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имени академика Д.Н. Прянишникова»

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ENGLISH FOR THE SAFETY ENGINEERING
(ТЕХНОСФЕРНАЯ БЕЗОПАСНОСТЬ)

Учебно-методическое пособие по английскому языку

Рекомендовано Учебно-методическим объединением
по образованию в области лингвистики Министерства образования и науки
Российской Федерации в качестве учебного пособия
для студентов, обучающихся по направлению подготовки бакалавров
«Техносферная безопасность»

Пермь
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Предисловие

Учебно-методическое пособие составлено в соответствии с программой по английскому языку для неязыковых специальностей высших учебных заведений, предназначено для студентов второго курса инженерного факультета направления 20.03.01 «Техносферная безопасность» очной и заочной форм обучения.

Цель пособия – формирование у студентов навыков устной и письменной речи в ситуациях профессионального общения, умения оперировать основными терминами, извлекать профессионально значимую информацию из зарубежных источников.

Пособие представлено 6 темами: Введение; 1. Система управления безопасностью; 2. Несчастный случай на производстве; 3. Законодательство по охране труда и здоровья; 4. Управление рисками; 5. Пожарная безопасность; 6. Первая (доврачебная) помощь при несчастных случаях.

Каждая тема пособия содержит аутентичные тексты, тренировочные упражнения, словарь, направленные на организацию аудиторной и самостоятельной внеаудиторной работы студентов по изучению иностранного языка в рамках будущей профессиональной деятельности.

INTRODUCTION

How to become a safety engineer?

1. Do you know?

1. What qualifications are required to become a safety engineer?

a) a Bachelor's of Science degree in Engineering
b) a Bachelor's degree in Arts
c) a postgraduate degree

2. What are people in the field of safety engineering responsible for?

a) development of new tools
b) ensuring that a work environment is safe
c) designing and manufacturing cars

3. What fundamental knowledge do safety engineers need to have?

a) Physics
b) Foreign language
c) Computer systems

4. What do professional safety studies include?

a) management, building construction
b) design of engineering hazard controls, fire protection, system and process safety
c) education and training methods

5. Where can a safety engineer work?

a) on the farms

b) at the hospitals
c) in offices

2. And what tasks does a safety engineer perform? Match two parts to make sentences.

Tasks

1. Determine	a) causes and preventive measures
2. Review	b) employee safety programs to determine their adequacy
3. Interview	c) employers and employees to obtain information about work environments and workplace incidents
4. Recommend	d) facilities, machinery, and safety equipment to identify and correct potential hazards
5. Investigate	e) industrial accidents, injuries, or occupational diseases
6. Install	f) knowledge of current policies, regulations, and industrial processes
7. Inspect	g) process and product safety features that will reduce employees' exposure to chemical, physical, and biological work hazards
8. Apply	h) safety devices on machinery

Vocabulary

- accident ['æksɪd(ə)nt] несчастный случай, авария
- adequacy ['ædɪkwəsɪ] адекватность, соответствие
- to apply [ə'plaɪ] применять
- cause [kɔːz] причина, основание
- current ['kʌr(ə)nt] действующий
- employees' exposure [ˌɪmplɔɪ'iː z ɪk'spəuʒə] риск для работников
- equipment [ɪ'kwɪpmənt] оборудование
- exposure hazard - риск, связанный с воздействием чего-л.

- facility [fə'sılətı] средства, устройства
- hazard ['hæzəd] риск, опасность
- incident ['ınsıd(ə)nt] происшествие
- injury ['ınʤ(ə)rı] вред, повреждение, порча, убыток,
- to investigate [ın'vestıgeıt] расследовать
- to obtain [əb'teın] получать
- occupational disease [dı'zi:z] профессиональное заболевание
- preventive measures профилактические меры
- to reduce [rı'dju:s] сокращать
- to review [rı'vju:] проверять, просматривать
- safety features ['fi:ʧəz] защитные характеристики; меры обеспечения безопасности

3. Safety engineers need to have

a)

Knowledge	***Skills***
▪ engineering and technology ▪ public safety and security ▪ chemistry ▪ physics ▪ mathematics ▪ laws ▪ production and processing ▪ design	▪ critical thinking ▪ reading comprehension ▪ speaking ▪ active listening ▪ complex problem solving ▪ active learning ▪ judgment and decision making ▪ systems analysis ▪ systems evaluation ▪ writing
Abilities ▪ problem sensitivity ▪ oral and written comprehension ▪ inductive and deductive reasoning ▪ near vision ▪ speech clarity ▪ speech recognition	

Vocabulary

– judgment ['ʤʌʤmənt] суждение
– sensitivity [ˌsensɪ'tɪvətɪ] восприимчивость
– comprehension [ˌkɔmprɪ'hen(t)ʃ(ə)n] способность понимать

b) Choose the correct name of knowledge, skill or ability.

1. Design techniques, tools, and principles._____***Design***____
2. Apply principles, techniques, procedures, and equipment to the design and production of various goods and services.___
3. Prediction of physical principles, laws, their interrelationships._____
4. Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems._____
5. Uses of chemicals and their interactions._____
6. Considering the relative costs and benefits of potential actions to choose the most appropriate one._____
7. Understanding written sentences and paragraphs in work related documents._____
8. Identifying complex problems and reviewing related information to develop and evaluate options and implement solutions._____
9. Communicating effectively in writing as appropriate for the needs of the audience._____
10. The ability to apply general rules to specific problems to produce answers that make sense._____
11. The ability to tell when something is wrong or is likely to go wrong. It does not involve solving the problem, only recognizing there is a problem._____
12. The ability to combine pieces of information to form general rules or conclusions (includes finding a relationship among seemingly unrelated events)._____

SELF-STUDY

4. Read the text, pay attention to the new words and word expressions. Use the words from the box to complete the text.

communication	plan	identify	perform
knowledge	facts	education	protection

Scope of a Safety Engineer

The scope of a safety engineer is to (1)_____ their professional functions. Safety engineering professionals must have (2) _____, training and experience in a common body of knowledge. They need to have a fundamental (3)_____ of physics, chemistry, biology, physiology, statistics, mathematics, computer science, engineering mechanics, industrial processes, business, (4) _____ and psychology.

The major areas relating to the (5) _____ of people and the environment are:

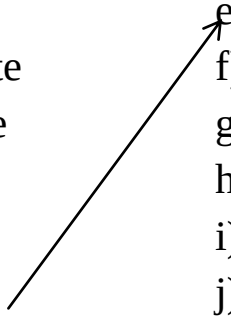
1. Anticipate, (6)_____ and evaluate hazardous conditions and practices.
2. Develop hazard control designs, methods, procedures and programs.
3. Implement, administer and advise others on hazard control programs.
4. Draft a future safety (7) _____ and statement based on real time experiences and (8) _____.

5. Over to you

What knowledge, skills and abilities have you at present? What knowledge, skills and abilities will you get during the study at the academy?

6. Match the verbs with the nouns.

Verb	Noun
1. to become	a) an accident
2. to apply	b) an engineer
3. to inspect	c) employees' exposure
4. to draft	d) program
5. to install	e) skills
6. to investigate	f) knowledge
7. to determine	g) causes and preventive measures
8. to interview	h) employers
9. to reduce	i) machinery
10. to get	j) safety devices



7. Note how suffixes change the words' meaning.

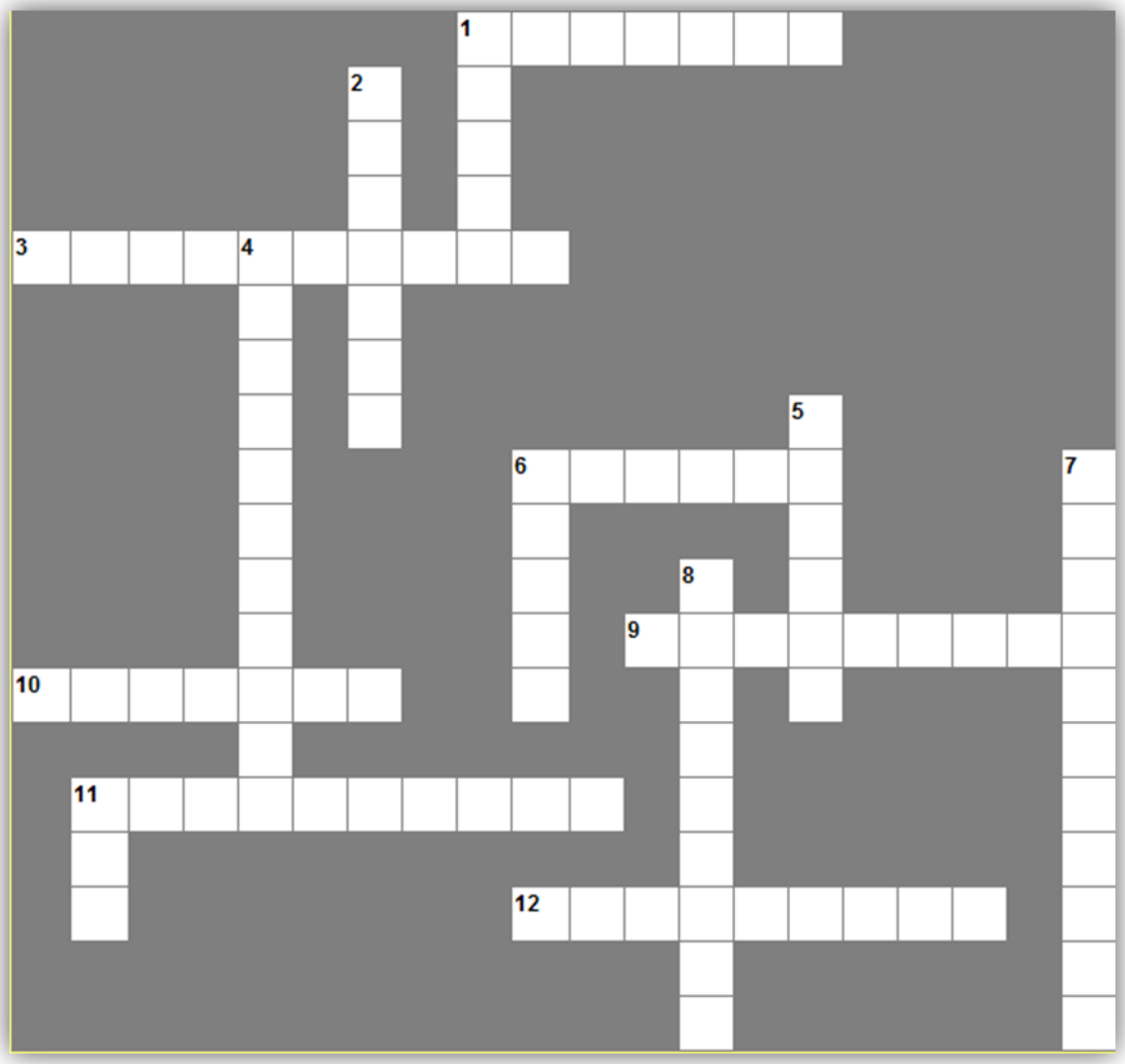
safe -safely– safety
protect (v)- protective– protection – protector – protectorship
apply (v) – applied – applicable – applicant - application
hazard - hazardous

8. Write a short paragraph about your future profession (10 - 15 sentences).

Useful phrases

As far as I know…	To my knowledge…	If you ask me…
I think…	In my opinion…	I'd like to tell you…

9. What does a safety engineer do? Complete the crossword with the verbs.



Across:

1. развивать
3. предвидеть
6. советовать
9. определять
10. устанавливать
11. понимать
12. опрашивать

Down:

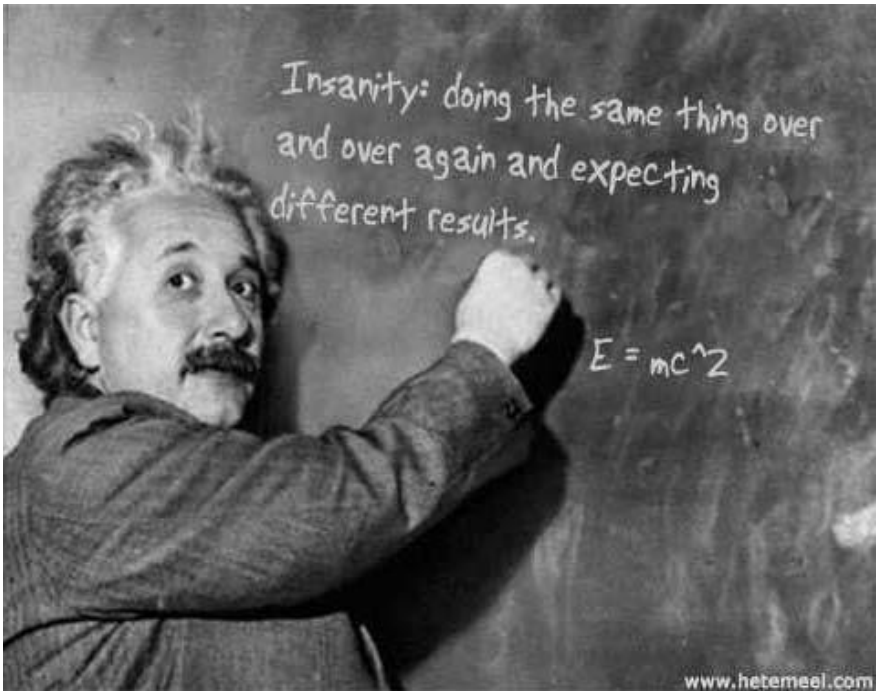
1. выбирать
2. инспектировать
4. общаться
5. проверять
6. применять
7. расследовать
8. рекомендовать
11. использовать

UNIT 1 SAFETY MANAGEMENT SYSTEM

Texts:	Text 1 Industrial Hazards Text 2 Hazard Analysis Text 3 Safety Management System
Grammar:	Yes/No Questions Modal Verbs
Self-Study	Text 4 Safety Culture Text 5 Key elements of an effective safety culture Text 6 “WHAT-IF” Hazard Analysis
Quick Check	Test

1. Say whether you agree or disagree with the statement of Albert Einstein.

Insanity: doing the same thing over and over again and expecting different results.



Безумие: делать одно и то же снова и снова, и ждать при этом разных результатов.

Albert Einstein (1879 – 1955) was a theoretical physicist and humanist. He is famous for his Special and General Theories of Relativity. He won the Nobel Prize in physics for his explanation of the photoelectric effect.

Text 1

Industrial Hazards

Industrial hazards consist of four principle hazards. This is because industries employ many different processes involving a wide range of different raw materials, intermediates, waste products and final products.

The hazards encountered are **fire**, **explosion**, **toxic release** and **environmental damage**.

2. Match the pictures with the hazards.

A

C

B

D

3. Read the text and then complete it with the words or expressions from the box.

a) water	b) 'bang'	c) pollution problems
d) skin burns	e) miles	f) threat

Fire: This is the most frequent of the hazards however the consequences are generally less. The effect of fire on people usually takes the form of (1)_____ and is usually dependent on the exposure time and the intensity of the heat.

Explosion: Explosions are usually heard from far away as a (2) _____. This is the result of a shock wave. This overpressure can kill people but usually the indirect effects of collapsing buildings, flying glass and debris causes far more loss of life and severe injuries. There are different types of explosions which include gas explosions and dust explosions.

Toxic/Chemical release: Sudden releases of toxic vapors have the potential to cause death and severe injuries several (3) _____ from the release point. They are carried by (4) _____ and air. Their release into public sewage systems, rivers, canals and other water courses, either directly or through contaminated water used in fire fighting can result in serious threat to public.

Environmental Damage: As well as having the potential for causing injury, loss of life and damage to property, the hazards of fire, explosion and toxic releases may pose a severe (5) _____ to the environment. Release of other substances, not directly toxic to humans can cause major (6) _____. It is becoming increasingly recognized that damage to natural resources such as plant and animal life can have serious long term consequences.

Vocabulary

- to collapse [kə'læps] разрушаться, обваливаться,
- to contaminat [kən'tæmineɪt] загрязнять, отравлять
- debris ['deɪbriː] осколки, обломки; обрезки
- environmental damage ущерб, наносимый окружающей среде
- explosion [ɪk'spləuʒ(ə)n] взрыв
- exposure time [ɪk'spəuʒə] продолжительность воздействия
- frequent ['friːkwənt] частый; часто встречающийся
- overpressure [ˌəuvə'preʃə] избыточное давление
- sewage ['s(j)uːɪʤ] сточные воды; нечистоты
- threat [θret] опасность, угроза
- toxic release [rɪ'liːs] токсические выбросы
- waste products [weɪst] отходы производства

Text 2

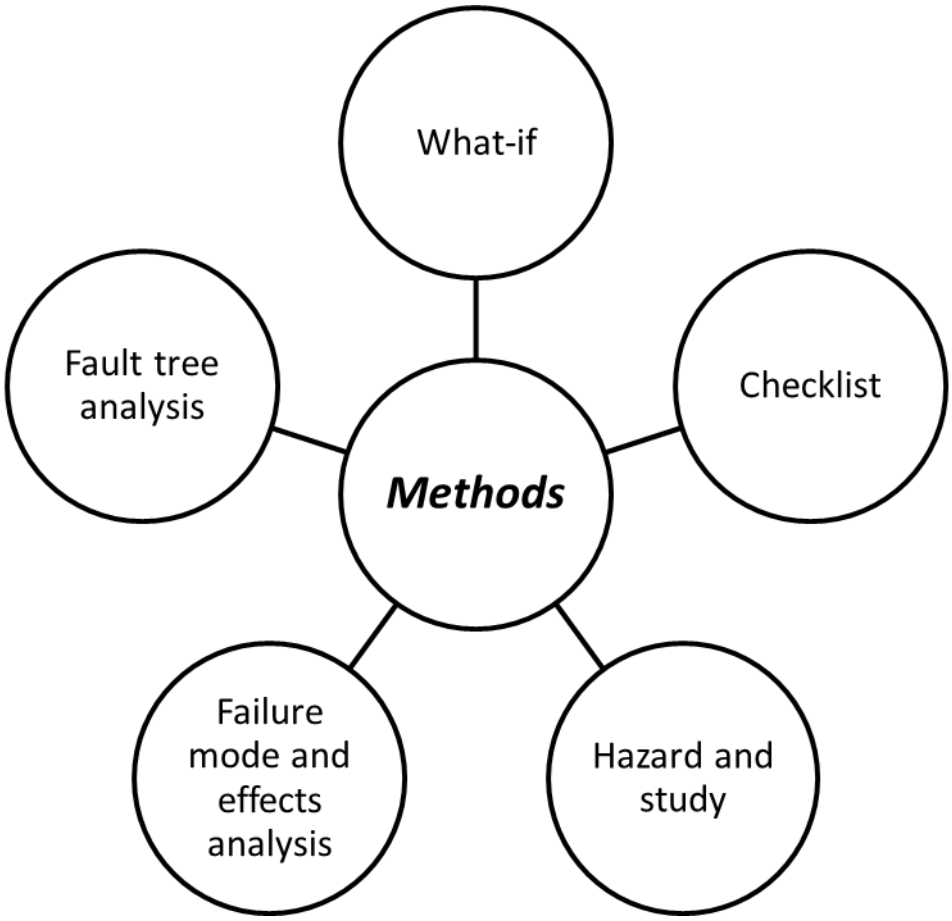
Hazard Analysis

The process hazard analysis is a thorough ['θʌrə], orderly, systematic approach for identifying, evaluating, and controlling the hazards of processes.

All process hazard analyses must be updated and revalidated, based on their completion date, at least every five years.

It is believed that the process hazard analysis is best performed by a team with expertise in engineering and process operations, and that the team should include at least one employee who has experience with and knowledge of the process being evaluated.

The employer must use one or more of the following methods:



Whichever method(s) are used, the process hazard analysis must address the following:

• The hazards of the process;

• The identification of any previous incident that had a potential for catastrophic consequences in the workplace;

• Engineering and administrative controls applicable to the hazards and their interrelationships.

4. Find English equivalents in the text.

Анализ опасностей; всестороннее, организованное, систематическое исследование; анализ методом дерева ошибок; анализ - гипотетический случай; анализ характера и последствий отказов; технологическая карта; изучение опасности и пригодности к эксплуатации; предыдущие происшествия; их взаимосвязь.

Text 3

Safety Management System

5. Keep in mind.

Safety management system (SMS) is a systematic and continuous management process based on proactive identification of hazards, and analyses of their risk.

