Е. М. Федотова, Е. В. Киселева, Е. С. Корнилова

SAFETY MATTERS

Учебное пособие по английскому языку

Нижний Новгород
2025

Министерства науки и высшего образования Российской Федерации
Федеральное государственное бюджетное образовательное учреждение высшего образования
«Нижегородский государственный архитектурно-строительный университет»

Е. М. Федотова, Е. В. Киселева, Е. С. Корнилова

SAFETY MATTERS

Утверждено редакционно-издательским советом университета
в качестве учебного пособия

Нижний Новгород
ННГАСУ
2025

ББК 81.2 Англ
Ф 32
УДК 614:42(075)

Печатается в авторской редакции

Рецензенты:

Л. Г. Орлова – канд. филол. наук, доцент кафедры иностранных языков и конвенционной подготовки ФГБОУ ВО «Волжский государственный университет водного транспорта»

Н. В. Коробова – канд. филол. наук, доцент кафедры английского языка и межкультурной коммуникации ФГБОУ ВО «Нижегородский государственный лингвистический университет им. Н. А. Добролюбова»

Федотова, Е. М. Safety Matters : учебное пособие по английскому языку / Е. М. Федотова, Е. В. Киселева, Е. С. Корнилова ; Министерство образования и науки Российской Федерации, Нижегородский государственный архитектурно-строительный университет. – Нижний Новгород : ННГАСУ, 2025. – 70 с. – ISBN 978-5-528-00628-4. – Текст : непосредственный.

Учебное пособие реализует требования программы, предъявляемые к дисциплине «Иностранный язык» для студентов ФИЭСиС, обучающихся по направлению подготовки 20.03.01 «Техносферная безопасность», 20.05.01 «Пожарная безопасность». Основной целью пособия является развитие профессионально-иноязычной компетенции студентов в сфере их будущей профессиональной деятельности, а также формирование профессионально-важных качеств современного инженера.

Пособие основано на материале аутентичных текстов интернет-сайтов и журналов (США, Великобритания, Ирландия) и состоит из разнообразных по форме и содержанию заданий как для аудиторной, так и для самостоятельной работы. Упражнения разработаны с учетом современных методических принципов и направлены на активизацию изученного материала.

ББК 81.2 Англ

ISBN 978-5-528-00628-4

Contents

ПРЕДИСЛОВИЕ

Данное учебное пособие предназначено для обучения иностранному языку (английский язык) студентов по направлениям подготовки 20.03.01 Техносферная безопасность и 20.05.01 Пожарная безопасность. Пособие соответствует требованиям государственного стандарта высшего профессионального образования и современным целям обучения.

Целью пособия является формирование и совершенствование навыков эффективного общения на иностранном языке в профессиональной сфере, а также работать с иноязычными источниками информации (осуществлять ее критический анализ выражать собственное мнение о прочитанном)

Специально отобранный и методически организованный материал обеспечивает развитие у обучающихся таких умений как: взаимодействие в профессиональной сфере; применение терминологии специальности; творческий подход к решению профессиональных проблем; владение информационно-коммуникационными технологиями.

Пособие состоит из семи модулей, включающих тематические подразделы. Последние содержат аутентичные тексты по специальности и упражнения, направленные на закрепление лексико-практическое материала. Обращается внимание на обучение основным видам речевой деятельности: чтению, говорению (презентации, сообщения, обсуждения), письму (blog, memo, инструкции).

В пособии представлен видео контент на основе аутентичных мини сериалов для групповой или, как вариант, для индивидуальной самостоятельной работы. Каждый интернет-ресурс имеет уникальный адрес, позволяющий найти его в сети. Технические возможности Интернета позволяют создать реальную языковую среду для изучающих иностранный язык, позволяют обеспечить быстрый доступ к информации, наглядность изучаемого материала.

В приложении приводятся образцы экзаменационных текстов с заданиями по специальности, а также списки наиболее трудных слов.

Большой формат и наличие достаточного количества иллюстраций делает работу с пособием удобной и приятной.

UNIT I
SAFETY

"The safety of the people shall be the highest law"

Marcus Tullius Cicero, Roman politician and lawyer

Get ready to read

Do you think the place where you study is a safe area? Why/why not? What things make your university a safe or dangerous place to study?

