morphologie sich völlig anders verhalten können. Voraussetzung für die Nanotechnologie ist die Entdeckung der Arbeitsmöglichkeiten mit einzelnen Bausteinen der Materie sowie das damit zunehmende Verständnis der Selbstorganisation dieser Bausteine.

9. Nennen Sie russische und deutsche Äquivalente.

исследование	die Brennstoff- und Solarzellen
применение	der Materialkreislauf
память	der Gesundheitsbereich
утилизация отходов	die Größendimension
обработка	der Ausgangsmaterial
вид	der Zusammensetzung
свойства	der Baustein
предпосылка	
открытие	
способ	
величина	
форма	
понимание	

10. Bilden Sie Synonympaare und übersetzen sie.

die Forschung	die Verarbeitung
der Zwerg	das Gebiet
die Anwendung	die Untersuchung
die Bearbeitung	Nano-
das Material	die Verwendung
der Bereich	der Stoff

11. Stellen Sie Fragen zum Text und beantworten sie.

12. Lesen und übersetzen den Text.

Text C. WO WIRD NANOTECHNIK EINGESETZT?

Die Nanotechnologie erarbeitet z.B. die Grundlagen für immer kleinere Datenspeicher mit immer größerer Speicherkapazität für hochwirksame Filter zur Abwasseraufbereitung, für Werkstoffe, aus denen sich in der Automobilindustrie ultraleichte Motoren und Karosserieteile fertigen lassen, oder für künstliche Gelenke, die durch organische Nanooberflächen für den menschlichen Körper verträglicher sind. Aufgrund der Vielseitigkeit dieser faszinierenden Querschnittstechnologie ist es unmöglich, alle Anwendungsbereiche aufzuzählen. Ein Anstieg der Nutzung von Nanotechnologie ist in immer mehr Bereichen zu beobachten.

In folgenden Bereichen ist die Verwendung von Nanotechnologien bekannt:

– Oberflächenveredelung (Beispiele: Schutzschichten für Lacke, Antireflexschichten für Solarzellen, Imprägnierschichten auf Textilien);

– chemische Reaktionsbeschleunigung (Beispiele: Katalysator-Oberflächen, Nanoreaktoren);

– Energieumwandlung (Beispiele: Brennstoffzellen, LEDs);

– Werkstofftechnik (Beispiele: Füll-Stoffe für Tennisschläger, Bindemittel);

– Sensorik (Beispiele: optische und magnetische Sensoren);

– Computertechnik (Beispiele: Computer-Chips, Speicherschichten in Festplatten);

– Biotechnologie (Beispiele: Implantate, Wirkstofftransport von Medikamenten);

– Farben, Lacke (Beispiele: Toner, Farb- und Schutzschichten);

– Kosmetik und Sonnenschutzmittel (Beispiele: Zahnpasta, UV-Licht-Filter in Sonnencreme);

– Lebensmittel (Beispiele: gasdichte- und antibakterielle Verpackungen, konsistenz-verändernde Lebensmittelzusätze).

Allein in Deutschland arbeiten über 50.000 Beschäftigten in den ca. 800 Unternehmen der “Nano-Industrie”. Und man geht davon aus, dass die Nanotechnik in den kommenden Jahrzehnten weiter Bedeutung gewinnt.

13. Nennen Sie russische Äquivalente folgender Komposita und lernen sie.

1. der Datenspeicher, die Speicherkapazität, die Abwasseraufbereitung, der Werkstoff, der Karosserieteil, die Nanooberfläche, die Querschnittstechnologie, der Anwendungsbereich, die Oberflächenveredelung, die Schutzschicht, die Imprägnierschicht, die Reaktionsbeschleunigung, die Energieumwandlung, der Tennisschläger, das Bindemittel, das Festplatt, das Sonnenschutzmittel, die Zahnpasta, die Lebensmittel, der Lebensmittelzusatz

2. hochwirksam, ultraleicht, gasdicht, antibakteriell, konsistenzverändernd

14. Finden Sie im Text deutscheÄquivalente.

разрабатывать основы, изготавливать сверхлегкие моторы, перечислить все сферы применения, наблюдать подъем использования нанотехнологий, работать на предприятиях, приобретать значение

15. Füllen Sie die Tabelle aus:

die Bereiche der Verwendung der Nanotechnologien	die Erzeugnisse mit der Verwendung der Nanotechnologien

16. Die Internet-Ressource benutzend, erzählen Sie am konkreten Beispiel über.

1. neue Entdeckungen und Erfindungen
2. neue Technologien
3. Nanotechnologien

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