6. Read about SMS Functional Components and complete the diagram.

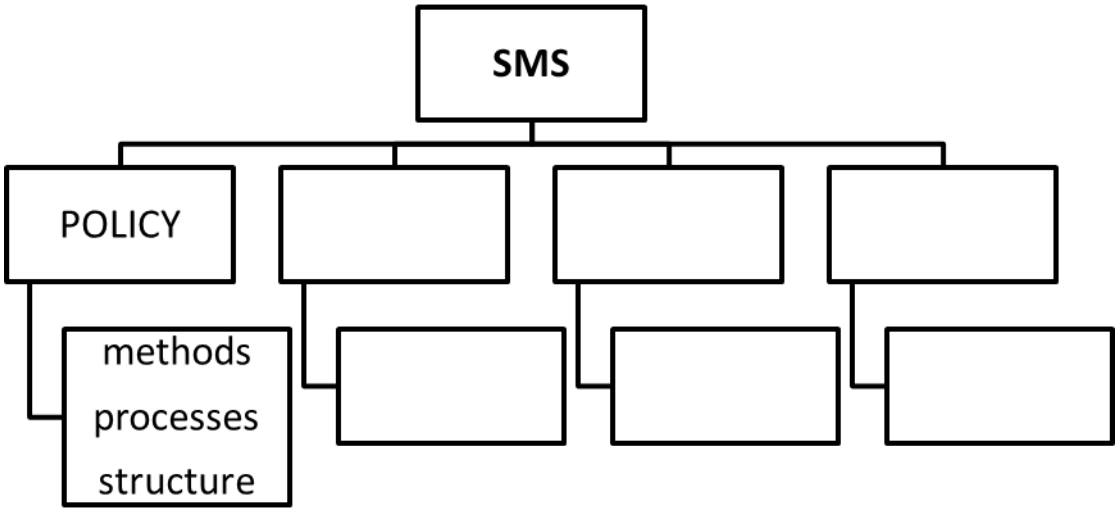
The essential idea of any SMS is to provide for a systematic approach to achieving acceptable levels of safety risk.

- **SMS** can be defined as: a businesslike approach to safety. It is a systematic, explicit and comprehensive process for managing safety risks. As with all management systems, a safety management system provides for goal setting, planning, and measuring performance.

A safety management system is woven into the fabric of an organization. It becomes part of the culture, the way people do their jobs.

- For the purposes of defining safety management, **safety** can be defined as: the reduction of risk to a level that is as low as is reasonably practicable.

SMS is comprised of four functional components: Policy is established to improve safety; defines the methods, processes, and organizational structure needed to meet safety goals; Risk Management composes of: describing the system, identifying the hazards, assessing the risk, analyzing the risk, controlling the risk; Assurance evaluates the continued effectiveness of risk control strategies; supports reporting, investigations, audits, identification of new hazards; Promotion includes learning, training, communication, and other actions to create a positive safety culture.



Vocabulary

- acceptable [ək'septəbl] допустимый
- achieve [ə'ʧi:v] достигать
- approach [ə'prəuʧ] подход
- assess [ə'ses] оценивать, давать оценку
- assurance [ə'ʃuər(ə)ns] гарантия
- compose [kəm'pəuz] составлять
- comprise [kəm'praɪz] включать; содержать
- continuous[kən'tɪnjuəs] непрерывный;
- effectiveness [ɪ'fektɪvnəs] действенность
- essential [ɪ'sen(t)ʃ(ə)l] основной
- establish [ɪs'tæblɪʃ] основывать; создавать
- explicit [ɪk'splɪsɪt] ясный, подробный
- functional ['fʌŋkʃ(ə)n(ə)l] функциональный
- goal [gəul] задача, цель
- proactive [ˌprəu'æktɪv] упреждающий, профилактический
- support [sə'pɔ:t] поддерживать; обеспечивать

7. Match the SMS features with their descriptions.

Proactive *Systematic* *Explicit*

a) Safety management activities are in accordance with a pre-determined plan, and applied in a consistent manner throughout the organization.

b) An approach that emphasizes hazard identification and risk control and mitigation, before events that affect safety occur.

c) All safety management activities are documented and visible.

GRAMMAR

Yes/ No questions

8. Copy and complete the table with the questions from the texts above. Choose the correct short answer (Present simple).

Present Simple: Yes/ No questions	
_____ the effect of explosion on people usually _____ the form of skin burns?	Yes, it does.
_____ Industrial hazards _____ of four principle hazards?	No, they don't.
_____ industries _____ only one process of final products?	Yes, they do.
____ assurance _____ the continued effectiveness of risk control strategies?	No, they don't.

9. Complete the questions with Is / Are. Answer the questions. Use the short answers.

1) ___ Insanity [ɪn'sænətɪ] doing the same thing over and over again and expecting different results?

2) ___ fire the most frequent of the hazards?
3) ___ fire, explosion, toxic release and environmental damage the hazards encountered?
4) ___ “bang” the result of a shock wave?
5) ___ the process hazard analysis a nonsystematic approach?

10. Complete the tail-questions with is / isn’t /are/ aren’t. Answer the questions. Use short answers.

1) There are different types of explosions which include gas explosions and dust explosions, ___ there?
2) Safety management system (SMS) isn’t a nonsystematic management process, ___it?
3) The essential idea of any SMS is to provide for a systematic approach, ___ it?
4) Safety management activities aren’t systematic, ___ they?

Modal Verbs and their Equivalents

Modal	Meaning	Present	Past	Future
can	умственная и физическая возможность, умение	can	could	-
be able to	-//-//-//-	am, is, are able to	was, were able to	shall/will be able to
may	разрешение совершить какое-либо действие; предположение, основанное на неуверенности	may	might	-

must	необходимость, обязанность, долг, запрет	must	-	-
have to	-//-//-//- необходимость по обстоятельствам	have to has to	had to	shall/will have to
need	преимущественно в отрицательных предложениях и выражает ненужность совершения действия	need	-	-
should	совет, рекомендация	should		
ought to	-//-//-//-	ought to		
be to	предварительная договоренность, планируемое действие	am, is, are to	was to were to	shall, will be to
shall	решимость, приказание, обещание, угроза	shall		

!!! need do = have to do, модальный глагол
need to do – смысловой глагол

11. Pay attention to the modal verbs. Define their meaning.

1) This overpressure can kill people.

2) The hazards of fire, explosion and toxic releases may pose a severe threat to the environment.
3) All process hazard analyses must be updated and revalidated.
4) The team should include at least one employee.
5) The essential idea of any SMS is to provide for a systematic approach.
6) Damage to natural resources can have serious long term consequences.

12. What questions are wrong?

1) Has safety management to reduce a level of risk?
2) Does safety management has to reduce a level of risk?
3) Will safety management have to reduce a level of risk?
4) Had safety management reduce a level of risk?

SELF-STUDY

Text 4

Safety Culture

The prevailing health and safety culture within an organization i.e. the way it approaches health and safety issues, is a major influence on the health and safety related behavior of people at work. The development of a positive safety culture is important if high standards of health and safety are to be achieved and maintained.

The Safety Culture Assessment (SCA) tool is an easy to use tool for assessing the shared values within an organization which influence the attitudes and behaviors of employees, supervisors and managers in relation to health and safety.

It provides an evaluation of whether or not the existing culture emphasizes safety as the overriding priority.

There are four parts to the assessment process:

1. Analysis of health and safety related documentation
2. Workplace observation
3. Employee safety culture survey questionnaire
4. Management and Health & Safety Representative interviews

The Safety Culture Assessment tool is designed to help companies determine some important aspects of their safety culture and aid the promotion of employee involvement in health and safety issues.

The aims of the assessment are:

• to evaluate the key components of safety culture

• to identify strengths (areas where safety culture is strong and safety performance is highly effective)

• to identify areas for improvement (areas which do not correspond to the indicators of a positive safety culture)

• to recommend strategies for improvement

13. Read the text above, write new words and word-combination down. Complete the diagram "Safety culture".

14. Complete 5 Yes/ No questions according to the text. Then ask your partner in the group to answer them.

Text 5

Key Elements of an Effective Safety Culture

15. Read the text and write key elements down.

It is widely accepted that if hazards are to be effectively controlled in the workplace then there needs to be effective management processes in place. Many organizations have learnt that there are limits to what can be achieved simply by using a systems based approach to H&S can refer to: "Health and safety" (H&S). Also the use of 'safe systems of work' and 'safe operating

rules and procedures' are of little benefit if employees are not committed to their application.

Increasingly organizations are recognizing the significant part 'human factors' plays in the maintenance of high standards of H&S. One of the major influences in shaping peoples safety related behavior is the prevailing H&S culture in the organization in which they work. Safety culture is multi-faceted and includes workers views of the importance their employer gives to H&S relative to quality or production output or how committed managers/supervisors are to H&S.

This safety culture assessment tool addresses the people part of H&S. The key elements are:

Management commitment. The commitment of management to health and safety leads to higher levels of motivation and concern for health and safety throughout the organization. It is indicated by: the priority given to health and safety, the resources allocated to health & safety, the visibility and accessibility of management.

Involvement. Involvement of all in the health and safety system, including senior management, supervisors and employees. The involvement of people at all levels within the organization can lead to shared solutions which in turn can help promote a safe working environment. It is indicated by: active participation, co-operation, communication.

Safety competence. Safety is integrated into all workplace activities; safety rules and procedures are accepted, and the organization is learning-driven. It is indicated by: being a learning organization, trust between staff at all levels, effective and integrated job and safety training, the existence of realistic and workable safety procedures, systems and rules.

16. Complete the sentences with the verbs.

1) Hazards ___ be effectively controlled in the workplace.
2) The significant part ___ "human factors".
3) This safety culture assessment tool ___ the people part of H&S.
4) The commitment of management ___ to higher levels of motivation.
5) The involvement of people ___ a safe working environment.

17. Complete 5 Yes/ No tail questions according to the text.

Text 6

"WHAT-IF" Hazard Analysis

"What–If" Hazard Analysis is a structured brainstorming method of determining what things can go wrong and judging the likelihood and severity of those situations occurring. The answers to these questions form the basis for making judgments regarding the acceptability of those risks and determining a recommended course of action for those risks judged to be unacceptable.

An experienced review team can effectively and productively discern major issues concerning a process or system. Lead by an energetic and focused facilitator, each member of the review team participates in assessing what can go wrong based on their past experiences and knowledge of similar situations.

Assembling an experienced, knowledgeable team is probably the single most important element in conducting a successful "What-If" analysis. Individuals experienced in the design, operation, and servicing of similar equipment or facilities are essential. Their knowledge of design standards, regulatory codes, past and potential operational errors as well as maintenance difficulties brings a practical reality to the review.

The next most important step is gathering the needed information. The operation or process must be understood by the review team. One important way to gather information on an existing process or piece of equipment is for each review team member to visit and walk through the operation site.

18. Study the text and find necessary words or word combinations to finish the following sentences.

1. "What–If" Hazard Analysis is a _____ _____.
2. The major issues concerning a process or system can be discerned effectively and productively by the_____.
3. The team is leaded by an energetic and focused _____ .
4. Each member of the review team participates in assessing what can go wrong based on their _____ and _____ .
5. The single most important element in conducting a successful "What-If" analysis is _____ _____ .
6. Their knowledge brings a practical reality to the _____.
7. The next most important step is gathering the _____ .

19. Additional resources

- Health and Safety Executive: http://www.hse.gov.uk/
- IHS Environmental Performance Solution: http://www.ihs.com
- Safety management systems: http://en.wikipedia.org/wiki/
- SKYbrary SMS: http://www.skybrary.aero
- Transport Maritime. SMS: http://www.maritime.nsw.gov.au

QUICK CHECK

20. Complete the text with necessary words or word combinations.

planning	fabric	measuring	proactive	companies
jobs	analyses	involvement	development	policy

1. Safety management system is a systematic and continuous management process based on (1) ___ identification of hazards, and (2) ___of their risk.
2. A safety management system provides for goal setting,(3) ___ , and (4) ___ performance.
3. A safety management system is woven into the (5) ___ of an organization.
4. It becomes part of the culture, the way people do their (6)__.
5. SMS is comprised of four functional components: (7) ___, Risk Management, Assurance, Promotion and other actions to create a positive safety culture.
6. The (8) ____ of a positive safety culture is important if high standards of health and safety are to be achieved and maintained.
7. The Safety Culture Assessment tool is designed to help (9) ___ determine some important aspects of their safety culture and aid the promotion of employee (10) ___ in health and safety issues.

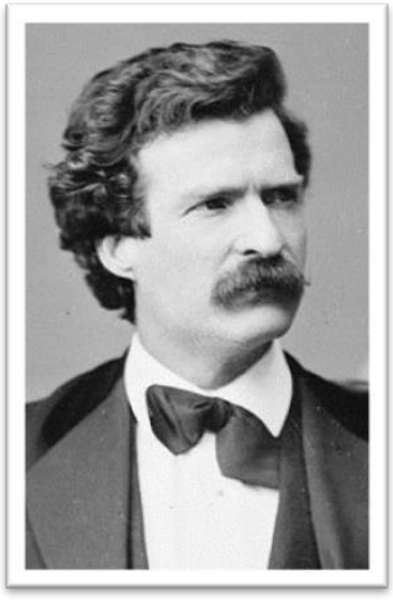
1correct answer = 1 point
9-10 points – "excellent"
7-8 points – "good"
5-6 points – "satisfactory"
1-4 points – "bad"

UNIT 2 OCCUPATIONAL ACCIDENT

Texts:	Text 1 What is an Occupational Accident? Text 2 How should an employer react in the event of an occupational accident? Text 3 Investigation of an occupational accident
Grammar:	Wh- Questions Modal Verbs
Self-Study	Text 4 Accident prevention tips for the workplace Text 5 How to reduce workplace accidents with employees
Quick Check	Test

"Accident is the name of the greatest of all inventors"

Mark Twain



1835 – 1910

was an American author and humorist. He wrote The Adventures of Tom Sawyer (1876) the latter often called "the Great American Novel."

"…They're funny things, Accidents. You never have them till you're having them".

Alan Milne "Winnie-The-Pooh and All, All, All"

1. Keep in mind.

Accident /ˈæksɪd(ə)nt/

- An unfortunate incident that happens unexpectedly and unintentionally, typically resulting in damage or injury
- An event that happens by chance or that is without apparent or deliberate cause

Occupational accident

- Accident that occurs in the course of a person's employment and is caused by the hazards that are inherent in, or are related to, it.
- An occupational injury is bodily damage resulting from working.

Vocabulary

- occupational [ˌɔkju'peɪʃ(ə)n(ə)l] профессиональный
- occupational accident несчастный случай на производстве
- occur [ə'kɜː] происходить, случаться
- fortunate ['fɔːʧ(ə)nət] удачный, благоприятный
- unfortunate [ʌn'fɔːʧ(ə)nət] неудачный
- expectedly [ɪk'spektɪdlɪ] ожидаемый
- unexpectedly [ˌʌnɪk'spektɪdlɪ] _____
- intentionally [ɪn'tenʃ(ə)n(ə)lɪ] умышленно, намеренно
- unintentionally [ˌʌnɪn'ten(t)ʃ(ə)n(ə)lɪ] _____
- by chance случайно
- apparent [ə'pær(ə)nt] видимый
- deliberate [dɪ'lɪb(ə)rɪt] преднамеренный, умышленный

Text 1

What is an Occupational Accident?

An occupational accident is the health damage or death of an employee which occurred while performing the work task given by an employer or any other work performed on the authorization of the employer, during the break included in the working time or other time when acting for the benefit of the employer, and which has a cause-and-effect relationship with the employer or the working environment.

By the degree of severity, an occupational accident shall be classified as a mild or severe occupational accident or an occupational accident leading to death. An occupational accident shall be considered to be severe if it caused severe health damage or a life-threatening condition to an employee.

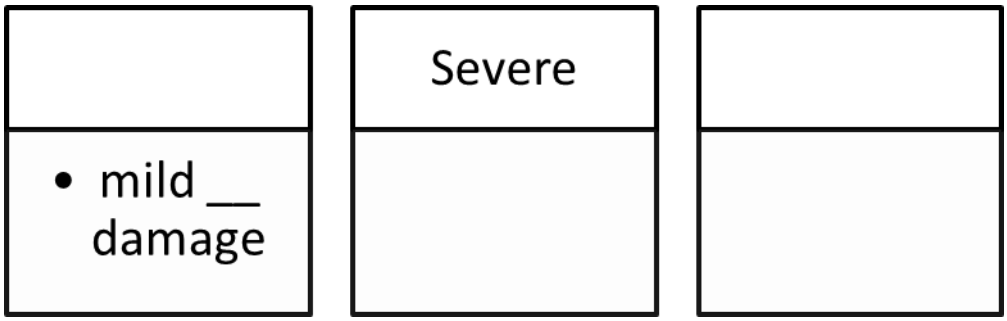
Vocabulary

- authorization [ˌɔːθ(ə)raɪ'zeɪʃ(ə)n] санкционирование, разрешение, уполномочивание
- benefit на пользу кого-либо, чего-либо
- death[deθ] смерть
- to lead to вести, приводить к чему-либо
- severe [sɪ'vɪə] - тяжёлый -severity - _____
- threatening ['θret(ə)nɪŋ] угрожающий

2. What is an occupational accident? Give a short answer. Keep it in mind.

An occupational accident is the ___ ___ or ___ of an ___ while performing the ___ ___.

3. Write down the classification of an occupational accident.



4. Read this statement. Complete it with necessary words or word combinations. Do you agree or disagree?

job	right	safe	unharmed	worker

A job must be (1) ___ or it cannot be called a good (2) ___. OSHA strives to make sure that every (3) ___ in the nation goes home (4) ___ at the end of the workday, the most important (5) ___of all.

Vocabulary

– harm [hɑ:m] вред, травма - harmed травмированный - unharmed - _____
– to strive стараться, пытаться

Useful phrases

I agree.	Yes, that's right.	I'm afraid I don't agree.
I think so too.	No, sorry, I disagree.	I can't go along with that.

Text 2

How should an employer react in the event of an occupational accident?

5. Read the text and put all data in the right order.

You shall be required to notify the local authority of the Labour Inspectorate of an occupational accident immediately after receiving a notice from the doctor, by submitting the following data.

- name and address of employer
- given name, surname and the phone number of an employee
- given and surname, official title and phone number of the person sending a notice
- short description of the event
- place, date and time of occupational accident

1	
2	
3	
4	
5	given and surname, official title and phone number of the person sending a notice

6. What services must be informed if an occupational accident leads to death or a visibly severe injury?

If an occupational accident leads to death or a visibly severe injury, inform the local authority of the Labour Inspectorate immediately of the above mentioned data by phone and, for an occupational accident that led to death, also inform the police.

Vocabulary

– The local authority of the Labour Inspectorate - местное управление инспекции контроля над условиями труда
– above mentioned вышеупомянутый
– immediately [ɪ'miːdɪətlɪ] незамедлительно

Text 3

Investigation of an Occupational Accident

As an employer, you are obligated to investigate all occupational accidents by involving a working environment

representative or, in his/her absence, the representative of employees. The investigation of an occupational accident shall be carried out within ten working days after the occurrence of the occupational accident. The investigation shall end with the preparation of a report.

You shall be required to prepare the report in three copies, one of which shall be kept by you, and submit the other two to the local authority of the Labour Inspectorate and the injured party or the person protecting his/her rights within 3 working days from the completion of the investigation of an occupational accident.

If it appears during the investigation that it is not an occupational investigation, terminate the investigation and prepare a free-form document describing the circumstances of the accident and indicating the reason for the termination of the investigation. The document shall be signed by the representative of the employer and the working environment representative, or in his/her absence, the representative of the employees.

An occupational accident shall be registered and the relevant data shall be submitted to the working environment specialist, the working environment representative, representative of the employees and the working environment council.

The documents collected and prepared in the course of the investigation of an occupational accident shall be executed as an investigation file of the occupational accident. The data of the investigation of an occupational accident shall be kept for fifty five years.

Based on the investigation results, you shall be required to plan and implement measures for preventing the reoccurrence of a similar occupational accident.

Vocabulary

- to carry out выполнять, осуществлять; приводить в исполнение

– circumstance ['sɜːkəmstæn(t)s] обстоятельство
– council совет (орган государственной власти)
– to investigate [ɪn'vestɪgeɪt] расследовать, собирать сведения
– to obligat ['ɔblɪgeɪt] обязывать
– representative [ˌreprɪ'zentətɪv] представитель
– to sign [sain] подписывать (документ)
– reoccurrence [ˌriːə'kʌr(ə)n(t)s] повторение

7. Study the text and say if these statements are true or false.

1. Employee is obligated to investigate an occupational accident.
2. The investigation shall be carried out within 10 working days.
3. The investigation shall end with the preparation of an essay.
4. You shall be required to prepare the report in three copies, one of which shall be kept by you, and submit the other two to the local authority of the Labour Inspectorate and the police.
5. If it appears during the investigation that it is an occupational investigation, terminate the investigation and prepare a free-form document.
6. The document shall be signed only by the employer.
7. All severe occupational accidents have to be registered.
8. The document shall be kept for 55 years.