THE IMPORTANCE OF SAFETY

A. Read the text and answer the questions.

1. What is the main aim of safety engineering?

A serious workplace injury or death changes lives forever – for families, friends, communities, and coworkers too. Human loss and suffering is immeasurable. Occupational injuries and illnesses can provoke major crises for the families in which they occur. In addition to major financial burdens, they can impose substantial time demands on uninjured family members. Today, when many families are operating with very little free time, family resources may be stretched to the breaking point. Every person who leaves for work in the morning should expect to return home at night in good health. Can you imagine the knock on the door to tell you your loved one will never be returning home? Or the phone calls to say he's in the hospital and may never walk again? Ensuring that husbands return to their wives, wives to their husbands, parents to their children, and friends to their friends — that is the most important

reason to create a safe and healthy work environment.

2. *What do you think the other reasons of importance of safety at work can be?*

B. Read the second part of the text and check your ideas.

C. Read the text again.

Which following terms can be referred to the mentioned reasons?

Increased insurance rates, productive workplace, employee attrition, focus on the quality, engender trust, possible litigation, show more pride

D. There are three reasons mentioned in the text. Skim the article and match the paragraph with the headings below.

a. safety improves quality

b. reducing injures reduces costs to your business

c. safe workers are loyal workers

Learning tip

We often look at a text quickly to find out what it is about or to get a general idea of its meaning. We look at pictures and headings as well as the text itself. This type of reading is called *skimming*. When we *skim*, we don't read every word. We get the main idea and don't pay attention to the small details.

[] If a worker is injured on the job, it costs the company in lost work hours, increased insurance rates, workers' compensation premiums and possible litigation. Productivity is lost when other workers have to stop work to deal with the injury. Even after the injured employee has been sent home or taken to the hospital, other employees may be distracted or need to take time off from work in the aftermath of the incident. Even a single injury can have far-reaching and
debilitating effects on your business.

[] Any business knows that employee attrition and absenteeism can be major obstacles. When you create a healthy and safe workplace, you reduce those issues in several ways. By budgeting for safety improvements and making safety part of your operational plan, you engender trust. By involving employees in safety decisions—through reporting, committees, walk-throughs and meetings—you show that their

opinion matters to you. By following through on their input and improving safety, you prove quite tangibly that you care about their well-being. Workers typically respond by working harder, showing more pride in their jobs and remaining loyal.

[] Time and again, companies that put safety first turn out higher quality products. In some cases, that's because a safe workplace tends to be a more efficient one, free of debris and tangles of cords. In other cases, it's a matter of focus. By working in a clean, efficient environment, workers are able to reduce distractions and truly focus on the quality of what they do. The results? Better products that create customer loyalty, bigger margins and increased sales. In these ways and others workplace safety is about much more than legislation. It's about creating the kind of productive, efficient, happy and inspiring workplace we all want to be part of. It's about creating a highly profitable company. And that's why it's important.

E. Match the words to form the expressions from the text and translate the expressions into Russian.

1. Care about	a. insurance rate
2. A matter of	b. cords
3. To reduce	c. well- being
4. Major	d. focus
5. Engender	e. distractions
6. Employee	f. trust
7. Tangles of	g. attrition
8. Debilitating	h. injury
9. To deal with	i. obstacles
10. Increased	j. effects

F. Read the article and answer the questions.

1.How does the company cost in if a worker gets injured on the job?

2. What measures can be taken to engender employees' trust in their workplaces?

3. Why is it so important to set the safety in any business?

G. In the text you come across the opposites of the following words.

1. Increase ….
2. Numerous ….
3. Minor ….
4. Danger ….
5. Destroy ….
6. Dirty ….

7. Attract ….
8. Leave ….

Focus on…Grammar

H. Look at the highlighted words in the article. Which do you think are…?

1. Gerunds 2. Infinitives

1. What are the rules of using gerund and infinitive forms in the text?

2. Complete the following text about NISO with the appropriate gerund or infinitive forms.

The National Irish Safety Organization (NISO) provides specific health and safety training courses across Ireland.

The National Industrial Safety Organization was founded on 15 January 1963.