8. Match the verbs with the nouns.

Verb	**Noun**
1) to involve	a)his/her rights
2) to prepare	b) the reason
3) to protect	c)a representative
4) to describe	d) the document

5)	to indicate	e)	the specialist
6)	to investigate	f)	a report
7)	to sign	g)	the circumstances
8)	to submit to	h)	the results
9)	to base on	i)	the reoccurrence
10)	to prevent	j)	an accident

GRAMMAR

Wh-Questions

9. Copy and complete the table.

	Do	you	know	the OSH Act?	Yes, I ___.
	____	the Act	give	the right to safe conditions.?	Yes, it does.
	____	workers	have	working conditions	No, they didn't.
	Will	every worker	____	home unharmed?	Yes, he will.
Who	does	-	prepare	the report?	Employer prepares.
Where	did	an accident	occur?	on the farm	
When	____	an accident	occur?	Yesterday at 8 o'clock.	

10. An occupational accident happened in our office last week. Mister Smith fell on the floor and broke his leg. You investigate this accident. Ask witnesses (people who see an accident). Make questions.

1) What / you / do
2) You / see an accident

3) What / Mr. Smith / do
4) Where /you/ stay
5) What things / you /do
6) Who / stand Mr. Smith with
7) What / they /do
8) When /it / happen
9) How / Mr. Smith / fall
10) What /he/ say

Modal Verbs

11. Write these statements in the Past.

1. They are to begin this work at once.
2. I am to visit our supervisor.
3. He is to come at 2 o'clock.
4. The letter must be sent at once.

12. Pay attention to the modal verbs. Define their meaning.

1. Employers must provide workers with effective information.
2. A job must be safe.
3. You shall be required to notify of an occupational accident.
4. Based on the investigation results, you shall be required to plan and implement measures.

Write negative sentences and questions.

Negative sentences	Questions
1	1
2	2
3	3
4	4

SELF-STUDY

Text 4

Accident prevention tips for the workplace

by Maxwell Wallace, Demand Media

Workplace accidents cost businesses over $45 billion annually.

Many professionals with jobs in an office, retail location or other low-risk commercial settings often can take workplace safety for granted. Workplace injury, however, is not reserved just for those with dangerous outdoor jobs. Each year, billions of dollars are paid out in medical bills and compensation for employees' work-related injuries, such as falling or being struck by objects, or for suffering due to repetitive motion injuries. Following a few simple steps can make safety a top priority at your workplace.

1. It's impossible to prevent accidents completely. This notion makes it crucially important that your workplace is capable of properly handling an accident, should one occur. Make sure there are first aid kits placed in highly trafficked, communal locations throughout the workplace. First aid kits should be serviced regularly by trained vendors who are educated in their contents. Defibrillators are also becoming commonplace in many workplaces. If your work place has or is installing a defibrillator, make sure staff members are aware of its location and know how to use it in case of an emergency.

2. One of the greatest tools against accidents is anticipating how and when they may occur. For workplaces, this can be as simple as installing smoke detectors and extinguishers, and insuring entrances are properly shoveled and sanded in the winter. Appropriately placed carpets prevent moisture accumulation on non-carpeted floors. Wide passageways with uninhibited corners and crossways can prevent pedestrian

collisions. Keep heavy equipment such as computers and printers firmly grounded and away from precarious heights.

3. Take steps to insure that building maintenance for torn carpets, faulty wiring, loose railings, cracked windows or decrepit steps are tended to immediately, before they become commonplace and regularly overlooked -- many times in the day-to-day bustle of the workplace, regular wear and tear on basic infrastructure can become commonplace. Regularly maintain any fire extinguishers, smoke detectors or carbon monoxide detectors at your workplace. A proper reporting system should also be in place, allowing employees to report basic maintenance requests for review.

4. Form a safety committee amongst your staff and encourage monthly meetings. This may seem like a redundancy, but in fact, a monthly or bi-weekly forum in which to discuss any and all safety concerns is an excellent way to keep your staff tuned in to safety and the safety of those around them. For employees who may be apprehensive about expression their concerns, leave a suggestion box in a communal location in the workplace where people can ask questions, make comments or suggestions anonymously. Open and respectful communication is key a weapon in accident prevention.

13. Read the article, what paragraph tells about:

- ❖ Preparation
- ❖ Awareness
- ❖ Regular Maintenance
- ❖ Anticipation

14. Write down and translate new words.

Vocabulary

- awareness
- capable

– first aid kit
– moisture
– outdoor jobs
– to paid out
– repetitive

Text 5

How to reduce workplace accidents with employees

by Kate McFarlin, Demand Media

Safety in the workplace is an important issue for small businesses. With the rising cost of workers' compensation insurance and the need to keep employees happy and healthy, taking precautions to reduce workplace accidents is a vital part of running a small business. No matter what industry you are in, workers have the potential of being injured. By following set protocols and identifying potential risks, you can reduce the number of accidents and make the workplace safer.

Step 1

Identify any potential risks in your workplace environment. Common hazards for many businesses include wet floors, objects obstructing paths, and heavy items that can strain employees' backs. Your industry will largely determine these potential risks. It is necessary to explore all possible scenarios for injury and to make a list of these potential risks.

Step 2

Clearly mark all potentially dangerous areas with signage approved by the Occupational Safety and Health Administration. In many industries, these signs are required by law to inform employees of potential risks. Even if it is not required for your small business, these signs can be an invaluable tool in protecting employees and in protecting you from potential workers' comp claims.

Step 3

Formulate plans to help employees avoid injury for each risk set. Break apart the risks that your employees will face, and make a clear and logical list of all steps they must take to avoid harm.

Step 4

Train all employees on safety management once you have your protocols set up for avoiding injury. Make this training available to all new employees as they are hired and to any existing employees who have not yet completed it or who may have questions.

Step 5

Monitor the workplace for potential dangers. You might have to hire a safety manager, if your workplace is inherently dangerous, or train managers or others to monitor the workplace for dangers. You will also need to monitor employees and make sure they are following your set protocols properly to remain safe.

15. Use the vocabulary from the article to express the following phrases in English.

Растущая цена компенсации страховки рабочим, не важно, в какой отрасли вы работаете, снизить количество несчастных случаев, определить возможные риски, составить перечень возможных рисков, маркировать все потенциально опасные зоны, избегать травм, обучать работников, оценивать рабочее место на наличие потенциальных опасностей.

16. Complete 5 WH questions according to the text.

17. Read the text very quickly and answer the questions.

An accident or mishap is an unforeseen and unplanned event or circumstance, often with lack of intention or necessity.

Experts in the field of injury prevention avoid use of the term 'accident' to describe events that cause injury in an attempt to highlight the predictable and preventable nature of most injuries.

Accidents of particularly common types (crashing of automobiles, events causing fire, etc.) are investigated to identify how to avoid them in the future. This is sometimes called root cause analysis, but does not generally apply to accidents that cannot be deterministically predicted. A root cause of an uncommon and purely random accident may never be identified, and thus future similar accidents remain.

1) What another term is used for “accident”?
2) What events do the experts with the term “accident” describe?
3) What types of accident are there?
4) Why are accidents investigated to identify?
5) What does the term “root cause” mean?

18. Additional resources:

- Occupational-accident: http://www.businessdictionary.com
- Occupational accident: http://www.eurofound.europa.eu
- How to Reduce Workplace Accidents With Employees: http://smallbusiness.chron.com
- Health & Safety Advice Pack for Smaller Firms: http://www.rospa.com

QUICK CHECK

20. Complete the statements.

accident	right	duty	injuries
severity	workplace	death	dangers

Safety in the (1) ___ is an important issue for any businesses.

But each year, billions of dollars are paid out for employees' (2) ___. An occupational (3) ___ is the health damage or death of an employee which occurred while performing the work task given by an employer. By the degree of (4) ___, an occupational accident shall be classified as a mild or severe occupational accident or an occupational accident leading to (5) ___. By the way workers have the (6) ___ to safe and healthful working conditions. It is the (7) ___ of employers to provide workplaces that are free of known (8) ___ that could harm their employees.

21. Can you read this statement?

Youhavetherighttoasafeworkplaceandstudyplace!

22. Find 10 words from the unit.

fdreaccidentpolworkplacewerekemployershaphealthyotdriskqwri
ghtjubntreoccupationalmikreportabcpreventionincident

UNIT 3 OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION

Texts:	Text 1 Occupational safety and health administration in the USA Text 2 Worker Protection Text 3 Personal Protective Equipment
Grammar:	Modal Verbs Phrasal Verbs
Self-Study:	Text 4 Worker Protection in the UK Text 5 Duties of … Text 6 General Safety Rules
Quick Check	Test

DURA LEX SED LEX
(Latin phrase)

Law is harsh, but it's law

Text 1

Occupational safety and health administration in the USA

Work safety organizations provide services to nearly every kind of workplace. Whether you run a construction company or a nail salon, most businesses must comply with safety regulations in some form or another. It's always a good idea to have an

affiliation with work safety organizations since they help prevent small injuries, like carpal tunnel syndrome, or life-threatening accidents and even death.

Under the OSH Act, employers are responsible for providing a safe and healthful workplace. OSHA's mission is to assure safe and healthful workplaces by setting and enforcing standards, and by providing training, outreach, education and assistance. Employers must comply with all applicable OSHA standards. Employers must also comply with the General Duty Clause of the OSH Act, which requires employers to keep their workplace free of serious recognized hazards.

1. Keep in mind.

- "Employer" means a person engaged in a business affecting commerce who has employees;
- "Employee" means an employee of an employer who is employed in a business of his employer which affects commerce;
- "Standard" means a standard which requires conditions, or the adoption or use of one or more practices, means, methods, operations, or processes, reasonably necessary or appropriate to provide safe or healthful employment and places of employment.

Vocabulary

- comply [kəm'plaɪ] (with) подчиняться (требованиям, правилам) , соответствовать (стандартам)
- affiliation [ə¸fɪlɪ'eɪʃ(ə)n] членство, принадлежность

2. Answer the questions about occupational safety.

1) What kind of work place do work safety organizations provide?
2) What regulations must most businesses comply with?

3) Why is it a good idea to have an affiliation with work safety organizations?
4) Who is responsible for providing a safe and healthful workplace?
5) What is OSHA's mission?
6) How is safe and healthful workplaces assured?
7) What documents must employers comply with?
8) What does the term “employer” mean?
9) What does the term “employee” mean?
10) What does the term “standard” mean?

Text 2

Worker Protection

You have the right to a safe workplace. The Occupational Safety and Health (OSH) Act of 1970 was passed to prevent workers from being killed or otherwise harmed at work. The law requires employers to provide their employees with working conditions that are free of known dangers. The OSH Act created the Occupational Safety and Health Administration (OSHA), which sets and enforces protective workplace safety and health standards.

Workers’ Rights under the OSH Act

The OSH Act gives workers the right to safe and healthful working conditions. It is the duty of employers to provide workplaces that are free of known dangers that could harm their employees. This law also gives workers important rights to participate in activities to ensure their protection from job hazards.

3. Read about the workers' rights and match right with the requirement to employers.

RIGHTS	REQUIREMENTS TO EMPLOYERS
1. Right to a safe and healthful workplace	a) Employers must record any serious work-related injury or illness. Workers and their representatives have the right to receive copies of the full Form.
2. Right to be provided protective equipment free of charge	b) Many standards require employers to run tests of the workplace environment to find out if their workers are being exposed to harmful levels of hazardous substances such as lead or asbestos, or high levels of noise or radiation. These types of tests are called exposure monitoring. OSHA gives workers the right to get the results of these tests.
3. Right to information	c) Employers have the responsibility to provide a safe and healthful workplace that is free from serious recognized hazards.
4. Right to know about chemical hazards	d) Employers must provide workers with effective information and training on hazardous chemicals in their work area. This training must be in a language and vocabulary that workers can understand.
5. Right to know about laws and your rights	e) Employers must display the official OSHA Poster, Job Safety and Health: It's the Law, in a place where workers will see it.

6. Right to get copies of workplace Injury and illness records	f) Some standards require medical tests to find out if a worker's health has been affected because of exposures at work.
7. Right to exposure data	g) Employers are responsible for knowing when protective equipment is needed.
8. Right to your medical records	h) There are various methods that employers must use to inform their employees, such as warning signs, color-coding, signals, and training.

4. Correct the sentences.

1) Nobody has the right to a safe workplace.
2) The Occupational Safety and Health Act was passed to inform workers about harms at work.
3) The law requires employees to provide working conditions that are free of known dangers.
4) It isn't the duty of employers to provide safe workplaces.
5) This law gives employers important rights to ensure their protection from job hazards.

Text 3

Personal Protective Equipment

Hazards exist in every workplace in many different forms: sharp edges, falling objects, flying sparks, chemicals, noise and a myriad of other potentially dangerous situations.

When engineering, work practice and administrative controls are not feasible or do not provide sufficient protection, employers must provide personal protective equipment (PPE) to their employees and ensure its use. Personal protective equipment, commonly referred to as "PPE", is equipment worn to minimize exposure to a variety of hazards.

All PPE clothing and equipment should be of safe design and construction, and should be maintained in a clean and reliable fashion. Most protective devices are available in multiple sizes and care should be taken to select the proper size for each employee.

Keep in mind.

- Personal protective equipment (PPE) is clothing, equipment or substances designed to be worn by someone to protect them from risks of injury or illness.

5. Read 6 texts and match to titles.

- ✓ Body Protection
- ✓ Eye and Face Protection
- ✓ Foot and Leg Protection
- ✓ Hand and Arm Protection
- ✓ Head Protection
- ✓ Hearing Protection

1

Employees can be exposed to a large number of hazards that pose danger to their eyes and face. OSHA requires employers to ensure that employees have appropriate eye or face protection if they are exposed to eye or face hazards from flying particles, molten metal, liquid chemicals, acids or caustic liquids, chemical gases or vapors, potentially infected material or potentially harmful light radiation.

Some of the most common types of eye and face protection include the following:

Safety spectacles. These protective eyeglasses have safety frames constructed of metal or plastic and impact-resistant lenses.

Goggles. These are tight-fitting eye protection that completely cover the eyes, eye sockets and the facial area immediately surrounding the eyes and provide protection from impact, dust and splashes.

Welding shields. Constructed of vulcanized fiber or fiberglass and fitted with a filtered lens, welding shields protect eyes from burns caused by infrared or intense radiant light; they also protect both the eyes and face from flying sparks, metal spatter and slag chips produced during welding, brazing, soldering and cutting operations.

Laser safety goggles. These specialty goggles protect against intense concentrations of light produced by lasers. The type of laser safety goggles an employer chooses will depend upon the equipment and operating conditions in the workplace.

Face shields. These transparent sheets of plastic extend from the eyebrows to below the chin and across the entire width of the employee's head. Some are polarized for glare protection.

Each type of protective eyewear is designed to protect against specific hazards. Employers can identify the specific workplace hazards that threaten employees' eyes and faces by completing a hazard assessment as outlined in the earlier section.

2

Wearing a safety helmet or hard hat is one of the easiest ways to protect an employee's head from injury. Hard hats can protect employees from impact and penetration hazards as well as from electrical shock and burn hazards.

Employers must ensure that their employees wear head protection if any of the following apply:

- Objects might fall from above and strike them on the head;
- They might bump their heads against fixed objects, such as exposed pipes or beams; or
- There is a possibility of accidental head contact with electrical hazards.

Types of Hard Hats

Hard hats are divided into three industrial classes:

Class A hard hats provide impact and penetration resistance along with limited voltage protection (up to 2,200 volts).

Class B hard hats provide the highest level of protection against electrical hazards, with high-voltage shock and burn protection (up to 20,000 volts). They also provide protection from impact and penetration hazards by flying/falling objects.

Class C hard hats provide lightweight comfort and impact protection but offer no protection from electrical hazards.

Head protection that is either too large or too small is inappropriate for use, even if it meets all other requirements.

3

Employees, who face possible foot or leg injuries from falling or rolling objects or from crushing or penetrating materials should wear protective footwear. If an employee's feet may be exposed to electrical hazards, non-conductive footwear should be worn.

Foot and leg protection choices include the following:

Leggings protect the lower legs and feet from heat hazards such as molten metal or welding sparks. Safety snaps allow leggings to be removed quickly.

Metatarsal guards protect the instep area from impact and compression. Made of aluminum, steel, fiber or plastic, these guards may be strapped to the outside of shoes.

Toe guards fit over the toes of regular shoes to protect the toes from impact and compression hazards. They may be made of steel, aluminum or plastic.

Combination foot and shin guards protect the lower legs and feet, and may be used in combination with toe guards when greater protection is needed.

Safety shoes have impact-resistant toes and heat-resistant soles that protect the feet against hot work surfaces common in roofing, paving and hot metal industries. The metal insoles of some safety shoes protect against puncture wounds. Safety shoes may also be designed to be electrically conductive to prevent the buildup of static electricity.

Special Purpose Shoes

Electrically conductive shoes provide protection against the buildup of static electricity.

Electrical hazard, safety-toe shoes are nonconductive and will prevent the wearers' feet from completing an electrical circuit to the ground. These shoes can protect against open circuits of up to 600 volts in dry conditions and should be used in conjunction with other insulating equipment and additional precautions to reduce the risk of a worker becoming a path for hazardous electrical energy.

4

If a workplace hazard assessment reveals that employees face potential injury to hands and arms that cannot be eliminated through engineering and work practice controls, employers must ensure that employees wear appropriate protection.

Potential hazards include skin absorption of harmful substances, chemical or thermal burns, electrical dangers, bruises, abrasions, cuts, punctures, fractures and amputations. Protective equipment includes gloves, finger guards and arm coverings or elbow-length gloves.

Types of Protective Gloves

There are many types of gloves available today to protect against a wide variety of hazards. The nature of the hazard and the operation involved will affect the selection of gloves. The variety

of potential occupational hand injuries makes selecting the right pair of gloves challenging.

The following are examples of some factors that may influence the selection of protective gloves for a workplace:

- Type of chemicals handled.
- Nature of contact (total immersion, splash, etc.).
- Duration of contact.
- Area requiring protection (hand only, forearm, arm).
- Grip requirements (dry, wet, oily).
- Thermal protection.
- Size and comfort.
- Abrasion/resistance requirements.

Gloves made from a wide variety of materials are designed for many types of workplace hazards. In general, gloves fall into four groups:

- Gloves made of leather, canvas or metal mesh;
- Fabric and coated fabric gloves;
- Chemical- and liquid-resistant gloves;
- Insulating rubber gloves.

5

Employees who face possible bodily injury of any kind that cannot be eliminated through engineering, work practice or administrative controls, must wear appropriate body protection while performing their jobs. In addition to cuts and radiation, the following are examples of workplace hazards that could cause bodily injury:

- Temperature extremes;
- Hot splashes from molten metals and other hot liquids;
- Potential impacts from tools, machinery and materials;

- Hazardous chemicals.

There are many varieties of protective clothing available for specific hazards. Employers are required to ensure that their employees wear personal protective equipment only for the parts of the body exposed to possible injury. Examples of body protection include laboratory coats, coveralls, vests, jackets, aprons, surgical gowns and full body suits.

Protective clothing comes in a variety of materials, each effective against particular hazards, such as:

Paper-like fiber used for disposable suits provide protection against dust and splashes.

Treated wool and cotton adapts well to changing temperatures, is comfortable, and fire-resistant and protects against dust, abrasions and rough and irritating surfaces.

Duck is a closely woven cotton fabric that protects against cuts and bruises when handling heavy, sharp or rough materials.

Leather is often used to protect against dry heat and flames.

Rubber, rubberized fabrics, neoprene and plastics protect against certain chemicals and physical hazards. When chemical or physical hazards are present, check with the clothing manufacturer to ensure that the material selected will provide protection against the specific hazard.

6

Determining the need to provide hearing protection for employees can be challenging. Employee exposure to excessive noise depends upon a number of factors, including:

- The loudness of the noise as measured in decibels.
- The duration of each employee’s exposure to the noise.
- Whether employees move between work areas with different noise levels.

- Whether noise is generated from one or multiple sources.

Some types of hearing protection include:

Single-use earplugs are made of waxed cotton, foam, silicone rubber or fiberglass wool. They are self-forming and, when properly inserted, they work as well as most molded earplugs.

Pre-formed or molded earplugs must be individually fitted by a professional and can be disposable or reusable. Reusable plugs should be cleaned after each use.

Earmuffs require a perfect seal around the ear. Glasses, facial hair, long hair or facial movements such as chewing may reduce the protective value of earmuffs**.**

Vocabulary

- feasible ['fiːzəbl] реальный, выполнимый, осуществимый
- personal protective equipment средства индивидуальной защиты
- device [dɪ'vaɪs] устройство, приспособление; механизм
- safety spectacles защитные [предохранительные] очки
- goggles ['gɒglz] защитные очки
- welding shield защитный щиток
- helmet ['helmət] защитный головной убор (каска, шлем)
- electrical hazards опасность поражения электрическим током
- footwear ['futweə] обувь
- legging гетры
- metatarsal guards – средства защиты плюсневой кости (стопы)

– puncture wound колотая рана
– build-up ['bɪldʌp] накопление, увеличение; сосредоточение; наращивание (сил, средств)
– gloves перчатки
– total immersion полное погружение
– splash брызги
– grip сцепление; зажим; захват
– abrasion [ə'breɪʒ(ə)n] трение
– coveralls ['kʌv(ə)rɔ:lz] рабочий комбинезон
– vest [vest] жилет
– apron ['eɪpr(ə)n] фартук
– surgical gown хирургический костюм
– earplugs затычки для ушей/беруши
– earmuffs ['ɪəmʌfs] наушники для защиты от холода или шума

6. Read the texts and complete the List of Personal Protective Equipment.

Eye and Face Protection	**Head Protection**
1 2 3	1 2 3
Foot and Leg Protection	**Hand and Arm Protection**
1 2	1 2
Body Protection	**Hearing Protection**
1 2 3	1 2 3

7. Ask your partner. Make 5 questions.

What personal protective equipment is used to protect …?
What personal protective equipment is used to protect employees from …?

8 Are these statements true or false?

1) Employers must provide personal protective equipment to their employees.
2) When engineering, work practice and administrative controls are not feasible employees are not required to wear personal protective equipment.
3) Personal protective equipment is equipment worn to minimize exposure to a variety of hazards.
4) All PPE clothing and equipment should be in multiple sizes.
5) OSHA requires employers to ensure that employees have appropriate eye or face protection if they are exposed from the noise.
6) Flying particles, molten metal, liquid chemicals are dangerous to hand and arms.
7) If employee is ill he must wear a surgical gown.
8) Foot and leg protection includes Leggings, metatarsal guards, toe guards, vests.
9) Hearing protection includes earplugs and earmuffs.
10) There are many varieties of protective clothing available for specific conditions.

9. Choose personal protective equipment. Work with a partner and prepare a five-minute presentation explaining when and how this equipment protects the employee. Give your presentation to the class.

Useful phrases

I'm going to be speaking about…	To sum up…
Firstly/ secondly/thirdly/finally	In conclusion
I'd like to say about…	Are there any questions?

GRAMMAR

Modal Verbs

10. Complete these sentences with the modal verb.

can	must	shall	should	may

1) Employers ___ provide personal protective equipment to their employees.
2) Personal protective equipment ___ minimize exposure to a variety of hazards.
3) All PPE clothing and equipment ___ be of safe design and construction.
4) Employees ___ have appropriate eye or face protection if they are exposed to eye or face hazards from flying particles, molten metal.
5) If an employee's feet ___ be exposed to electrical hazards, non-conductive footwear should be worn.

Phrasal Verbs

The term phrasal verb is commonly applied to two or three distinct but related constructions in English: a verb and a particle and/or a preposition co-occur forming a single semantic unit. This semantic unit cannot be understood based upon the meanings of the individual parts in isolation, but rather it must be taken as a whole.

From Wikipedia

11. Read these statements and write the verbs down. Translate the verbs and then the statements.

1) Most businesses must comply with safety regulations.
2) Employers are responsible for providing a safe and healthful workplace.
3) Some standards require medical tests to find out if a worker's health has been affected.
4) The law requires employers to provide their employees with working conditions that are free of known dangers.
5) Employee exposure to excessive noise depends upon a number of factors.

1. to comply with smth - _____
2.

(see Appendix)

SELF-STUDY

Text 4

Worker Protection in the UK

Act 1974 "Health and safety at work" is the main piece of legislation covering occupational health and safety in the UK. The Act lays down general principles for the management of health and safety at work.

Normative documents are secondary types of legislation implementation of specific laws adopted by Parliament. They cover a wide range of issues, ranging from the control of asbestos at work, diving, evacuation and rescue of mines, ionizing radiation and working at height.

Since the accession of the UK to the European Union in 1972, much health and safety regulation has needed to comply with the law of the European Union.

12 Are the statements true or false?

1) Act 1974 “Health and safety at work” is the main piece of legislation in the USA.
2) The Act lays down the management of health and safety at work.
3) Normative documents aren’t adopted by Parliament.
4) They cover a narrow range of issues.
5) Nowadays much health and safety regulation has needed to comply with the law of the EU.

Text 5

Duties of …

13. Read the abstract from the Act and decide what duties are there?

occupiers	engineer	employer	employees

Section 2 states that "It shall be the duty of every _____ to ensure, so far as is reasonably practicable, the health, safety and welfare at work of all his/her employees", and in particular that such a duty extends to:

Provision and maintenance of plant and systems of work that are safe and without risks to health;

Arrangements for ensuring safety and absence of risks to health in connection with the use, handling, storage and transport of articles and substances;

Provision of such information, instruction, training and supervision as is necessary to ensure the health and safety at work of his employees;

Regards any place of work under the employer’s control, the maintenance of it in a condition that is safe and without risks to health.

Section 4 defines a duty of _____ of premises, for example commercial landlords, managers of serviced office accommodation, and also maintenance contractors, towards people who use those premises for work. Those premises, and the means of entry and exit, must be, as far as reasonably practicable, safe and without risks to health.

Section 6 defines the duty of _____ who designs, manufactures, imports or supplies any article for use at work to:

Ensure, that the article is so designed and constructed that it will be safe and without risks to health at all times when it is being set, used, cleaned or maintained by a person at work; Perform such testing and examination as may be necessary to ensure safety.

Under *section 7* all _____ have a duty while at work to take reasonable care for the health and safety of him/herself and of other persons who may be affected by his/her acts or omissions at work; and co-operate with employers or other persons so far as is necessary to enable them to perform their duties or requirements under the Act.

14. Write down what do these people do to perform their duties or requirements under the Act?

Text 6

General Safety Rules

Report to work well rested and physically fit to be able to give full attention to your job.

Inappropriate behaviour, such as horseplay, fighting and practical jokes are extremely dangerous and will not be tolerated.

Any unsafe conditions which are encountered shall be corrected or reported to your Supervisor and/or the Occupational Health and Safety Department.

Do not operate any machinery or equipment if it is known to be in an unsafe condition.

Machinery and equipment, including vehicles, are only to be operated by qualified persons and then only when adequately trained in the use of the equipment and authorized to operate it.

Smoking is only permitted outside buildings. Where "NO SMOKING" signs are posted, (i.e. near flammable storage), persons shall observe those signs.

Avoid parking, even temporarily, in designated fire lanes.

Always keep your work area clean and orderly. Poor housekeeping habits can be a serious safety hazard.

Do not leave materials in aisles, walkways, stairways, roads or other points of egress.

All warning signs, signals and alarms shall be obeyed.

Fire fighting equipment shall be maintained in accordance with the manufacturer's instructions and the requirements of the Fire Code.

15. What rules have been developed in the high schools of Russia to provide a safe and healthy studying environment for all students and employees (for example, at your academy)? Write 10 safety rules or duties of students.

16. Additional resources:

- United States Department of Labor: http://www.osha.gov
- Department of Industrial Relations: http://www.dir.ca.gov/dosh/
- Workplace-Safety-Organizations: http://www.business.com
- Work organization: http://www.deir.qld.gov
- Occupational safety and health: http://en.wikipedia.org/

QUICK CHECK

17. Complete the text with necessary words or word combinations.

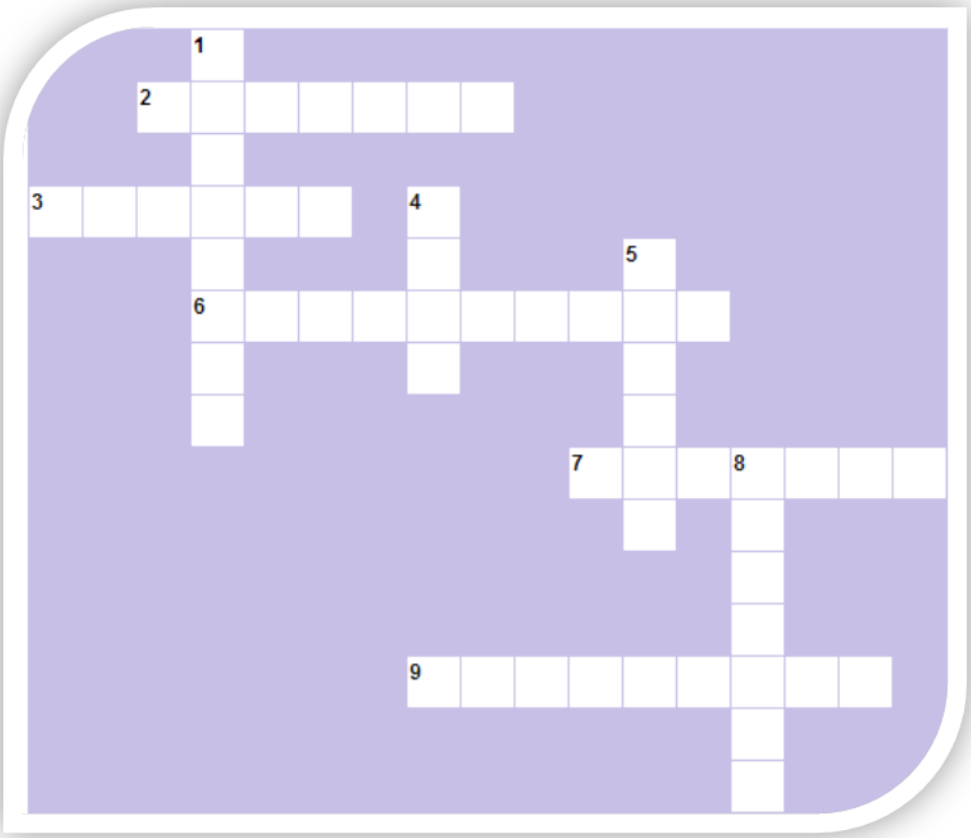
employment	rights	workplace	for	free
with	hazards	personal	exposure	Act

Work safety organizations provide services to every kind of (1) ___. Under the (2) ___, employers are responsible (3) ___ providing a safe and healthful workplace. Employers must comply (4) ___ all standards. "Standard" means a standard which requires conditions, methods, operations, or processes to provide safe (5) ___. The law also gives workers important (6) ___ to a safe workplace, to information, to know about chemical (7) ___ and be provided protective equipment (8) ___ of charge. (9) ___ protective equipment is used to minimize (10) ___ to a variety of hazards.

18. Complete the crossword with the personal protective equipment.

Across:
2 затычка для уха
3 каска
6 щиток для лица
7 гетры
9 рабочий комбинезон

Down:
1 наушники
4 жилет
5 перчатки
8 защитные очки



19. Do you understand these abbreviations? What do they mean?

- The UK
- The USA
- The EU
- PPE
- OHS
- OSHA

20. Test yourself!

1) Employers comply ___ safety regulations.
2) They are responsible ___ providing a safe workplace.
3) The law requires employers to provide their employees ___ personal protective equipment.
4) Employee exposure to excessive noise depends ___ a number of factors.

UNIT 4 RISK MANAGEMENT

Texts:	Text 1 Understanding Hazards and Risks Text 2 What is Risk Management? Text 3 Benefits to Managing Risk Text 4 Emergencies
Grammar:	Passive Voice
Self-Study:	Text 5 Safety Measures Text 5 What Is Emergency Management?
Quick Check	Test

BETTER SAFE THAN SORRY

Text 1

Understanding hazards and risks

A hazard is something with the potential to cause harm. Risk is the likelihood that the harm will occur from exposure to the hazard. For example:

The hazard is electricity. The risk is the likelihood that a worker might be electrocuted because of exposure to electrical wires that is inadequately insulated.

The hazard is a 40kg bag. The risk is the likelihood that a worker might suffer back strain from manually lifting 40kg bags.

The hazard is carbon monoxide. The risk is the likelihood that a worker might suffer carbon monoxide poisoning because they are using a petrol-operated pump in a well.

Vocabulary

- insulate ['ɪnsjəleɪt] изолировать (электрическую проводку)
- inadequately неадеватно
- repetitive strain хроническое растяжение сухожилий травматического характера
- to slip скользить; поскользнуться
- to suffer back strain страдать растяжением сухожилий спины
- poisoning ['pɔɪz(ə)nɪŋ] отравление; интоксикация

1 Define is there hazard or risk?

HAZARD	RISK
1	1

injury, loss of life, slips, damage to property, lifting heavy objects, death, crash, repetitive strain

2. Match the terms with their definitions.

Hazard Risk Risk assessment Risk management

Definition

a) The identification, analysis, assessment, control, and avoidance, minimization, or elimination of unacceptable risks.

b) Dangerous event or situation that may lead to an emergency or disaster. It could also be a biological, chemical, or physical agent in an environment that may have an adverse health effect, or may cause injury or loss.

c) A probability or threat of damage, injury, liability, loss, or any other negative occurrence that is caused by external or internal vulnerabilities, and that may be avoided through preemptive action.

d) The identification, evaluation, and estimation of the levels of risks involved in a situation, their comparison against benchmarks

or standards, and determination of an acceptable level of risk.

Vocabulary

- to accept принимать – acceptable приемлемый – unacceptable _____
- to assess [ə'ses] – давать оценку – assessment - _____
- to avoid [ə'vɔıd] избегать, остерегаться, уклоняться – avoidans _____
- benchmarks ['bentʃmɑ:k] критерий; стандарт
- comparison [kəm'pærıs(ə)n] сопоставление, сравнение
- disaster [dı'zɑ:stə] беда, бедствие, несчастье
- to identify [aı'dentıfaı] опознавать, распознавать – identification _____
- liability [ˌlaıə'bılətı] обязательство, ответственность
- occurrence [ə'kʌr(ə)n(t)s] инцидент, происшествие
- preemptive [pri:'emptıv] преимущественный
- vulnerabilities [ˌvʌln(ə)rə'bılətı] уязвимость

3. Write 3-4 key words for each term.

RISK - Key words: negative occurrence,…

4. Say in English.

анализ риска, оценка (степени) риска, контроль риска, управление рисками, опасность

Text 2

What is Risk Management?

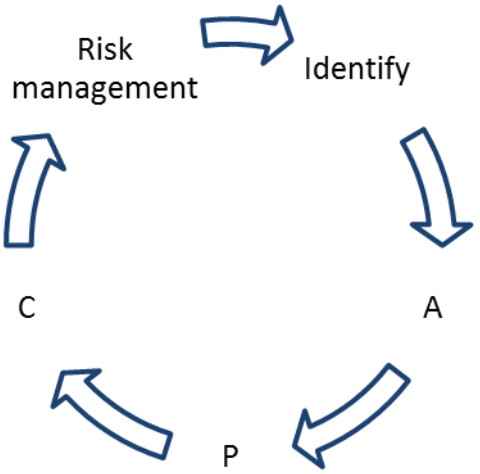
Risk management ensures that an organization *identifies* and analyses the risks, it also guarantees that the organization creates and implements an effective *plan* to prevent losses or reduce the

impact if a loss occurs and *controls* the probability and/or impact of unfortunate events.

A risk management plan includes strategies and techniques for recognizing and confronting these threats. Good risk management doesn't have to be expensive or time consuming; it may be as uncomplicated as answering these three questions:

- What can go wrong?
- What will we do, both to prevent the harm from occurring and in response to the harm or loss?
- If something happens, how will we pay for it?

5. Read the text and complete the diagram.



6. Ask 5 Wh-questions about risk management your partner and answer his questions.

Text 3

Benefits to Managing Risk

Risk management provides a clear and structured approach to identifying risks. Having a clear understanding of all risks allows an organization to measure and prioritize them and take the appropriate actions to reduce losses.

Risk management has other benefits for an organization, including:

- Saving resources: Time, assets, income, property and people are all valuable resources that can be saved if fewer claims occur.
- Protecting the reputation and public image of the organization.
- Preventing or reducing legal liability and increasing the stability of operations.
- Protecting people from harm.
- Protecting the environment.
- Enhancing the ability to prepare for various circumstances.
- Reducing liabilities.
- Assisting in clearly defining insurance needs.

An effective risk management practice does not eliminate risks. However, having an effective and operational risk management practice shows an insurer that your organization is committed to loss reduction or prevention. It makes your organization a better risk to insure.

Vocabulary

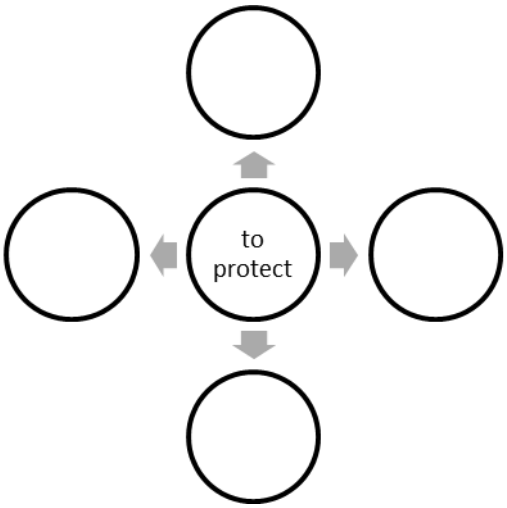
- approach [ə'prəuʧ] подход
- benefit выгода
- claim [kleɪm] требование
- to eliminate- [ɪ'lɪmɪneɪt] устранять, исключать
- to insure [ɪn'ʃuə] страховать

7. Are these statements true or false?

1) Risk management provides research to control risks.
2) In the near future it will have a clear understanding of all risks.
3) Nowadays it’s impossible to take the appropriate actions to reduce losses.
4) The aim of risk management is protecting of people and environment.

5) An effective risk management practice eliminates risks.

8. What should risk management protect? Write the nouns.



9. What tasks does risk manager perform? Write 8 sentences.

Text 4

Emergencies

Emergencies and disasters can happen suddenly, unexpectedly and anywhere, from fires to flooding, from chemical leaks to explosions, and from aircraft crashes to severe weather. It can mean the loss of basic services including water, electricity and gas, and telephones, damage or threat of damage to homes and businesses by flooding, fire or blast, and evacuation from homes and businesses may be needed or, conversely, that everyone must remain indoors far an extended period of time.

The Emergency Planning Unit works in collaboration with the emergency services voluntary agencies and other agencies. This includes coordinating the planning, training, exercising, activation, and the management in response to emergencies.

Many of the incidents are small scale incidents: gas leaks; transport accidents; fires; chemical spillages and leaks. Most of these incidents can usually be resolved in a few hours, or within a day or two. Very few incidents develop into “major incidents”.

10. Find English equivalents.

Чрезвычайные ситуации, стихийные бедствия, от пожаров до наводнений, от химических утечек до взрывов, потеря основных услуг, эвакуация из домов и предприятий, оставаться в помещении, группа быстрого реагирования, работать в сотрудничестве, в ответ на, небольшие по шкале чрезвычайных ситуаций, утечка газа, химические разливы и утечки, быть решенными, переходить в серьезные инциденты.

11. Complete these sentences.

Emergencies and disasters can ___ suddenly. It can mean the ___ of basic services including water, electricity and gas. The emergency planning ___ works in collaboration with the other agencies. This ___ coordinating the planning, training, exercising, activation, and the management in response ___ emergencies.