To create/creating the conditions where Irish workplaces are among the safest and healthiest in Europe through:

- The provision of leading information, advisory and training services.
- The promotion of a culture of excellence in workplace health & safety.
- *To play/playing* a leading role in advancing the national health & safety agenda.
- *To help/Helping* members develop a culture of health and safety in their workplace

NISO is working *to help/helping* organizations reduce the number of fatalities and injuries that happen in Irish workplaces each year.

The Directors of The National Irish Safety Organization are Des Brandon, Harry Galvin and Fergal McKevitt and Michael O'Neill.

Furthermore, they promote the positive role that companies can play when they adopt a proactive approach to health and safety. The All Ireland Safety Awards is an example of this. Organized in conjunction with the Northern Ireland Safety Group, the scheme recognizes and recompenses excellence in health and safety practices.

In addition, they provide a platform *to exchange/exchanging* ideas and information in the area of health and safety for their members.

I. Fill in the blanks with the correct form of the verb (gerund or infinitive).

1. The company's primary goal is _____ (destroy) all unsafe equipment before an accident occurs.
2. The employees were praised for _____ (focus on) the safety protocols during the recent drill.
3. (Reduce) the risk of slips, trips, and falls is a constant challenge in this industry.
4. It is important _____ (deal with) any reported safety violations immediately.
5. He insists on _____ (destroy) old paperwork containing sensitive employee information to protect data privacy.
6. Workers are advised _____ (demand) clarity on all safety procedures before starting a job.
7. Management will _____ (attract) highly skilled safety experts by offering competitive salaries.
8. The new regulations aim _____ (reduce) the number of preventable accidents.
9. We strive _____ (deal with) all safety-related issues in a timely and effective manner.

UNIT II
FIRES

Get ready to read

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

2. What do you think are five the most common causes of fire accidents. Discuss in groups and share your ideas.

WHY DO THE FIRES START?

A. You're going to read the text about most common causes of fire accidents in the workplace. Skim the text and say what they are. Are your ideas among them?

Most Common Causes Of Fire Accidents

Fires, whether in the house or commercial building, are preventable. However, there are instances where accidents happen and unintentional fires ignite. Having a fire escape plan in place can save lives.

It is just as important to know what the most common causes of accidental fires are so that you're aware of their existence.

Here is a list of common reasons for fires in the workplace:

- Faulty electrical system: this includes an older electrical system with poor circuit as well as loose wires, and overloaded plugs. It is part of fire code to make sure a workplace's electricity be updated.
- Flammable materials: it is not uncommon to come across flammable substances and materials in the workplace, but how they are handled and stored is where mistakes are made and fires are started.

- Inadequate training of staff: human error is a major cause of workplace fires. When staff are not trained properly, they are at risk of making catastrophic mistakes.
- Negligence: failure to follow protocols and procedures as well as failing to update systems so they meet code is general negligence which can result in a fire.
- Arson: no one likes to think about an intentional purpose of starting a fire and solving the crime should be handled by professionals.

B. Read the text again carefully and mark the sentences as true or false.

1. The fire code regulates the state of electrical system.

2. Flammable substances and materials are not stored in the workplace.

3. Human error is a minor cause of workplace fires.

4. Staff needs to be trained to meet fire code.

5. Sometimes the workplace can be set on fire intentionally.

Focus on … Vocabulary

Fill in the blank with the most appropriate word or phrase from the list provided below: ***flammable substances, human error, fire code, overloaded plugs, negligence, fire escape plan, workplace fires***

1. Never store _____ near heat sources, as they can easily catch fire.
2. Everyone should know the _____ and practice it regularly.
3. Using too many things in one socket can cause _____ and start a fire.
4. Not following safety rules is called _____, and it can be very dangerous.
5. A simple mistake, like forgetting to unplug something, can be _____.
6. All buildings must follow the _____ to keep people safe from fire.
7. Companies need to be careful to prevent _____ from happening.

C. Match the following synonyms from the text:

1. cause	a. ignite
2. unintentional	b. poor
3. start	c. reason
4. error	d. accidental

5. faulty e. failure

D. Match the following phrases from the text:

1. fire	a. plugs
2. fire escape	b. substances
3. overloaded	c. code
4. flammable	d. error
5. human	e. plan

E. Look back at the article and write down some questions you would like to ask the class about the text. Use the phrases from exercises Dand E.