GRAMMAR

Passive Voice

Образование:

	Present	**Past**	**Future**
Indefinite	am/are/is given	was/were given	shall/will **be** given
Continuous	am/are/is **being** given	was/were **being** given	-
Perfect	has/have **been** given	had **been** given	shall/will have **been** given
Perfect Continuous	-	-	-

Образование причастия II:

Past Participle	
Regular verbs	Irregular verbs
+ -ed	see table of irregular verbs
work+ed = worked like +ed= liked	find - found go –gone

Употребление:

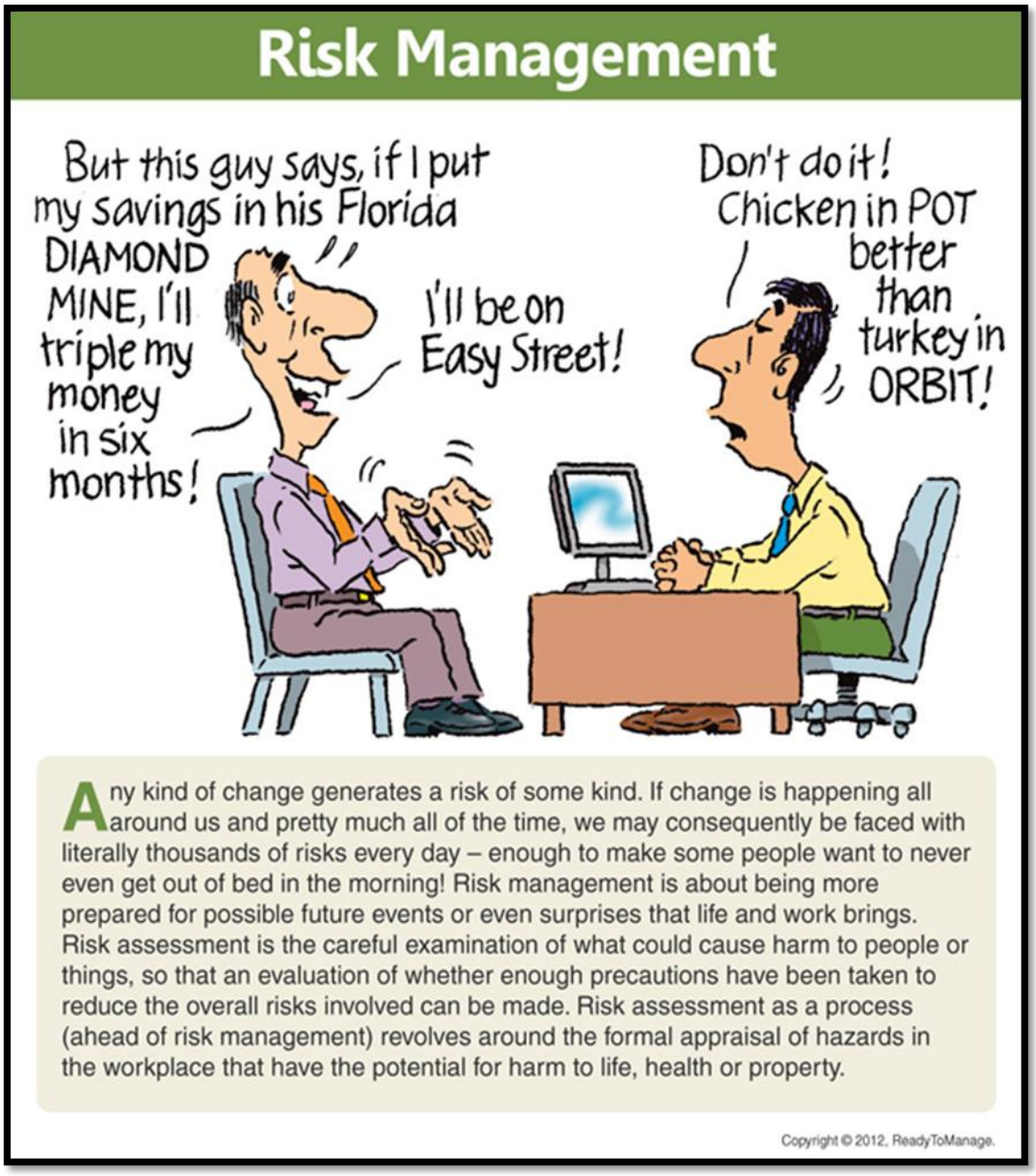
	INDEFINITE	**CONTINUOUS**	**PERFECT**
	1 Обычное, закономерное, периодически повторяющееся действие, которое происходит, происходило, будет происходить. Точный момент времени не определен. 2 Констатация факта.	Длительное действие, которое происходит, происходило или будет происходить в точно указанный момент времени. Все времена выражают незаконченное действие, и переводятся глаголом несовершенного вида.	Действие, которое совершилось к определенному времени в настоящем, прошедшем или совершится в будущем времени.
Present	every day, usually, never, at first, then, after, often	now, at the moment	twice, several times, recently, yet, already, never, just, ever
Past	yesterday, last year (month, week)	at, when, while, at 2 o'clock	by, before
Future	tomorrow, next week (month, year), soon	at, when, while, at 2 o'clock tomorrow	by, before

12. Write passive sentences in Simple Present, Simple Past.

1) the documents / print
2) the window / open
3) the shoes / buy
4) the car / wash

5) the litter / throw away
6) the letter / send
7) the book / read / not
8) the songs / sing / not
9) the food / eat / not
10) the shop / close / not

13. Find and write all sentences in Active and Passive Voice.



SELF-STUDY

Text 5

Safety Measures

There are some safety measures or actions:

- Do not work on unstable terrain.
- First Aid procedures.
- Have a mobile phone on-site.
- Identify allergic volunteers.
- Identify people with allergies.
- If contact occurs, wash skin immediately.
- Provide insect repellent.
- Provide sunscreen and water.
- Remove sharps from site.
- Rotate tasks.
- Take regular breaks.
- Teach and remind volunteers of correct lifting and carrying techniques.
- Teach correct use and storage.
- Wash hands when finished work.
- Wear dust masks.
- Wear gloves.
- Wear safety vest.
- Work away from nests.
- Work in shade or for less time when hot.
- Work when traffic is most quiet.

14. Write new words and word combination down (min – 6).

15. Write risks and safety measures which are taken in response to risks:

- allergic reaction
- back injury
- bites, stings
- contact with skin, eyes
- cuts and punctures to skin
- falls
- hits from motor vehicles
- inhalation
- repetitive strain
- slips
- sunburn, dehydration, sunstroke

Hazard	Risks	Safety measures/ actions
Manual handling of hand tools - knives, secateurs		
Lifting heavy objects incorrectly		
Slippery/ unstable terrain		
Sharp objects and rubbish		
Insect bites and stings		
Allergic reactions to native plants and weeds		
Bacteria and pathogens in mulch and soil		
UV radiation / hot weather		
Use of chemicals, herbicide		
Working on or near roadsides		

Text 6

What is Emergency Management?

The emergency management function incorporates a wide range of measures to manage risks to communities and the

environment. These measures may be implemented across Commonwealth, state/territory and local government through legislation, regulation or education.

Emergency management aims are to strengthen communities to make them safe, sustainable and resilient, helping them to avoid emergencies or minimize and recover from their effects.

Risk is generated by the potential for a source of risk to interact with an element of the community and the environment. The focus of the identify risks activity in the emergency management process is to identify and describe the nature of risks within the emergency management scope. This identification process must be comprehensive because any area of risk not identified may not be included in the risk analysis and evaluation phases.

16. Answer the following questions:

1) What functions does the emergency management incorporate?
2) How may these measures be implemented?
3) What are emergency management aims?
4) How is risk generated?
5) What is the focus of the identify risks activity in the ERM process?
6) Why must the identification process be comprehensive?

17. Write key words to the text “What is emergency management?” (min. – 8)

18. Make a content model for emergency management.

19. Additional resources:

- Controlling Costs with Risk Management: http://www.ibc.ca/en/
- Injury prevention and management: http://www.deir.qld.gov.au
- List of Industries involving hazardous processes: http://dgfasli.nic.in/html/factyact/csch1.htm
- Managing Risks: http://artslinkqld.com.au/managingrisks
- National Emergency Risk Assessment Guidelines: http://www.em.gov.
- Risk management: http://en.wikipedia.org/

QUICK CHECK

20. Complete the text with necessary words or word combinations.

process	vulnerabilities	management	risks	nature
area	function	environment	safe	comprehensive

Risk is a probability or threat of damage, injury, liability, loss, or any other negative occurrence that is caused by external or internal (1) ___.

Risk (2) ___ ensures that an organization identifies and analyses the (3) ___. The emergency management(4) ___ incorporates a wide range of measures to manage risks to communities and the (5) ___.

Emergency management aims are to strengthen communities to make them (6) ___, sustainable and resilient, helping them to avoid emergencies or minimize and recover from their effects.

The focus of the identify risks activity in the emergency management (7) ___ is to identify and describe the (8) ___ of risks within the emergency management scope. This identification process must be (9) ___ because any (10) ___ of risk not identified may not be included in the risk analysis and evaluation phases.

21. Read the text.

Health, Safety and Environment

Health, safety, and environment (HSE) are separate practice areas; however, they are often linked. One of the strongest links between these is that a single risk event may have impacts in all three areas. For example, the uncontrolled release of radiation or a toxic chemical may have immediate short-term safety consequences, more protracted health impacts, and much longer-term environmental impacts.

Events such as Chernobyl, for example, caused immediate deaths, and in the longer term, deaths from cancers, and left a lasting environmental impact leading to birth defects, impacts on wildlife, etc.

Over time, a form of risk analysis called environmental risk analysis has developed. Environmental risk analysis is a field of study that attempts to understand events and activities that bring risk to human health or the environment.

Are the following statements true or false? Correct them.

1) Health, safety, and environment are linked practice areas.
2) One of the strongest links between these is that a single risk event may have impacts in only one area.
3) The uncontrolled release of radiation or a toxic chemical may have immediate short-term safety consequences, more protracted health impacts, and much longer-term environmental impacts.
4) Events such as Chernobyl caused immediate deaths, and in the longer term, deaths from cancers, and left a lasting environmental impact leading to birth defects, impacts on wildlife, etc.
5) Over time, a form of risk analysis called emergency risk analysis has developed.
6) Environmental risk analysis is a field of science that attempts to understand events and activities that bring risk to human health or the environment.

22. Read the newspaper headlines. Work with a partner and prepare a 5 –minute presentation about one of these disasters.

- **Earthquake killed 230.000 on Haiti**
- **Toxic waste kills thousands fish**
- **Floods destroy hundreds of villages**

Answer the questions.

- What/Who caused them?
- What help should be provided in each case?
- Who should provide it?
- Which of the disasters is the most dangerous?

UNIT 5 FIRE SAFETY

Texts:	Text 1 Fire Safety Text 2 Fire Triangle Text 3 Physicochemical Fundamentals of Combustion Text 4 Classification of Fuels Text 5 Types of Fire Extinguishers
Grammar:	Passive Voice Modal Verbs Phrasal Verbs
Self-Study:	Text 6 How to Use a Fire Extinguisher Text 7 Fire is Everyone's Fight Text 8 12 Ways to Prevent a Workplace Fire Text 9 Emergency Telephone Number
Quick Check	Test

Text 1

Keep in mind.

Fire Safety is a condition of object, at which excluded the possibility of a fire, and in the case of its occurrence are used the necessary measures to eliminate the negative influence of dangerous factors of a fire on the people, facilities, and material values.

1. Match the terms to their definitions.

Fire **Fire safety measures**

Fire mode **Fire extinguisher**

Definition

a) the rules of human behavior, the procedure of organization of production, the order of maintenance of the premises and territories, to ensure the prevention of violations of the requirements of fire safety and firefighting.

b) a portable or mobile device for extinguishing fires through the issue of stored extinguishing substance

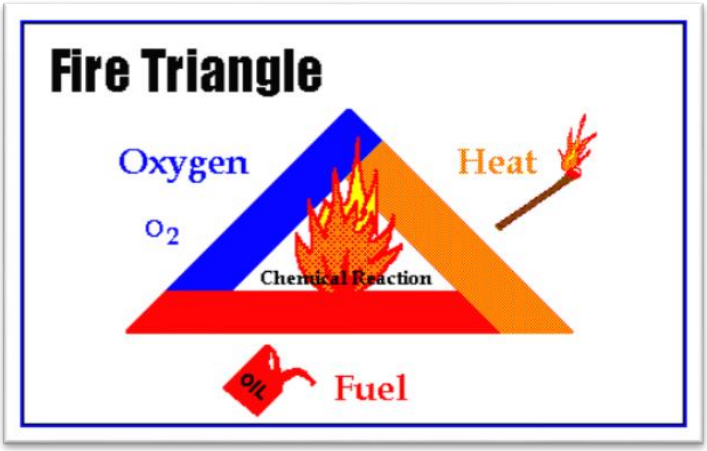
c) uncontrollable burning, causing material damage, harm to life and health of citizens, interests of society and the state

d) actions on maintenance of fire safety, including the implementation of requirements of fire safety

Text 2

Fire Triangle

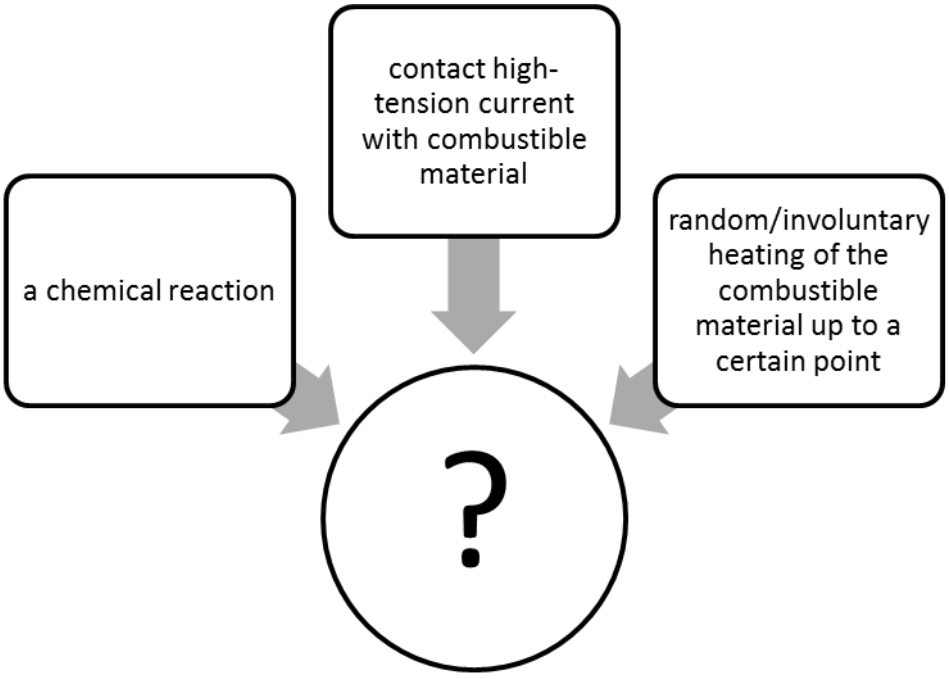
Oxygen, heat, and fuel are frequently referred to as the "fire triangle." Add in the fourth element, the chemical reaction, and you actually have a fire "tetrahedron." The important thing to remember is: take any of these things away, and you will not have a fire or the fire will be extinguished.



Essentially, fire extinguishers put out fire by taking away one or more elements of the fire triangle/tetrahedron.

Fire safety, at its most basic, is based upon the principle of keeping fuel sources and ignition sources separate.

Fire-a set of hot gases and plasma, formed as a result of:



Vocabulary

- combustion [kəm'bʌstʃ(ə)n] горение
- extinguisher [ɪk'stɪŋgwɪʃə] огнетушитель
- fuel [fjuːəl], ['fjuəl топливо, горючее
- heat [hiːt] теплота (физ.)
- oxygen ['ɔksɪʤən] кислород (хим.)
- random ['rændəm] случайный, произвольный
- tension растягивающее напряжение, натяг (натяжение), натяжение, растяжение, сила натяжения
- tetrahedron [ˌtetrə'hiːdr(ə)n] четырёхгранник

2. Complete these statements. Ask Wh – questions.

1) Oxygen, heat, and fuel are frequently referred to as the "___ ___." (What)
2) When the fourth element is added in, ___ ___ , and you actually have a fire "tetrahedron." (When)
3) Fire ___ put out fire by taking away one or more elements of the fire triangle/tetrahedron. (What)
4) Fire ___ is based upon the principle of keeping fuel sources and ignition sources separate. (What principle)
5) Fire is a ___ of hot gases and plasma. (What)
6) Fire is formed as a result of: a ___ ___, contact high ___ ___ with combustible material, random or involuntary of the___ ___al up to a certain point. (How)

3. Find English equivalents.

Треугольник огня, химическая реакция, четырёхгранник, огнетушитель, пожарная безопасность, напряжение, горючие материалы.

Text 3

4. Read the text and complete it with the verbs in the correct form.

Physicochemical Fundamentals of Combustion

Combustion (to be) the chemical reaction of oxidation, which (to accompany) by the release of large amount of heat and light.

There (to be) the following types of combustion:

- full - combustion with sufficient or excess of oxygen;
- part - burning of the lack of oxygen.

With full combustion products of combustion (to be) carbon dioxide (CO2), water (H2O), nitrogen (N), sulfur dioxide (SO2), phosphorus anhydride.

In case of incomplete combustion, usually (to form) caustic, poisonous flammable and explosive products: carbon monoxide, alcohols, acids, aldehydes.

Vocabulary

- acid ['æsɪd] кислота
- accompany [ə'kʌmpənɪ] сопровождать
- aldehyde ['ældɪhaɪd] альдегид
- carbon dioxide диоксид углерода
- chemical fundamentals [ˌfʌndə'ment(ə)lz] химические основы
- excess of oxygen [ɪk'ses əv ɔksɪʤən] избыток кислорода
- explosive products [ɪk'spləusɪv] взрывоопасные продукты
- fire mode противопожарный режим
- fire model модель пожара (для проведения испытаний на пожаробезопасность)

– fire prevention [prɪ'venʃ(ə)n] меры противопожарной безопасности
– nitrogen ['naɪtrədʒən] азот
– poisonous flammable products ['pɔɪz(ə)nəs] ядовитые горючие продукты
– prevention of accidents (accident prevention) техника безопасности
– sulfur dioxide ['sʌlfə] сернистый ангидрид
– fire safety пожарная безопасность
– active fire protection активная пожарная защита
– fire hazards опасные факторы

Как читаются химические формулы в английском языке

В русском языке мы называем каждый химический элемент либо одной буквой (как в случае с H2O), либо целым названием из таблицы (например, Cu — купрум или Cl — хлор). Как правило, целым названием мы именуем элементы, состоящие из 2 букв.

В английском же языке абсолютно все химические элементы произносятся по буквам, их составляющим. Причем названия букв используются английские, а не латинские! Поэтому водород H будет называться не «аш», а [eitʃ], а медь Cu будет произноситься, как отдельные буквы C и U [si: ju:].

Таким образом, формула воды H_2O будет звучать на английском, как [eitʃ tu: ou].

HCl — [eitʃ si: el]
HBr — [eitʃ bi: a:]
H2SO4 — [eitʃ tu: es ou fɔ:]
CF4 — [si: ef fɔ:]
Cu2O — [si: ju: tu: ou]

5. Keep in mind all chemical elements. See appendix.

Text 4

Classification of Fuels

Class A	Wood, paper, cloth, trash, plastics Solid combustible materials that are not metals. (Class A fires generally leave an Ash.)
Class B	Flammable liquids: gasoline, oil, grease, acetone Any non-metal in a liquid state, on fire. This classification also includes flammable gases. (Class B fires generally involve materials that Boil or Bubble.)
Class C	Electrical: energized electrical equipment As long as it's "plugged in" it would be considered a class C fire. (Class C fires generally deal with electrical Current.)
Class D	Metals: potassium, sodium, aluminum, magnesium Unless you work in a laboratory or in an industry that uses these materials, it is unlikely you'll have to deal with a Class D fire. It takes special extinguishing agents to fight such a fire.

6. What class is it?

book
car
chair
cooker
dishwasher
dress
food processor
gas boiler
gym shoes
handbag
jacket
motor
notebook
oil tank

oven	track suit
pump	tractor
refrigerator	umbrella
shelf	wall lamp
shirt	wall unit
sofa	water boiler
television set	wooden house

Text 5

Most fire extinguishers will have a pictograph label telling you which classifications of fire the extinguisher is designed to fight. For example, a simple water extinguisher might have a label like the one below, indicating that it should only be used on Class A fires.

7. Read the texts and complete the table "Fire Extinguisher Chart".

Types of Fire Extinguishers

Different types of fire extinguishers are designed to fight different classes of fire.

The three most common types of fire extinguishers are:

- **Water (APW)**
- **Carbon Dioxide (CO2)**
- **Dry Chemical (ABC, BC, DC)**

Fire extinguishers are marked with letters (type of fire extinguisher on the category) and number (volume).

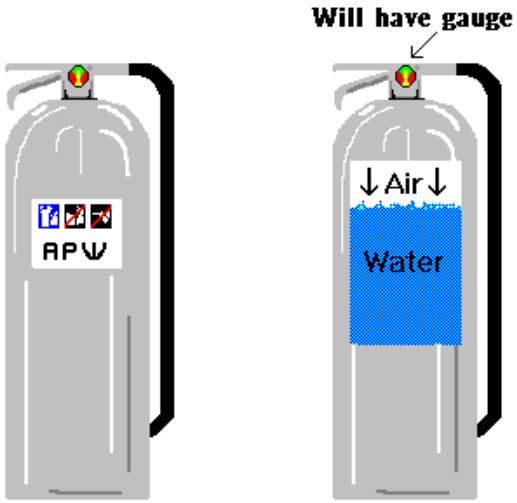
Fire Extinguisher Chart

Extinguisher		**Type of fire**				
Type	**Color**	**Solids (wood, paper, cloth, etc.)**	**Flammable liquids**	**Flammable gasses**	**Electrical Equipment**	**Cooking Pils&Fats**
Water	Red	✓ -yes	×- no			
Foam	Yellow					
Dry powder	Blue					
Carbon Dioxide (CO2)	Black					

Air – pressurized water extinguisher

APW stands for "air-pressurized water." APWs are large, silver extinguishers that are filled about two-thirds of the way with ordinary tap water, then pressurized with normal air. In essence, an APW is just a giant squirt gun.

APWs stand about 2 feet tall and weigh approximately 25 pounds when full.



APWs are designed for Class A (wood, paper, cloth) fires only.

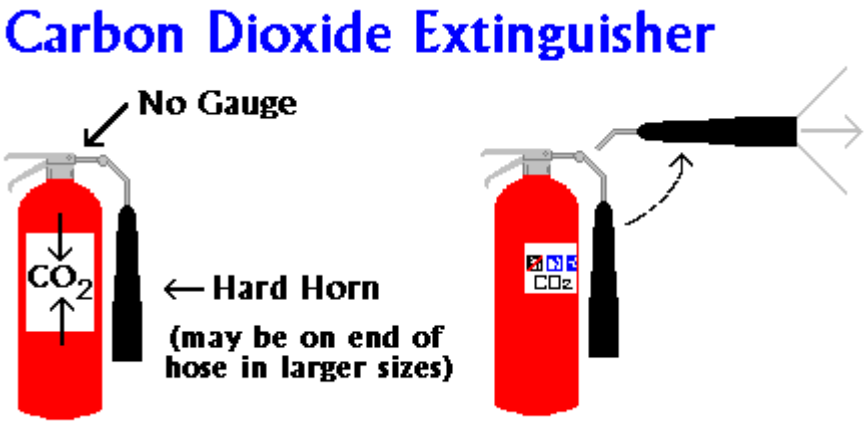
Carbon dioxide extinguisher

Carbon Dioxide extinguishers are filled with non-flammable carbon dioxide gas under extreme pressure. You can recognize a CO2 extinguisher by its hard horn and lack of pressure gauge. The pressure in the cylinder is so great that when you use one of these extinguishers, bits of dry ice may shoot out the horn.

CO2 cylinders are red and range in size from 5 lbs to 100 lbs or larger. In the larger sizes, the hard horn will be located on the end of a long, flexible hose.

CO2s are designed for Class B and C (flammable liquid and electrical) fires only.

Carbon Dioxide is a non-flammable gas that extinguishes fire by displacing oxygen, or taking away the oxygen element of the fire triangle.



The carbon dioxide is also very cold as it comes out of the extinguisher, so it cools the fuel as well. CO2s may be ineffective at extinguishing Class A fires because they may not be able to displace enough oxygen to successfully put the fire out. Class A materials may also smolder and reignite.

CO2s will frequently be found in laboratories, mechanical rooms, kitchens, and flammable liquid storage areas.

Dry chemical extinguisher

Dry Chemical Extinguishers come in a variety of types. You may see them labeled:

"DC" short for "dry chem".

"ABC" indicating that they are designed to extinguish class A,B,C fires.

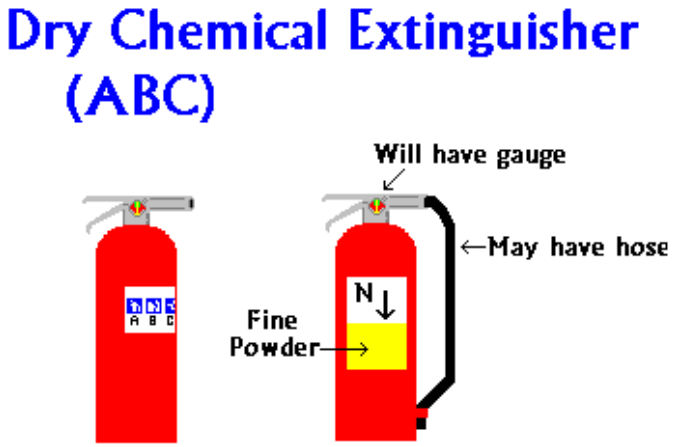
"BC" indicating that they are designed to extinguish class B and C fires.

At OSU, "ABC" fire extinguishers are filled with a fine yellow powder. The greatest portion of this powder is composed of monoammonium phosphate. Nitrogen is used to pressurize the extinguishers.

ABC extinguishers are red and range in size from 5 lbs to 20 lbs on campus.

It is extremely important to identify which types of dry chemical extinguishers are located in your area. Read the labels

and know their locations! You don't want to mistakenly use a "BC" extinguisher on a Class A fire, thinking that it was an "ABC" extinguisher.



Dry chemical extinguishers put out fire by coating the fuel with a thin layer of dust, separating the fuel from the oxygen in the air. The powder also works to interrupt the chemical reaction of fire, so these extinguishers are extremely effective at putting out fire.

These extinguishers will be found in a variety of locations. New buildings will have them located in public hallways. They may also be found in laboratories, mechanical rooms, break rooms, chemical storage areas, offices, university vehicles, etc.

Dry chemical extinguishers with powder designed for Class B and C fires may be located in places such as commercial kitchens or areas with flammable liquids.

8. Correct these sentences.

1) Air-pressurized water extinguishers are large, red, and are filled with non-flammable carbon dioxide gas.
2) Carbon Dioxide extinguishers are silver and they are filled with water and air.

3) Dry chemical extinguishers put out fire by coating the fuel with a thin layer of dust, separating the fire from the thing, which is burnt.
4) New buildings will have air –pressurized extinguishers located in public hallways.

GRAMMAR

Passive Voice

9. There are mistakes in some of the sentences. Find the mistakes and correct them.

1) Oxygen, heat, and fuel is frequently referred to as the "fire triangle."
2) Essentially, fire is puted out by taking away one or more elements of the fire triangle/tetrahedron with fire extinguishers.
3) Fire is formed as a result of a chemical reaction.
4) Fire extinguisher are marked with letters and number.
5) Air – pressurized water extinguisher s are fillen about two-thirds of the way with ordinary tap water, then pressurized with normal air.
6) APWs is designed for Class A.
7) The hard horn will be located on the end of a long, flexible hose.
8) In the case of its occurrence are used the necessary measures to eliminate the negative influence of dangerous factors of a fire.

10. Put: **by / for / with / to**
1) Carbon Dioxide extinguishers are filled ___ non-flammable carbon dioxide gas.
2) Carbon Dioxide extinguishers are designed ___ Class B and C.

3) Dry Chemical Extinguishers are designed ___ extinguish class A, B, C fires.
4) Nitrogen is used ___ pressurize the extinguishers.
5) Dry chemical extinguishers put out fire by coating the fuel ___ a thin layer of dust.
6) Dry chemical extinguishers may be located in areas ___ flammable liquids.

11. Choose the correct answer.

1) CO2s may not be able to displace enough oxygen to successfully put the fire ***out / up***.
2) The pressure in the cylinder is so great that when you use one of these extinguishers, bits of dry ice may shoot ***down / out*** the horn.
3) Carbon Dioxide is a non-flammable gas that extinguishes fire by displacing oxygen, or taking ***out / away*** the oxygen element of the fire triangle.
4) The carbon dioxide is also very cold as it comes ***out / from*** of the extinguisher, so it cools the fuel as well.

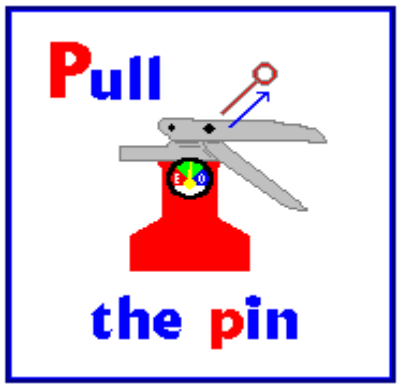
12. Pay attention to the modal verbs. Give Russian equivalents.

- It is unlikely you'll have to deal with a Class D fire.
- CO2s may be ineffective at extinguishing Class A fires.
- You can recognize a CO2 extinguisher by its hard horn and lack of pressure gauge.
- For example, a simple water extinguisher might have a label like the one below.

SELF - STUDY

Text 6

13. Read the text "How to use a fire extinguisher" and match the pictures with their descriptions.



a) Aim at the base of the fire.
If you aim at the flames (which is frequently the temptation), the extinguishing agent will fly right through and do no good. You want to hit the fuel.

b) Sweep from side to side until the fire is completely out.
Start using the extinguisher from a safe distance away, then move forward.
Once the fire is out, keep an eye on the area in case it re-ignites.

c) Pull the pin.
This will allow you to discharge the extinguisher.

d) Squeeze the top handle or lever.
This depresses a button that releases the pressurized extinguishing agent in the extinguisher.

14. Explain in Passive Voice how to use a fire extinguisher.

Firstly / The first step is / To begin with …
Secondly …
The next step is …

After that …
Then …
Following that …
Finally / The last step / stage is …

Text 7

Fire is Everyone's Fight

15. Read the text quickly and check your answers.

A

The fire problem in the United States is an ongoing and continuous battle for the fire service and the public alike. According to the U.S. Fire Administration (USFA), 81 percent of all fire deaths and 76 percent of all fire injuries occurred in residential buildings. Each year there is an estimated:

B

365,500 residential building fires reported to U.S. fire departments

2,560 deaths

13,275 injuries

$6.6 billion in property loss

C

This is a call to action for USFA, fire and life safety partner organizations and the American public. We must join together to help reduce the number of home fires, and the resulting deaths, injuries and loss of property. We rely on the fire service to fight fires once they occur; however, the prevention of fires is up to all of us ...

1. What type of text is it?

a) an email to a friend
b) a fire administration report
c) a magazine article

2. Match the information 1-3 with the spaces A-B in the text.

1) the prevention of fires is up to all of us
2) percent of fire injuries
3) datum

3. Are the sentences true or false?

1) The fire problem in the United States is a battle between the fire service and the public.
2) According to the U.S. Fire Administration all fire injuries occurred in residential buildings.
3) Each year there is an estimated 365,500 residential building fires reported to world fire departments.
4) We must join together to help reduce the number of home fires.
5) We don't rely on the fire service to fight fires.

Text 8

16. Complete the text with the following words and word-combinations.

a) electrical equipment
b) power
c) chemical storage areas
d) machinery
e) metal container
f) non-sparking tools
g) emergency exits
h) chemicals safely
i) emergency telephone numbers
j) fire extinguisher

12 Ways to Prevent a Workplace Fire

Preventing fires is everyone's job. We all need to be alert to anything that could cause a fire, and take responsibility to report any problem areas so they can be corrected. Here are some reminders about fire prevention:

1. Practice good workplace housekeeping. Clutter contributes to fires by providing fuel and by preventing access to exits and emergency equipment.

2. Place oily rags in a covered (1) ___ ___. This waste must be properly disposed of on a regular basis.

3. Maintain (2) ___ to prevent overheating and friction sparks.

4. Report electrical hazards. Many fires start in faulty wiring and malfunctioning (3) ___ ___. Never attempt electrical repairs unless you are qualified and authorized.

5. Maintain free access to all electrical control panels. Material or equipment stored in front of the panels would slow down the shutting down of (4) ___ in an emergency situation.

6. Use and store (5) ___ ___. Read the label and the Material Safety Data Sheet to determine flammability and other fire hazards. Provide adequate ventilation when using and storing these substances.

7. Use all precautions to prevent ignition in potentially explosive atmospheres such as those containing flammable liquid vapors or fine particles. Use (6) ___ ___, and control static electricity as required.

8. Help maintain building security to prevent arson fires. Lock up as instructed; report suspicious persons; and don't leave combustible rubbish where it can be set afire outside the building.

9. Smoke only in designated areas, and extinguish smoking materials safely. Never smoke in storerooms or (7) ___ ___ ___.

10. Never block sprinklers, firefighting equipment or (8) ___ ___. Observe clearances when stacking materials.

11. Post (9) ___ ___ ___ as well as the company address by the telephone in your station for quick access if a fire were to start in your work area.

12. Learn how to properly use a (10) ___ ___.

Vocabulary

- allocated space отведенное место
- arson поджог

– electrical equipment — электрооборудование
– emergency exit — запасный выход
– fire prevention — пожарная профилактика
– flammability — воспламеняемость
– skilled worker — квалифицированный работник
– ventilation — вентиляция

Text 9

17. Read the text and keep in mind the emergency telephone number.

In many countries the public telephone network has a single emergency telephone number (sometimes known as the universal emergency telephone number or occasionally the emergency services number) that allows a caller to contact local emergency services for assistance. The emergency number differs from country to country; it is typically a three-digit number so that it can be easily remembered and dialed quickly. Some countries have a different emergency number for each of the different emergency services.

From Wikipedia

Country	***Police***	***Medical***	***Fire***
China	110	120	119
Hong Kong	999		
Japan	110	119	
Austria, Belgium, Bulgaria, Cyprus, Finland, France, Germany, Italy, Russia, Turkey	112		
United Kingdom	999 or 112		
Australia	000		
New Zealand	111		
Canada	911		
United States of America	911		

In Russia you can call also:

18. Additional resources:

- Fire safety: http://firesafety.com/.
- 12-fire-prevention-tips-for-workers: http://www.safetyxchange.org/
- Emergency telephone number: http://en.wikipedia.org/wiki
- Fire Triangle: http://ehs.okstate.edu/
- Химические элементы в английском языке: http://angsen.ru/chemistry-in-english.html
- Fire Is Everyone's Fight: http://www.usfa.fema.gov/fireservice/prevention_education/strategies/fire_is_everyones_fight/

QUICK CHECK

19. Complete the text with necessary words or word combinations.

fire triangle	condition	elements	measures	letters
fuel sources	fire extinguishers	classes	types	number

1) Fire safety is a (1) ___ of object, at which excluded the possibility of a fire.

2) In the case of its occurrence are used the necessary (2) ___ to eliminate the negative influence of dangerous factors of a fire on the people, facilities, and material values.

3) Oxygen, heat, and fuel are frequently referred to as the (3) ___ ___.

4) Essentially, fire extinguishers put out fire by taking away one or more (4) ___ of the fire triangle.

5) Fire safety is based upon the principle of keeping (5) ___ ___and ignition sources separate.

6) Different types of (6) ___ ___ are designed to fight different (7) ___ of fire.

7) The three most common (8) ___ of fire extinguishers are: Water, Carbon Dioxide, Dry Chemical.

8) Fire extinguishers are marked with (9) ___ (type of fire extinguisher on the category) and (10) ___ (volume).

20. Can you read it?

TYPICALLYFIRECOMESFROMACHEMICAL REACTIONBETWEENOXYGENINTHEATMOSPHEREANDS OMESORTOFFUEL(WOODORGASOLINE)

UNIT 6 FIRST AID

Texts:	Text 1 Why is First Aid so Important? Text 2 Aims Text 3 First Aid
Grammar:	Passive Voice Phrasal Verbs
Self-Study:	Text 4 Injuries Text 5 First Aid Kit
Quick Check	Test

The first aid you give before getting medical help can save a person's life!

Text 1

Why is First Aid so Important?

First aid is the provision of initial care for an illness or injury. It is usually performed by non-expert, but trained personnel to a sick or injured person until definitive medical treatment can be accessed.

Certain self-limiting illnesses or minor injuries may not require further medical care past the first aid intervention. It generally consists of a series of simple and in some cases, potentially life-saving techniques that an individual can be trained to perform with minimal equipment.

Vocabulary

- certain ['sɜːt(ə)n] точный, определённый
- illness ['ɪlnəs] болезнь, заболевание
- initial care [ɪ'nɪʃ(ə)l] первая помощь,
- intervention [ˌɪntə'venʃ(ə)n] вмешательство
- life-saving ['laɪfˌseɪvɪŋ] спасательный
- medical treatment ['triːtmənt] лечение, уход
- minor ['maɪnə] незначительный, несущественный
- provision [prə'vɪʒ(ə)n] обеспечение, предоставление;
- self-limiting самоограничивающийся не требующий лечения
- series ['sɪəriːz] ряд; последовательность

1. Answer the questions.

1) What is first Aid?

2) Who performs the provision of initial care?
3) Is always further medical care required?
4) What techniques does the first aid intervention consist of?

2. Complete the statement and keep it in mind.

First aid is the (проведение) of (первой помощи) for an (болезни) or (травмы). It consists of a (ряда) of life-saving techniques that an (человек) can be trained to (выполнять) with minimal (оборудованием).

Text 2

Aims

The key aims of first aid can be summarized in three key points:

Preserve life: the overriding aim of all medical care, including first aid, is to save lives.

Prevent further harm: also sometimes called prevent the condition from worsening, or danger of further injury, this covers both external factors, such as moving a patient away from any cause of harm, and applying first aid techniques to prevent worsening of the condition, such as applying pressure to stop a bleed becoming dangerous.

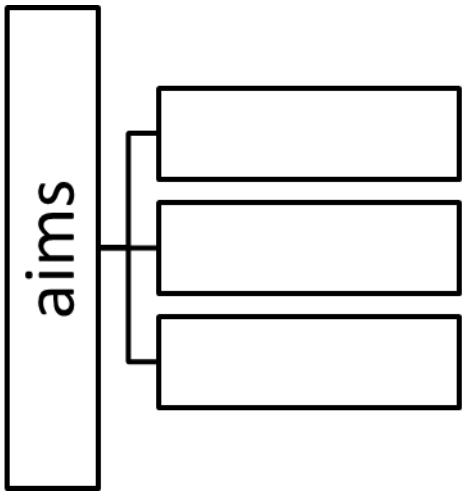
Promote recovery: first aid also involves trying to start the recovery process from the illness or injury, and in some cases might involve completing a treatment, such as in the case of applying a plaster to a small wound.

First aid training also involves the prevention of initial injury and responder safety, and the treatment phases.

Vocabulary

– recovery [rɪ'kʌv(ə)rɪ] выздоровление;
восстановление физических сил, приход в сознание, в себя (после обморока, наркоза и т. п.)

3. Read the text and complete the diagram.



4. Match the verbs with the nouns.

1. to summarize in	a) harm
2. to preserve	b) key points
3. to prevent	c) a patient
4. to cover	d) recovery
5. to move away	e) life
6. to promote	f) factors

Text 3

First Aid

Though out life, you will be faced with injuries of every kind; whether it is a simple paper cut or a severe chemical burn, every accident must be dealt with in **the right way**.

- DON'T LEAVE THE PERSON
- YOU ARE THEIR BEST CHANCE OF SURVIVAL
- SEND SOMEONE FOR HELP
- CALL 112 FOR AN AMBULANCE

5. Are these statements true or false?

1) At the beginning of our life we face with the injuries.
2) There are injuries of every kind.
3) Every accident must be dealt with only by non-expert.
4) Every accident must be dealt with in special way.
5) If somebody is injured you must leave him and go away.
6) Injured person has no chance of survival.
7) The victim can help himself.
8) In the USA you can call 112, in Russia – 911.

GRAMMAR

Passive Voice

6. Pay attention to the verbs in the Passive Voice. Determine the tense.

1) First aid is usually performed by non-expert.
2) Life-saving techniques can be trained to perform with minimal equipment.
3) You will be faced with injuries of every kind.
4) Every accident must be dealt with in the right way.

7. What must be done? Write sentences in Passive Voice.

Someone for help /send – Someone is sent for help.

1) the person on the shoulder /tap
2) a deep breath / take
3) deep breaths / give
4) breathing from a victim / listen
5) trusts / give up
6) the burn / cool
7) the injured person / lie down
8) the person to prevent loss of body heat / cover

9) with warm water / wash
10) the burn with a bandage/cover

SELF-STUDY

Text 4

INJURIES
Mouth to mouth resuscitation

1. Tap the person on the shoulder to see if he is conscious. Loudly ask, "Are you okay?".
2. See if there is an obstruction.
3. Perform a sweep of the person's mouth using your two fingers while tilting the head back to see if anything is caught in the air passageway.
4. Take a deep breath, pinch the victim's nose closed with the hand that is holding the forehead, seal your lips around the victim's mouth and give them several deep breaths. Pause in between each one to inhale shortly.
5. Look, listen and feel for breathing from your victim.

Choking

If choking victim can cough, speak or breathe, do not use back blows on a person who has partial airway obstruction because there is a risk of lodging the previously semi-loose object even more deeply. Call an ambulance.

If victim cannot breath:

1. Get behind the victim.
2. Wrap your arms around his waist. Make sure you wrap your arms below the rib cage.

3. Take the underside of one fist and place it near the middle of the person's abdomen, with the thumb-side against the abdomen, just above the navel and below the breastbone.
4. Grasp that fist in your other hand.
5. Give up to 5 separate, inward and upward thrusts. Continue until the obstruction is dislodged - check after each thrust. Stop if the victim becomes unconscious.

Severe bleeding

1. Lie the injured person down and cover the person to prevent loss of body heat.
2. While wearing gloves, remove any obvious dirt or debris from the wound.
3. Apply pressure directly on the wound until the bleeding stops.
4. Don't remove the gauze or bandage.
5. Squeeze a main artery if necessary.
6. Immobilize the injured body part once the bleeding has stopped.

Fracture

1. Stop any bleeding. Apply pressure to the wound with a sterile bandage, a clean cloth or a clean piece of clothing.
2. Immobilize the injured area.
3. Apply ice packs to limit swelling and help relieve pain until emergency personnel arrive. Don't apply ice directly to the skin — wrap the ice in a towel, piece of cloth or some other material.
4. Treat for shock.