- Share your questions with other classmates / groups.
- Ask your partner / group your questions.

FIRE PREVENTION PLAN

A. Read the following questions and guess the correct answers.

1. Which of the following is NOT one of the purposes of a Fire Prevention Plan?

a. eliminate causes of fires

b. respond to media questions about fires

c. prevent loss of life and property

d. comply with OSHA standards

2. Which of the following is NOT a requirement of an exit route?

a. it should be a permanent part of the workplace

b. it should be separated by fire resistant materials

c. openings to exit should be limited

d. exits must have a self-opening door

3. At least _____ exit route(s) should be available in a workplace to permit prompt evacuation of employees and other building occupants during an emergency.

a. one

b. two

c. three

d. four

4. What's wrong with the emergency exits in the pictures?

B. Read the text and check your ideas.

Statistics tell it all!

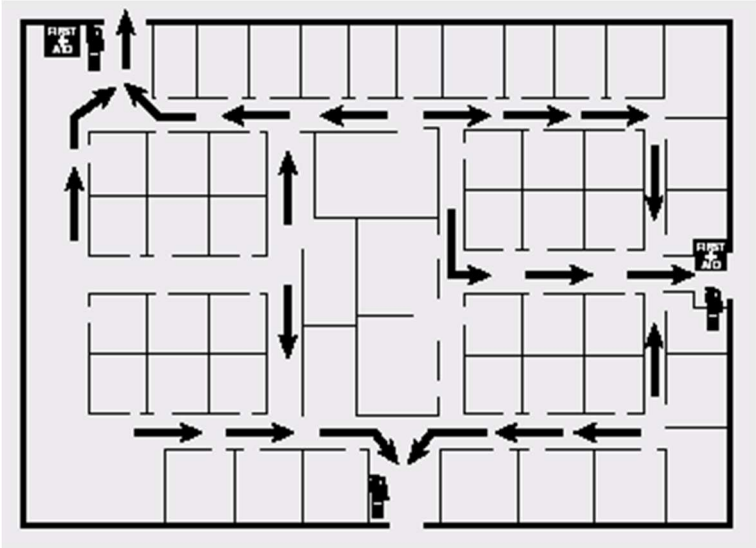
Each year in the U.S., 70,000-80,000 workplaces experience a serious fire. Property losses from workplace fires exceed $2 billion annually.

Fire safety becomes everyone's job at a worksite. _____1_____ If you want your workers to evacuate, you should train them on how to escape. If you expect your workers to use firefighting equipment, you should give them appropriate equipment and train them to use the equipment safely.

Fire Prevention Plan (FPP) Purpose

The purpose of Fire Prevention Plan is to eliminate the causes of fire, prevent loss of life and property by fire, and to comply with the Occupational Safety and Health Administration's (OSHA) standard on fire prevention, 29 CFR 1910.39. It provides employees with information and guidelines that will assist them in recognizing, reporting, and controlling fire hazards.

It describes the fuel sources (hazardous or other materials) on site that could initiate or contribute both to the spread of a fire, as well as the building systems, such as fixed fire extinguishing systems and alarm systems, in place to control the ignition or spread of a fire.



Requirements for exit routes

An exit route is a continuous and unobstructed path of exit travel from any point within a work-place to a place of safety.

- An exit route must be permanent.

  _____2_____

- An exit must be separated by fire resistant materials. Construction materials used to separate an exit from other parts of the workplace must have a one-hour fire resistance-rating if the exit connects three or fewer stories and a two-hour fire resistance-rating if the exit connects four or more stories.
- Openings into an exit must be limited. _____3_____
- An opening into an exit must be protected by a self-closing fire door that remains closed or automatically closes in an emergency upon the sounding of a fire alarm or employee alarm system. _____4_____
- At least two exit routes should be available in a workplace to permit prompt evacuation of employees and other building occupants during an emergency. _____5_____
- An exit door should be unlocked from the inside.
- Employees should be able to open an exit route door from the inside at all times without keys, tools, or special knowledge.