Burns

1st-degree burn. The skin is usually red. Often there is swelling. Pain sometimes is present

2nd-degree burn. Blisters develop. Skin takes on an intensely reddened, splotchy appearance. There is severe pain and swelling.

For minor burns, including first-degree burns and second-degree burns limited to an area no larger than 3 inches (7.6 centimeters) in diameter, take the following action:

1. Cool the burn. Hold the burned area under cool (not cold) running water for 10 or 15 minutes or until the pain subsides. Don't put ice on the burn.
2. Cover the burn with a sterile gauze bandage.
3. Take an over-the-counter pain reliever.

3rd-degree burn. The most serious burns involve all layers of the skin and cause permanent tissue damage. Fat, muscle and even bone may be affected.

For major burns, call for emergency medical help. Until an emergency unit arrives, follow these steps:

1. Don't remove burned clothing.
2. Don't immerse large severe burns in cold water.
3. Check for signs of circulation (breathing, coughing or movement).
4. Elevate the burned body part or parts. Raise above heart level, when possible.
5. Cover the area of the burn. Use a cool, moist, sterile bandage; clean, moist cloth; or moist cloth towels.

Poisoning

1. Call for emergency help.
2. If it is safe to do so, rescue the person from the danger of the gas, fumes, or smoke. Open windows and doors to remove the fumes.
3. Take several deep breaths of fresh air, and then hold your breath as you go in. Hold a wet cloth over your nose and mouth.

4. Do not light a match or use a lighter because some gases can catch fire.
5. If necessary, perform first aid for eye injuries.
6. If the person vomits, clear the person's airway. Wrap a cloth around your fingers before cleaning out the mouth and throat.
7. Even if the person seems perfectly fine, get medical help.

Bites

Animal Bites

Wash with warm water mixed with any antiseptic lotion.

Insect Bites

Remove the sting with a disinfected/sterilized needle or pin.

Snake Bites

1. The place just above the bite should be bandaged so tightly with a cord or rope that it stops the flow of blood upward. Use of tourniquet is ideal in such conditions.
2. Enlarge the wound caused by the bite with the help of a disinfected sharp edged knife.
3. Press out the poisonous blood.
4. Do not let the patient sleep; keep him awake and conscious.
5. Evacuate to the hospital.

Fainting Shock

Fainting is common which may occur from hunger, fatigue, anxiety, bad news, overwork, excessive heat, injury or bleeding accident.

1. The victim may be asked or made to bend forward and place his head between the knees.
2. If he does not improve, he may be laid flat on his back, with his head a little lower than the body.
3. Splash warm and cold water on his face. Nothing should be given by mouth.

Eye injury

If the foreign body is seen, pull down the lower eye-lid and remove the foreign body with the corner of a wet handkerchief.

Vocabulary

- bite [baɪt] укус
- burn [bɜːn] ожог
- bandage ['bændɪʤ] бинт; перевязочный материал
- choking ['ʧəukɪŋ] удушье
- fainting обморок, потеря сознания
- fracture ['frækʧə] перелом; трещина; разрыв мягких тканей
- handkerchief ['hæŋkəʧiːf] носовой платок
- to splash [splæʃ] - брызгать
- resuscitation [rɪˌsʌsɪ'teɪʃ(ə)n] искусственное дыхание
- poisoning ['pɔɪz(ə)nɪŋ] отравление; заражение, интоксикация
- bleeding ['bliːdɪŋ] кровотечение
- victim ['vɪktɪm] жертва, пострадавший
- wound [wuːnd] рана; ранение

8. Match the verbs with the nouns.

1) to give	a) the pulse
2) to immobilize	b) deep breaths
3) to check	c) the burn
4) to treat for	d) the foreign body
5) to cover	e) the injured body
6) to clear	f) the poisonous blood
7) to remove	g) the person's airway
8) to press out	h) shock

9. Match the information with the injuries.

1) All layers of the skin and cause permanent tissue are damaged.
2) The foreign body is in eye.
3) The leg is broken.
4) The individual has overworked.
5) The individual cannot breath.

10. Complete the statements with the correct words or word – combinations.

medical help	accident	airway	injecting	water
chemicals in the workplace	difficulty breathing	loss of appetite	emergency help	fumes
headache	comfortable	clothing	first aid	pulse

Poisoning is caused by swallowing, (1) ___, breathing in, or otherwise being exposed to a harmful substance. Most poisonings occur by (1) ___. Immediate (3) ___ ___ is very important in a poisoning emergency. The first aid you give before getting (4) ___ ___ can save a person's life.

Items that can cause poisoning include: carbon monoxide gas, certain foods, (5) ___ ___ , drugs, household detergents and cleaning products.

Symptoms vary according to the poison, but may include: abdominal pain, bluish lips, diarrhea, (6) ___ ___, double vision, (7) ___, heart palpitations, (8) ___ ___ .

First Aid. For poisoning by swallowing: check and monitor the person's (9) ___, breathing, and (10) ___. If the person vomits, clear the person's airway. Keep the person (11) ___. The person should be rolled onto the left side.

If the poison has spilled on the person's clothes, remove the (12) ___ and flush the skin with (13) ___.

For inhalation poisoning: call for (14) ___ ___ . Open windows and doors to remove the (15) ___. Take several deep breaths of fresh air, and then hold your breath as you go in.

Text 5

First Aid Kit

A well-stocked first-aid kit can help you respond effectively to common injuries and emergencies. Keep at least one first-aid kit in your home and one in your car.

Store your kits in easy-to-retrieve locations that are out of the reach of young children. Children old enough to understand the purpose of the kits should know where they are stored.

Check your first-aid kits regularly, at least every three months, to be sure the flashlight batteries work and to replace supplies that have expired.

You can purchase first-aid kits at many drugstores or assemble your own. Contents of a first-aid kit should include:

11. Match the things with the basic supplies or the medications.

Basic supplies	Medications

- Activated charcoal (use only if instructed by your poison control center)
- Adhesive tape
- Aloe vera gel
- Antibiotic ointment
- Anti-diarrhea medication
- Antiseptic solution or towelettes

- Aspirin and nonaspirin pain relievers (never give aspirin to children)
- Bandages, including a roll of elastic wrap (Ace, Coban, others) and bandage strips (Band-Aid, Curad, others) in assorted sizes
- Calamine lotion
- Cotton balls and cotton-tipped swabs
- Disposable latex or synthetic gloves, at least two pair
- Duct tape
- First-aid manual
- Gauze pads and roller gauze in assorted sizes
- Instant cold packs
- Over-the-counter hydrocortisone cream
- Over-the-counter oral antihistamine, such as diphenhydramine (Benadryl, others)
- Petroleum jelly or other lubricant
- Plastic bags for the disposal of contaminated materials
- Safety pins in assorted sizes
- Scissors and tweezers
- Soap or instant hand sanitizer
- Sterile eyewash, such as a saline solution
- Thermometer
- Triangular bandage
- Turkey baster or other bulb suction device for flushing out wounds

12. Choose one of the injuries. Describe its items, symptoms, first aid. Give your presentation to the group.

13. Additional resources:

- First aid: http://en.wikipedia.org/wiki/
- First aid: http://www.mayoclinic.com/health/FirstAidIndex
- First aid kit: http://www.mayoclinic.com
- First aid: http://www.nlm.nih.gov/medlineplus/firstaid.html
- Help-a-Choking-Victim: http://www.wikihow.com/
- How perform-mouth-mouth-resuscitation: http://www.ehow.com

QUICK CHECK

14. Complete the text with the words and word – combinations.

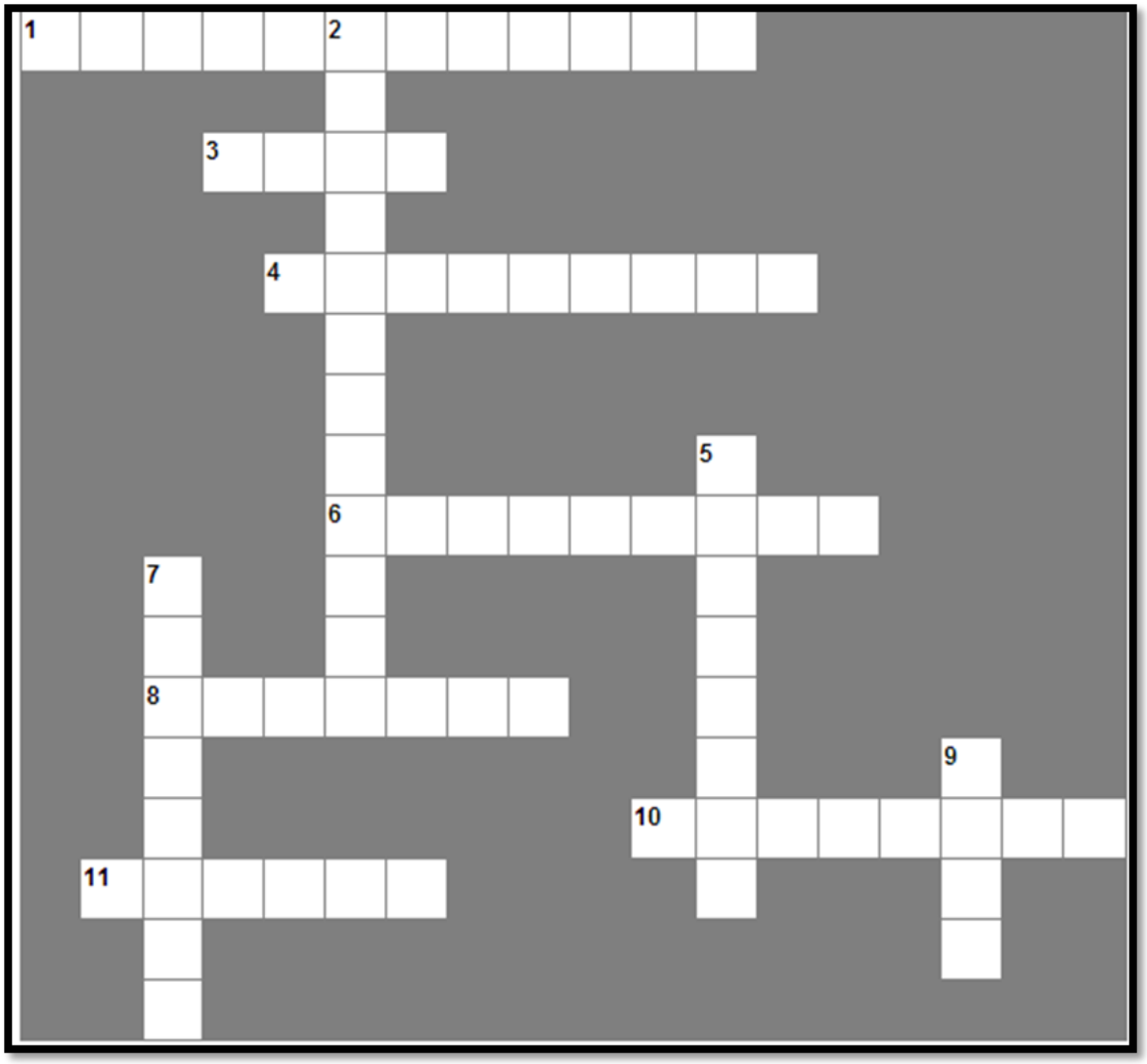
aims	recovery	non-expert	harm	injury
kind	provision	treatment	life	way

First aid is the (1) ___ of initial care for an illness or (2) ___. It is usually performed by (3) ___, but trained personnel to a sick or injured person. The key (4) ___ of first aid can be summarized in three key points: preserve (5) ___, prevent further (6) ___, promote (7) ___.

First aid training also involves the prevention of initial injury and responder safety, and the (8) ___ phases.

Though out life, we will be faced with injuries of every (9) ___; whether it is a simple paper cut or a severe chemical burn, every accident must be dealt with in the right (10) ___.

15. Complete the crossword.



Across:

1. самоограничивающийся
3. укус
4. обеспечение
6. лечение
8. болезнь
10. перелом
11. пострадавший

Down:

2. вмешательство
5. выздоровление
7. обморок
9. ожог

APPENDIX

Таблица неправильных глаголов

Infinitive	Past Simple	Past Participle	Перевод
arise [ə'raiz]	arose [ə'rəuz]	arisen [ə'riz(ə)n]	возникать, появляться
awake [ə'weik]	awoke [ə'wəuk]	awoken [ə'wəukən]	будить
be [bi:]	was [wɔz], were [wɜ:]	been [bi:n]	быть
bear [bɛə]	bore [bɔ:]	born [bɔ:n]	носить
beat [bi:t]	beat [bi:t]	beaten ['bi:tn]	бить
become [bi:kʌm]	became [bi:keim]	become[bi:kʌm]	становиться
begin [bi'gin]	began [bi'gæn]	begun [bi'gʌn]	начинать
bend [bend]	bent [bent]	bent [bent]	сгибать; гнуть
bet [bet]	bet [bet]	bet [bet]	держать пари
bind [baind]	bound [baund]	bound [baund]	вязать; связывать
bite [bait]	bit [bit]	bitten ['bitn]	кусать, жалить
bleed [bli:d]	bled [bled]	bled [bled]	кровоточить
blow [blou]	blew [blu:]	blown [bloun]	дуть
break [breik]	broke [brouk]	broken ['brəʊkən]	ломать
breed [bri:d]	bred [bred]	bred [bred]	воспитывать, вынашивать
bring [briŋ]	brought [brɔ:t]	brought [brɔ:t]	приносить
broadcast ['brɔ:dka:st]	broadcast ['brɔ:dka:st]	broadcast ['brɔ:dka:st]	вещать
browbeat ['braubi:t]	browbeaten ['braubi:tn]	browbeaten ['braubi:tn]	запугивать, пугать
build [bild]	built [bilt]	built [bilt]	строить
burn [bɜ:n]	burnt [bɜ:nt]	burnt [bɜ:nt]	гореть
burst [bɜ:st]	burst [bɜ:st]	burst [bɜ:st]	разразиться
bust [bʌst]	bust [bʌst]	bust [bʌst]	сломать, разрушать
buy [bai]	bought [bɔ:t]	bought [bɔ:t]	покупать

catch [kætʃ]	caught [kɔ:t]	caught [kɔ:t]	ловить, хватать
choose [tʃu:z]	chose [ʃəuz]	chosen [tʃəuz(ə)n]	выбирать
come [kʌm]	came [keim]	come [kʌm]	приходить
cost [cɔst]	cost [cɔst]	cost [cɔst]	стоить
creep [kri:p]	crept [krept]	crept [krept]	ползать
cut [kʌt]	cut [kʌt]	cut [kʌt]	резать
do [du:]	did [did]	done [dʌn]	делать
draw [drɔ:]	drew [dru:]	drawn [drɔ:n]	рисовать, тащить
dream [dri:m]	dreamt [dremt]	dreamt [dremt]	мечтать, дремать
drink [driŋk]	drank [dræŋk]	drunk [drʌŋk]	пить
drive [draiv]	drove [drouv]	driven ['drivn]	водить
eat [i:t]	ate [et]	eaten ['i:tn]	есть
fall [fɔ:l]	fell [fel]	fallen ['fɔ:lən]	падать
feed [fi:d]	fed [fed]	fed [fed]	кормить
feel [fi:l]	felt [felt]	felt [felt]	чувствовать
fight [fait]	fought [fɔ:t]	fought [fɔ:t]	бороться
find [faind]	found [faund]	found [faund]	находить
fit [fit]	fit [fit]	fit [fit]	подходить по размеру
fly [flai]	flew [flu:]	flown [floun]	летать
forget [fə'get]	forgot [fə'gɔt]	forgotten [fə'gɔt(ə)n]	забывать
forgive [fo'giv]	forgave [fo'geiv]	forgiven [fo'givn]	прощать
freeze [fri:z]	froze [frouz]	frozen ['frouzn]	замерзать
get [get]	got [gɔt]	got [gɔt]	получать
give [giv]	gave [geiv]	given [givn]	давать
go [gou]	went [went]	gone [gɔn]	идти
grow [grou]	grew [gru:]	grown [groun]	расти
hang [hæŋ]	hung [hʌŋ]	hung [hʌŋ]	висеть, развешивать
have [hæv]	had [hæd]	had [hæd]	иметь
hear [hiə]	heard [hɜ:d]	heard [hɜ:d]	слышать

hide [haid]	hid [hid]	hidden ['hidn]	прятать
hit [hit]	hit [hit]	hit [hit]	попадать в цель
hold [hould]	held [held]	held [held]	держать
hurt [hɜ:t]	hurt [hɜ:t]	hurt [hɜ:t]	ушибить
keep [ki:p]	kept [kept]	kept [kept]	содержать
kneel [ni:l]	knelt [nelt]	knelt [nelt]	стоять на коленях
know [nou]	knew [nju:]	known [noun]	знать
lay [lei]	laid [leid]	laid [leid]	класть
lead [li:d]	led [led]	led [led]	вести
lean [li:n]	leant [lent]	leant [lent]	наклоняться
learn [lɜ:n]	learnt [lɜ:nt]	learnt [lɜ:nt]	учить
leave [li:v]	left [left]	left [left]	оставлять
lend [lend]	lent [lent]	lent [lent]	занимать
let [let]	let [let]	let [let]	позволять
lie [lai]	lay [lei]	lain [lein]	лежать
light [lait]	lit [lit]	lit [lit]	освещать
lose [lu:z]	lost [lɔst]	lost [lɔst]	терять
make [meik]	made [meid]	made [meid]	производить
mean [mi:n]	meant [ment]	meant [ment]	значить
meet [mi:t]	met [met]	met [met]	встречать
mistake [mis'teik]	mistook [mis'tuk]	mistaken [mis'teik(e)n]	ошибаться
pay [pei]	paid [peid]	paid [peid]	платить
prove [pru:v]	proved [pru:vd]	proven [pru:vn]	доказывать
put [put]	put [put]	put [put]	положить
quit [kwit]	quit [kwit]	quit [kwit]	выходить
read [ri:d]	read [red]	read [red]	читать
ride [raid]	rode [roud]	ridden ['ridn]	ездить верхом
ring [riŋ]	rang [ræŋ]	rung [rʌŋ]	звенеть
rise [raiz]	rose [rouz]	risen ['rizn]	подниматься
run [rʌŋ]	ran [ræŋ]	run [rʌŋ]	бежать
say [sei]	said [sed]	said [sed]	говорить
see [si:]	saw [sɔ:]	seen [si:n]	видеть
seek [si:k]	sought [sɔ:t]	sought [sɔ:t]	искать
sell [sel]	sold [sould]	sold [sould]	продавать

send [send]	sent [sent]	sent [sent]	посылать
set [set]	set [set]	set [set]	ставить
sew [sou]	sewed [soud]	sewn [soun]	шить
shake [ʃeik]	shook [ʃuk]	shaken ['ʃeik(ə)n]	встряхивать
show [ʃəu]	showed [ʃəud]	shown [ʃəun]	показывать
shrink [ʃriŋk]	shrank [ʃræŋk]	shrunk [ʃrʌŋk]	уменьшать
shut [ʃʌt]	shut [ʃʌt]	shut [ʃʌt]	закрывать
sing [siŋ]	sang [sæŋ]	sung [sʌŋ]	петь
sink [siŋk]	sank [sæŋk], sunk [sʌŋk]	sunk [sʌŋk]	тонуть
sit [sit]	sat [sæt]	sat [sæt]	сидеть
sleep [sli:p]	slept [slept]	slept [slept]	спать
slide [slaid]	slid [slid]	slid [slid]	скользить
sow [sou]	sowed [soud]	sown [soun]	сеять
speak [spi:k]	spoke [spouk]	spoken ['spouk(e)n]	говорить
spell [spel]	spelt [spelt]	spelt [spelt]	произносить по буквам
spend [spend]	spent [spent]	spent [spent]	тратить
spill [spil]	spilt [spilt]	spilt [spilt]	проливать
spoil [spɔil]	spoilt [spɔilt]	spoilt [spɔilt]	портить
spread [spred]	spread [spred]	spread [spred]	расстилать
spring [spriŋ]	sprang [spræŋ]	sprung [sprʌŋ]	прыгать
stand [stænd]	stood [stu:d]	stood [stu:d]	стоять
steal [sti:l]	stole [stoul]	stolen ['stəulən]	красть
stick [stik]	stuck [stʌk]	stuck [stʌk]	колоть
sting [stiŋ]	stung [stʌŋ]	stung [stʌŋ]	жалить
sweep [swi:p]	swept [swept]	swept [swept]	выметать
swell [swel]	swelled [sweld]	swollen ['swoul(e)n]	разбухать
swim [swim]	swam [swem]	swum [swʌm]	плавать
swing [swiŋ]	swung [swʌŋ]	swung [swʌŋ]	качать
take [teik]	took [tuk]	taken ['teik(ə)n]	брать, взять
teach [ti:tʃ]	taught [tɔ:t]	taught [tɔ:t]	учить
tear [tɛə]	tore [tɔ:]	torn [tɔ:n]	рвать

tell [tel]	told [tould]	told [tould]	рассказывать
think [θiŋk]	thought [θɔ:t]	thought [θɔ:t]	думать
throw [θrəu]	threw [θru:]	thrown [θrəun]	бросать
understand [ʌndə'stænd]	understood [ʌndə'stud]	understood [ʌndə'stud]	понимать
wake [weik]	woke [wouk]	woken ['wouk(e)n]	просыпаться
wear [wɛə]	wore [wɔ:]	worn [wɔ:n]	носить
weep [wi:p]	wept [wept]	wept [wept]	плакать
wet [wet]	wet [wet]	wet [wet]	смачивать, увлажнять
win [win]	won [wʌn]	won [wʌn]	выигрывать
wind [waind]	wound [waund]	wound [waund]	извиваться
write [rait]	wrote [rout]	written ['ritn]	писать

Распространённые английские фразовые глаголы:

B

back away отступать, пятиться

back off отступить, притормозить

be back вернуться, возвращаться

be off 1) уходить, уезжать; 2) быть свободным, не работающим

be out 1) отсутствовать, не быть дома, на месте

be over окончиться, завершиться

be up to собираться, намереваться что-л. сделать; зависеть от

blow out 1) разбиться вдребезги; гаснуть; 2) взорвать; погасить

blow up 1) взорваться; выйти из себя; 2) взрывать

break down полностью расстроиться; сломать(ся)

break in 1) вмешиваться в разговор; 2) врываться, вламываться

break into 1) вламываться; 2) озариться; разразиться; броситься

break off 1) прервать(ся); 2) отделить(ся)

break out 1) вырваться; 2) вспыхивать; 3) разразиться

break up 1) прекращать; 2) расставаться; расходиться

C

call back 1) перезвонить; 2) позвать назад

calm downуспокаивать(ся)

carry on продолжать заниматься чем-л.

carry out выполнять, осуществлять (план, приказ, обещание и т.п.)

check in (за)регистрироваться

check out проверять, выяснять; выписаться из

come across натолкнуться на, случайно встретить

come back возвращаться

come by 1) заходить, приходить; 2) доставать, получать
come down спускаться, опускаться; падать;
come forward выходить вперед, выдвигаться
come from происходить из, от, взяться
come in входить; приходить, прибывать
come off отделяться, отрываться, покидать, сходить, слезать
come on давай!, пошли!; кончай!, брось!; проходить, приходить
come out выходить; появляться, возникать; получаться
come up появляться, возникать; подниматься, приближаться
cut off отрезать, отсекать; прерывать
cut out вырезать; прекращать(ся); пресекать

E

end up кончить, закончить, попасть, оказаться

F

fall down падать, упасть, рухнуть
fall off падать; отпадать, отваливаться;
figure out сообразить, выяснить, понять, разобраться
find out выяснить, разузнать, обнаружить, найти

G

get along уживаться, ладить; поживать; справляться с делами
get around обойти, преодолеть; справиться; перехитрить
get away удрать, ускользнуть; уходить
get back вернуть(ся)
get down опустить(ся)
get in войти, забраться в, проникнуть, попасть в
get off выходить, покидать; уносить, удалять; уходи!
get on садиться на (в); приступить к; продолжить
get out уходить, уезжать; выходить; вынимать, вытаскивать
get over справиться; понять; добраться до; перейти, перелезть

get through проходить, проникать через; выдержать, справиться
get up вставать, подниматься; просыпаться
give up сдаться, отказаться; оставить, бросить; отдавать
go along соглашаться, поддерживать; идти вместе, сопровождать
go around расхаживать повсюду; обойти вокруг; двигаться по кругу
go by проходить/проезжать мимо; проходить (о времени)
go down спускаться, идти, ехать вниз
go in входить
go off уходить, уезжать; убегать, улетать
go on 1) продолжай(те)!; 2) продолжать(ся); 3) происходить
go out выходить
go over подойти, приехать; повторять, перепроверять
go through пройти через, сквозь; повторять; тщательно изучать
go up подниматься

H

hang around слоняться, бездельничать, болтаться без дела
hang on держи(те)сь!; подожди(те)!; цепляться, хвататься
hang up повесить, положить трубку; висеть; повесить что-л.
help out помочь, выручить, вывести из затруднит. положения
hold on держи(те)сь!; подожди(те); держаться, вцепиться
hold out протягивать, вытягивать

K

keep on продолжать
keep up 1) не отставать; 2) продолжать; 3) поддерживать
knock down 1) сбить с ног; 2) сносить, разрушать; 3) понижать
knock off 1) уничтожить; 2) прекратить; 3) уронить, сбросить

knock out 1) оглушить, вырубить;2) поразить; 3) выбить

L

let in впускать

let out выпускать, освобождать

lie down лечь, прилечь

line up выстраивать(ся), становиться в линию, ряд, очередь

look back оглядываться, оборачиваться

look down смотреть, смотреть вниз

look for искать, подыскивать, присматривать

look forwardto ожидать с удовольствием/с нетерпением

look out 1) выглядывать; 2) быть осторожным

look over 1) смотреть; 2) просматривать; осматривать

M

make out 1) понимать, различать; 2) составлять; 3) справляться

make up 1) составлять; 2) сочинять; 3) компенсировать

move in въезжать/ поселяться; входить

move on идти дальше; продолжать движение

move out съезжать; выдвигаться, выходить

P

pass out терять сознание; раздавать, распределять

pick up взять (в очень широком смысле: предмет, человека, звук, запах, след и т.п.)

point out указывать; подчеркивать; заметить

pull away отъезжать, трогаться; отпрянуть, отстраниться

pull off снимать, стаскивать; справиться, выполнить; съехать

pull on натягивать (одевать); тянуть (на себя)

pull out вытаскивать, вынимать; отъезжать, выезжать

pull up подъезжать, останавливаться

put away убирать, отложить, прятать

put down положить, опустить

put in вставлять
put on надевать, одевать; включать, приводить в действие
put out 1) вытягивать; 2) выставлять; 3) тушить
put up 1) поднимать; 2) строить; 3) финансировать

R

run away убегать, удирать
run into встретить, столкнуться, наскочить
run off удирать, убегать, сбегать
run out 1) выбегать; 2) кончаться, истощаться
run over 1) подбегать; 2) переехать, задавить

S

set down поставить, положить
set off 1) отправляться (в путь); 2) вызывать (действие)
set up устраивать, организовывать, создавать
settle down усаживаться; поселяться; успокаиваться
shoot out выскочить, вылететь
show up появляться, приходить
shut down закрыть, прикрыть; выключить, отключить
shut up заставить замолчать, заткнуть
sit back откинуться назад/на спинку сиденья
spread out растягивать(ся),развертывать(ся), расширять(ся)
stand by 1) приготовиться; 2) ждать; 3) поддерживать
stand out выделяться, выступать, быть заметным
switch off выключать
switch on включать

T

take away убирать, забирать; отбирать, отнимать
take back 1) отдать обратно/назад; 2) взять назад/обратно
take in 1) вбирать, воспринимать; 2) впустить, приютить
take off 1) снимать (с себя); 2) уходить, уезжать
take on приобретать, принимать (форму, вид, свойство и т.п.)
take out вынимать, вытаскивать

take over захватить, овладеть, взять под контроль
take up 1) занимать (место); 2) заняться чем-л.; 3) подхватить
throw up выкинуть – тошнить, рвать; вскинуть, поднять
turn around оборачиваться
turn away отворачиваться
turn back повернуться снова, опять; повернуть назад, отступить
turn down 1) отвергать, отклонять; 2) убавлять, уменьшать
turn into превращать(ся) в кого-л. или во что-л.
turn off 1) выключать; 2) сворачивать, поворачивать
turn on включать
turn out оказаться, получиться, "выйти"
turn over 1) переворачивать(ся); 2) передавать
turn up появляться

W

wake up просыпаться; будить кого-л.
walk around ходить, бродить повсюду
walk away уходить
walk back возвращаться, идти назад/обратно
walk in входить
walk off уходить
walk out выходить
walk over подойти, подходить
walk up подойти, подходить
watch out остерегаться, быть начеку; присматривать (for- за)
wind up очутиться, оказаться; завершиться чем-л.
work out 1) понять, разобраться; 2) спланировать; 3) получиться
work up 1) - выработать, создать; 2) волноваться, расстраиваться
write down записывать, излагать письменно

Английские глаголы с предлогами

A	accuse smb. of smth.- обвинять кого-л. в чем-л.
	agree with smb. – соглашаться с кем-л.
	agree to smth. – согласиться на что-л., с чем-л.
	apply for smth. to smb. – обращаться за чем-л. к кому-л.
	apply to smb. –касаться кого-л., относиться к кому-л.
	apologize to smb. for smth. – извиниться перед кем-л. за что-л.
	ask smb. about smth. – спросить о чем-л.
	ask for smth. – просить о чем-л.
B	believe in smth. – верить во что-л.
	belong to smth., smb. – относиться, принадлежать (к) кому-л., чему-л.
	benefit by smth. - получить прибыль от чего-л., выиграть за счет чего-л.
	blame smb. for smth. – обвинять, винить кого-л. в чем-л.
C	care about smth. - заботиться о чем-л.
	care for smth. – ухаживать, заботиться о ком-л.
	complain of / about smth. to smb. – пожаловаться на что-л. кому-л.
	comply with - исполнять (просьбу, требование) , удовлетворять (запросы, пожелания)
	concentrate (up)on smth. – концентрироваться на чем-л.
	conform with / to smth. – подчиняться каким-л. правилам и т.п.
	congratulate smb. on smth. – поздравить кого-л. с чем-л.
	consist of smth., smb. – состоять из чего-л., кого-л.
D	depend on smth., smb. – зависеть от чего-л., от кого-л.
	depend (up)on smb. – рассчитывать, полагаться на кого-л.

	deprive smb. of smth. – лишить кого-л. чего-л.
	die of smth. – умереть от чего-л.
E	explain smth. to smb. – разъяснять, объяснять что-л. кому-л.
F	fail in smth. – провалиться (на каком-л. экзамене)
I	insist on smth. – настаивать на чем-л.
L	listen to smth., smb. – слушать что-л., кого-л.
	look at smth. – смотреть на что-л.
	look for smb., smth. – искать что-л., кого-л.
	look after smb. – ухаживать за кем-л.
P	pay smb. for smth. – платить кому-л. за что-л.
	prefer smb., smth. to smb., smth. – предпочесть что-л., кого-л. кому-л., чему-л.
	protect smth., smb. from / against smth. – защитить что-л., кого-л. от чего-л.
	provide smb. with smth. – снабжать, обеспечивать кого-л. чем-л.
	provide smth. for smb. – обеспечить, предусмотреть что-л. для кого-л., предоставить
R	regard smb., smth. as – рассматривать кого-л., что-л.
	rely on smth., smb. – полагаться на кого-л. или что-л.
S	search for smth. – искать что-л.
	search smth. for smth. – обыскивать что-л. на предмет обнаружения чего-л.
	spend smth. (time, money) on smth. – тратить что-л. (время, деньги) на что-л.
T	think of / about smth., smb. – думать, размышлять о чем-л., о ком-л.
	think of /about smth., smb. – думать = высказывать мнение о чем-л., о ком-л.
W	wait for smth., smb. – ждать кого-л.

	warn smb. of / about smth. – предостерегать кого-л. относительно чего-л.

Английские устойчивые сочетания с to be

A	be accustomed to smth. – привыкнуть к чему-л.
	be afraid of smth. – бояться чего-л.
	be afraid for smb., smth. – опасаться за кого-л., что-л.
	be aimed at smb. – быть рассчитанным, ориентированным на кого-л.
	be angry at, with smb. – сердиться на кого-л.
	be ashamed of smth. – стыдиться чего-л.
C	be careful of smth. (parts of speech, health) – осторожным с чем-л. (со здоровьем, выражениями)
	be composed of smth. – состоять из чего-л.
	be different from smth., smb. – отличаться от чего-л., от кого-л.
	be dressed in smth. – одетым во что-л.
F	be full of smth. – быть доверху заполненным чем-л.
G	be glad about, of smth. – радоваться чему-л.
	be glad for smb. – радоваться за кого-л.
	be good at smth. –быть способным к чему-л., разбираться в чем-л.
	be guilty of smth. – быть виноватым, виновным в чем-л.
I	be independent of smth., smb. – быть независимым от чего-л., от кого-л.
	be indifferent to smb., smth. – быть равнодушным к кому-л., не заинтересованным в чем-л.
	be interested in smth. – интересоваться чем-л.
J	be jealous of smb. – ревновать кого-л., завидовать кому-л.
M	be married to smb. – быть замужем за кем-л., женатым на ком-л.

P	be pleased with smth. – быть чем-л. довольным
	be proud of smth., smb. – гордиться чем-л., кем-л.
R	be related to smth. – относиться к чему-л., иметь отношение
	be responsible for smth. -быть ответственным за что-либо/быть инициатором/автором чего-либо
S	be satisfied with smth. – быть удовлетворенным чем-л.
	be similar to smth. – быть похожим на что-л., схожим с чем-л.
	be superior to smth. – превосходить что-л.
	be sure of smth. – испытывать уверенность, быть уверенным в чем-л.
	be surprised at smth. – удивиться чему-л.
T	be tired of smth. - устать от чего-л.
W	be written in smth. – быть написанным чем-л.

Chemical elements

№	Символ	Рус. яз.	English	Transcription
1	H	Водород	Hydrogen	['haɪdrədʒən]
2	He	Гелий	Helium	['hiːlɪəm]
3	Li	Литий	Lithium	['lɪθɪəm]
4	Be	Бериллий	Beryllium	[be'rɪlɪəm]
5	B	Бор	Boron	['bɔːrən]
6	C	Углерод	Carbon	['kɑːb(ə)n]
7	N	Азот	Nitrogen	['naɪtrədʒən]
8	O	Кислород	Oxygen	['ɔksɪdʒən]
9	F	Фтор	Fluorine	['flɔːriːn]
10	Ne	Неон	Neon	['niːɔn]
11	Na	Натрий	Sodium	['səudɪəm]
12	Mg	Магний	Magnesium	[mæg'niːzɪəm]
13	Al	Алюминий	Aluminum	[ə'luːmɪnəm]
14	Si	Кремний	Silicon	['sɪlɪkən]
15	P	Фосфор	Phosphorus	['fɔsf(ə)rəs]
16	S	Сера	Sulfur	['sʌlfə]
17	Cl	Хлор	Chlorine	['klɔːriːn]
18	Ar	Аргон	Argon	['ɑːgɔn]
19	K	Калий	Potassium	[pə'tæsɪəm]
20	Ca	Кальций	Calcium	['kælsɪəm]
21	Sc	Скандий	Scandium	['skændɪəm]
22	Ti	Титан	Titanium	[tɪ'teɪnɪəm, taɪ'teɪnɪəm]
23	V	Ванадий	Vanadium	[və'neɪdɪəm]
24	Cr	Хром	Chromium	['krəumɪəm]
25	Mn	Марганец	Manganese	['mæŋgəniːz]
26	Fe	Железо	Iron	['aɪən]
27	Co	Кобальт	Cobalt	['kəubɔːlt]
28	Ni	Никель	Nickel	['nɪkl]
29	Cu	Медь	Copper	['kɔpə]
30	Zn	Цинк	Zinc	[zɪŋk]
31	Ga	Галлий	Gallium	['gælɪəm]
32	Ge	Германий	Germanium	[dʒɜː'meɪnɪəm]
33	As	Мышьяк	Arsenic	['ɑːs(ə)nɪk]
34	Se	Селен	Selenium	[sɪ'liːnɪəm]
35	Br	Бром	Bromine	['brəumiːn]

36	Kr	Криптон	Krypton	['krıptɔn]
37	Rb	Рубидий	Rubidium	[ruː'bıdıəm]
38	Sr	Стронций	Strontium	['strɔntıəm]
39	Y	Иттрий	Yttrium	['ıtrıəm]
40	Zr	Цирконий	Zirconium	[zɜː'kəunıəm]
41	Nb	Ниобий	Niobium	[naı'əubıəm]
42	Mo	Молибден	Molybdenum	[mə'lıbdənəm]
43	Tc	Технеций	Technetium	[tek'niːʃıəm]
44	Ru	Рутений	Ruthenium	[ruː'θiːnıəm]
45	Rh	Родий	Rhodium	['rəudıəm]
46	Pd	Палладий	Palladium	[pə'leıdıəm]
47	Ag	Серебро	Silver	['sılvə]
48	Cd	Кадмий	Cadmium	['kædmıəm]
49	In	Индий	Indium	['ındıəm]
50	Sn	Олово	Tin	[tın]
51	Sb	Сурьма	Antimony	['æntımənı]
52	Te	Теллур	Tellurium	[te'luərıəm]
53	I	Йод	Iodine	['aıədiːn]
54	Xe	Ксенон	Xenon	['ziːnɔn]
55	Cs	Цезий	Cesium	['siːzıəm]
56	Ba	Барий	Barium	['beərıəm]
57	La	Лантан	Lanthanum	['lænθənəm]
58	Ce	Церий	Cerium	['sıərıəm]
59	Pr	Празеодим	Praseodymium	[ˌpreızıə'dımıəm]
60	Nd	Неодим	Neodymium	[ˌniːəu'dımıəm]
61	Pm	Прометий	Promethium	[prəu'miː θıəm]
62	Sm	Самарий	Samarium	[sə'meərıəm]
63	Eu	Европий	Europium	[juə'rəupıəm]
64	Gd	Гадолиний	Gadolinium	[ˌgædə'lınıəm]
65	Tb	Тербий	Terbium	['tɜːbıəm]
66	Dy	Диспрозий	Dysprosium	[dıs'prəuzıəm]
67	Ho	Гольмий	Holmium	['həulmıəm], ['hɔl-]
68	Er	Эрбий	Erbium	['ɜːbıəm]
69	Tm	Тулий	Thulium	['θuːlıəm]
70	Yb	Иттербий	Ytterbium	[ı'tɜːbıəm]
71	Lu	Лютеций	Lutetium	[l(j)uː'tiːʃəm]
72	Hf	Гафний	Hafnium	['hæfnıəm]

73	Ta	Тантал	Tantalum	['tænt(ə)ləm]
74	W	Вольфрам	Tungsten	['tʌŋstən]
75	Re	Рений	Rhenium	['riːnɪəm]
76	Os	Осмий	Osmium	['ɔzmɪəm]
77	Ir	Иридий	Iridium	[ɪ'rɪdɪəm], [aɪ-]
78	Pt	Платина	Platinum	['plætɪnəm]
79	Au	Золото	Gold	[gəuld]
80	Hg	Ртуть	Mercury	['mɜːkjərɪ¸ 'mɜːkjurɪ]
81	Tl	Таллий	Thallium	['θælɪəm]
82	Pb	Свинец	Lead	[led]
83	Bi	Висмут	Bismuth	['bɪzməθ]
84	Po	Полоний	Polonium	[pə'ləunɪəm]
85	At	Астат	Astatine	['æstətiːn]
86	Rn	Радон	Radon	['reɪdɔn]
87	Fr	Франций	Francium	['fræn(t)sɪəm]
88	Ra	Радий	Radium	['reɪdɪəm]
89	Ac	Актиний	Actinium	[æk'tɪnɪəm]
90	Th	Торий	Thorium	['θɔːrɪəm]
91	Pa	Протактиний	Protactinium	[¸prəutæk'tɪnɪəm]
92	U	Уран	Uranium	[juə'reɪnɪəm]
93	Np	Нептуний	Neptunium	[nep'tjuːnɪəm]
94	Pu	Плутоний	Plutonium	[pluː'təunɪəm]
95	Am	Америций	Americium	[¸æmə'rɪsɪəm], [-ʃɪəm]
96	Cm	Кюрий	Curium	['kjuərɪəm]
97	Bk	Берклий	Berkelium	[bɜː'kiːlɪəm]
98	Cf	Калифорний	Californium	[¸kælɪ'fɔːnɪəm]
99	Es	Эйнштейний	Einsteinium	[¸aɪn'staɪnɪəm]
100	Fm	Фермий	Fermium	['fɜːmɪəm]
101	Md	Менделевий	Mendelevium	[¸mend(ə)l'iːvɪəm]
102	No	Нобелий	Nobelium	[nəu'biːlɪəm]
103	Lr	Лоуренсий	Lawrencium	[lə'ren(t)sɪəm]
104	Rf	Резерфордий	Rutherfordium	[¸rʌðə'fɔːdɪəm]
105	Db	Дубний	Dubnium	['dʌbnɪəm]
106	Sg	Сиборгий	Seaborgium	['siːbɔːgɪəm]
107	Bh	Борий	Bohrium	['bɔrɪəm]
108	Hs	Хассий	Hassium	['hæsɪəm]
109	Mt	Мейтнерий	Meitnerium	[¸maɪt'nɪərɪəm]

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