- Never hold fire doors open. The door should be self-closing, not blocked or held open.

C. Read the text again and add the missing sentences.

1. Each fire door, including its frame and hardware, must be listed or approved by a nationally recognized testing laboratory.

2. Employers should train workers about fire hazards in the workplace and about what to do in a fire emergency.

3. A single exit route is permitted where the number of employees, the size of the building, its occupancy, or the arrangement of the workplace is such that all employees would be able to evacuate safely during an emergency.

4. Each exit route must be a permanent part of the workplace.

5. An exit is permitted to have only those openings necessary to allow access to the exit from occupied areas of the workplace, or to the exit discharge.

D. Find the fire escape plan, the fire exit(s) and the fire route in each building of our university. Do they meet the requirements? Discuss in pairs/groups.

UNIT III
HAZARDS

Get ready to read

Read the headline from a newspaper article.

HIDDEN HAZARDS IN THE WORKPLACE

There are three real incidents described in the article. Here are the beginnings of each story. How do you think they continue?

A) A cleaning crew was applying a floor finish in a work area next to where I was processing electronic product orders.

B) A propane-fuelled forklift was left idling for a few hours in the warehouse where I was working.

C) At a physiotherapy pool where I work, a water treatment system that treats the pool water with muriatic acid and liquid chlorine malfunctioned.

Here are the endings of each incidents. Match the parts. Write the letters in the boxes.

1) I noticed that I started to experience an irritation in my throat and had difficulty breathing and felt nauseous due to the chemicals used on the floor. []
2) The chemicals mixed, releasing chlorine gas. I was exposed to the gas and had an irritation in my throat, lungs and eyes. []
3) I got a bad headache and felt really nauseous and my vision got blurry from exposure to carbon monoxide from the engine`s exhaust. []

WHAT'S IT ABOUT?

A.You are going to read three short articles. These are their headlines. Use your dictionary if necessary and answer the questions.

a) What do you think has happened in each article?

b) Are these unusual stories?

- Incompetence causes a load-failure incident
- A man falls from a ladder in Danvers
- Incident changes the cause of life

B. Look at the words below. Match five of the words with each article. Write numbers 1, 2 or 3 in the boxes. Do not check your answers at this stage.

ground []	surgery[]	album []
arm []	secure []	mechanic []
police []	injury []	co-worker []
concrete []	break []	crane []
signs []	bucket []	operator []

C. What do you think might happen in each article? Write a sentence about each one with some of the words from Exercise 2.

D. Read the three articles. Check your answers to Exercise 2.

E. Compare your sentences in Exercise 3 with the three articles. Which of the guesses were correct?

- Incompetence causes a load-failure incident

An employer hired a certified tower crane operator to operate its tower crane. However, the employer did not require the operator to demonstrate competency before using the crane. During the operator`s second shift, the crane was lifting a 3,992 kg load of concrete. After lifting and slewing the third load, the loaded concrete bucket began to slip uncontrollably through the hoist drum brake. The bucket plunged downward and stuck a site office trailer. No workers were injured, but several were working nearby. An investigation found that the hoist drum brake had become overheated and glazed. This mean the brake was no longer able to slow, stop and secure the load. The operator had previously worked on a tower crane equipped with a frequency drive control system. However, the crane involved in the incident was equipped with a contact control system. The operator`s incorrect understanding and use of the crane`s contact control system destroyed the hoist drum brake

system and caused the load to fail. Load failures like this one underscore the need for employers to assess and confirm operators` qualifications and competency.

- A man falls from a ladder in Danvers

An air-conditioning mechanic who fell from a ladder has regained consciousness but remained in critical condition after undergoing two brain surgeries.

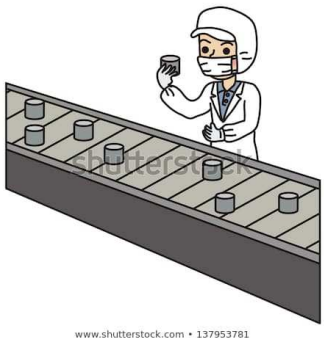
The man, 47, was installing an air conditioning equipment at 30 Endicott St. in Danvers when he fell about 4 meters from a ladder. A co-worker found him lying unconscious on the ground and called the police. The air ambulance was called to Endicott St after the incident.

Responding paramedics rushed him to Princess Margaret Hospital, where he underwent a brain surgery.

A second operation was performed on him on Tuesday, and his condition stabilized the following day, although he remained in critical condition, family members quoted a doctor as saying.

Police investigators said they did not find anything suspicious and the incident was most likely an industrial accident. The Labour Department also sent staff to the scene to determine what caused the incident.

- Incident changes the cause of life



An avid drummer and aspiring musician, Jack Thomas was just 17 when he lost his arm to a workplace accident at a recycling facility. As Jack was cleaning around a sorting conveyer, the belt suddenly started up and his sleeve was caught in the exposed roller. “It was just a summer job. I didn’t think at all about making my own safety a priority. It just wasn’t on my mind. When Jack Thomas thinks back to the day he lost his arm, what he remembers most are the warning signs. “There were so many things telling me I shouldn’t be at work that day,” he says. A case of bronchitis made him consider call-

ing in sick; his boss encouraged him to stay home, but he'd only been there two months and didn't want to let anyone down; another employee had offered to take his shift but he declined; a coughing fit spurred him to take a break just minutes before the injury that changed the course of his life. He clung to the knowledge that one of his musical heroes, the Def Leppard drummer Rick Allen, had suffered a similar loss and managed to keep playing. He decided there and then that he, too, wouldn't let his injury derail his dream of becoming a professional musician and audio engineer. Now 19, Jack is studying at Vancouver's Nimbus School of Recording and Media to do just that, along with recording his own alt-metal band's first album.

Focus on… verbs in headlines

1.*Complete the headlines of the three articles.*

a. Incompetence _____ a load-failure incident.

b. A man _____ from a ladder in Danvers.

c. Incident _____ the cause of life.

2. *In which tense are the verbs in the headlines above? Underline the correct tense*.

a. present perfect

b. present simple

c. past simple

3.*Now read the articles and find another form of the same verb. Which tense are the verbs? Complete the chart*.

Article	Verb in article	Tense
1.		
2.		
3.		

4. *Look at these newspaper headlines. Write the first sentence of each article*.

a. Police rescue workers from stricken oil rig in Singapore.

b. Wet concrete rains from 15th storey of Orchard Gateway construction site.

c. Huge concrete panel falls from the back of truck at site.

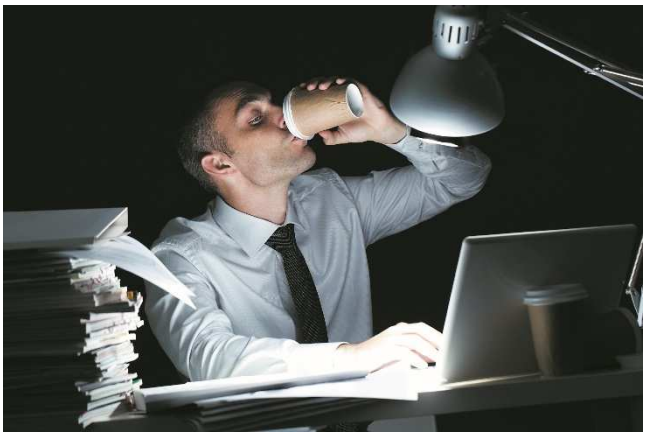
F. Read the articles again. Write six questions for each article beginning with these words: *who, what, when, where, why, how***. Make sure that the answers to your questions are in the articles. Exchange your questions with another student. Can you answer your partner`s questions?**

G. Which of these stories do you think is the most exemplum?

UNIT IV
POOR LIGHTING

Get ready to read

Do you think lighting in the university is poor or good? Why/ Why not? What kinds of lighting are used in the university? Why do you think poor lighting can affect your health?



HEALTH EFFECTS: LIGHTING

A. Read the text and answer the questions.

1. Why is it so important to use the right light intensity?

2. What do standards of lighting depend on?

B. Use the words below to replace them with the ones given in italics in the text: ***negative, idea, especially, dependence, influence, health, illness.***

It is valuable to provide the correct light intensity and color spectrum for each task or environment. Otherwise, energy not only could be wasted but over-illumination can lead to ***adverse*** health and psychological effects.

Specification of illumination requirements is the basic ***concept*** of deciding how much illumination is required for a given task. Clearly, much less light is required to illuminate a hallway or bathroom compared to that needed for a word processing work station. Prior to 1970 (and too often even today), a lighting engineer would simply apply the same level of illumination design to all parts of the building without considering usage. Generally speaking, the energy expended is proportional to the design illumination level. For example, a lighting level of 80 foot candles might be chosen for a work environment involving meeting rooms and conferences, whereas a level of 40 foot candles could be selected for building hallways. If the hallway standard simply emulates the conference room needs, then twice the amount of energy will

be consumed as is needed for hallways. Unfortunately, most of the lighting standards even today have been specified by industrial groups who manufacture and sell lighting, so that a historical commercial bias exists in designing most building lighting, especially for office and industrial settings. Beyond the energy factors being considered, it is important not to over-design illumination, lest adverse health effects such as headache frequency, stress, and increased blood pressure be induced by the higher lighting levels. In addition, glare or excess light can decrease worker efficiency.

Analysis of lighting quality ***particularly*** emphasizes use of natural lighting, but also considers spectral content if artificial light is to be used. Not only will greater ***reliance*** on natural light reduce energy consumption, but will favorably ***impact*** human health and performance. New studies have shown that the performance of students is influenced by the time and duration of daylight in their regular schedules. Designing school facilities to incorporate the right types of light at the right time of day for the right duration may improve student performance and ***well-being***. Similarly, designing lighting systems that maximize the right amount of light at the appropriate time of day for the elderly may help relieve symptoms of Alzheimer's disease. The human circadian system is entrained to a 24-hour light-dark pattern that mimics the earth's natural light/dark pattern. When those patterns are disrupted, they disrupt the natural circadian cycle. Circadian disruption may lead to numerous health problems including breast cancer, seasonal affective disorder, delayed sleep phase syndrome, and other ***ailments***.

Focus on…Vocabulary

C. Think of as many derivatives of the given words from the text as you can and complete the table.

Verb	Noun	Adjective
disrupt	1	disruptive
2	illumination	3
4	5	reduced
apply	6	applicable
consume	7	8
expend	expence	9
10	relief	relieved

D. Match the words with their opposites

1. reduce	a. dark
2. artificial	b. induce
3. single	c. adverse
4. light	d. numerous
5. positive	e. illuminate
6. prevent	f. increase
7. understate	g. natural
8. darken	h. emphasize

E. Decide if the statements are true or false:

1. Over illumination doesn't cause any health problems.

2. A lighting engineer should not set up the same level of illumination in all types of buildings.

3. Conference rooms demand bigger amount of energy than hallways.

4. Too much light increases worker efficiency.

5. Natural light improves human productivity and health.

Focus on…Writing

F. Look at the highlighted phrases in the text. What do you think they help to express?

G. Match the linking words with their meanings:

1. in addition a. contrast
2. similarly b. give examples
3. for example c. emphasis
4. otherwise d. addition
5. clearly e. reason
6. generally speaking f. result
7. unfortunately g. sum up

Linking words help you to connect ideas and sentences when you speak or write English. We can use linking words **to give examples**, **add information**, **summarize**, **sequence information**, **give a reason** or result, or **to contrast ideas**.

H. Complete the sentences with the right linking words. (*otherwise, for example, in addition, similarly, clearly, unfortunately, generally speaking***)**

1. …. , if the lamp is out of reach and therefore infrequently cleaned and is in a dirty, corrosive environment, it will need to be replaced more often than the same equipment in a typical office environment.
2. …. , the appointment of two experts to prepare a working paper or to undertake a study is an excellent idea.
3. Flexibility is needed, ….development may be constrained.
4. The main goal of the project was achieved and, …. , close to 100 staff members received training at regional training sessions.
5. …. , pregnant women receive special treatment from the majority of employers.
6. …., Central America is highly vulnerable to natural disasters.
7. …., more crises would occur.
8. …. , education is vital to the promotion of productive employment.
9. …. , women enjoyed the same training opportunities.

I. You are going to write an article for *Safety at the University* blog. Inspect the way of lighting in each building of our university.

Make notes and use questions:

Are your lighting problems caused by

- ✓ Letting in daylight?
- ✓ Room lighting?
- ✓ Equipment lighting?
- ✓ Other?

State the building number and room number.

UNIT V
THERMAL COMFORT

Get ready to read

1. Here is the list of different jobs. Tick those ones which you suppose to be exposed to extreme temperatures: ***doctor, chef, firefighter, driver, office worker, farm worker****. Think of other jobs which are exposed to extreme temperatures.*

2. Exposure to both excessive heat and excessive cooling can have serious effects on the human body. How do you feel when you're hot and cold? What happens to your body?

HEAT STRESS AND SAFETY

A. You're going to read a text from OSHAcademy website https://www.oshatrain.org/ **. Skim the text and match the subheadings to the paragraphs.** **OSHA Regulations *Engineering Controls *Introduction *Affected by Heat*

[1] People _____ heat-related illness when the body's temperature control system is overloaded. The body normally _____ itself by sweating. However, in some conditions, sweating isn't enough. In such cases, a person's body temperature _____ rapidly. Very high body temperatures may _____ the brain or other vital organs.

[2] Although there is not a specific OSHA standard for heat stress, employees are protected under the "General Duty Clause of the OSH Act" because heat –related illnesses are a serious hazard.

The general duty clause states that employers are required to "… provide a place of employment free from recognized hazards that are causing or likely to cause death or serious physical harm to its employees."

[3] Workers, who are exposed to hot and humid conditions, including the outdoors, factories and hot kitchens, are at the most risk for heat illness. Workers doing heavy work or wearing bulky protective clothing and equipment are also at risk. Some workers also might be at a greater risk than others if they haven't built up a tolerance to hot conditions. Humans are able to adjust to the heat. Employers can reduce the chance of employees experiencing heat-related illnesses by gradually exposing them to hot environments for longer periods of time. This process usually takes about 5-7 days.

[4] The basic concept behind engineering controls is the work environment and the job itself should be designed to eliminate hazards or reduce exposure to hazards.

Engineering controls can be simple in some cases. They are based on the following principles:

- If feasible, design the facility, equipment, or process to remove the hazard or substitute something that is not hazardous.
- If removal is not feasible, enclose the hazard to prevent exposure in normal operations.
- Where complete enclosure is not feasible, establish barriers or local ventilation to reduce exposure to the hazard in normal operations.

B. Fill in the gaps in the first paragraph with the following verbs: *cool, damage, rise, suffer*. Change the form if needed. Which tense are they?

C. Read the text one more time and answer the following questions.

1. What kind of working place are employers required to provide to its employees?
2. Who is at risk for heat stress?

3. How long does it take to adjust to the heat?

4. Is it always feasible to remove hazards from workplace?

Focus on…Vocabulary

D. Fill in the gaps in the following sentences with appropriate prepositions.

1. Exposure ____ extreme cold can result in hypothermia and frostbite.

2. Body warms itself ____ speeding up metabolism, reducing peripheral blood flow and shivering.

3. Adjusting ____ extreme temperatures is a gradual physiological process known as acclimatization.

4. Always pay close attention to those who are ____ higher risk ____ heat-related illnesses.

5. In May 2009, OSHA accused Wal-Mart of failing to provide a place of employment that was "free ____ recognized hazards".

Focus on…Grammar

E. Complete the following text with the gerund or infinitive forms.

There are several engineering controls that can be used if employees work in a hot environment. The best way *to prevent/preventing* heat illness is *to make/making* the work environment cooler. In outdoor situations, this may be done by *to schedule/scheduling* activities during the cooler times of the day. However, very early starting times may result in increased fatigue. Also, humidity tends to be higher in the early morning hours. Employers can also provide air conditioned or shaded areas close to work areas and allow frequent rest breaks.

Indoor workplaces may be cooled by *to use/using* air conditioning or increased ventilation, assuming that cooler air is available from

the outside.

Other methods *to reduce/reducing* indoor temperature include:

- *To provide/Providing* reflective shields *to redirect/redirecting* radiant heat
- *To insulate/Insulating* hot surfaces
- Use of fans

Participle I vs Participle II

Choose the correct form of the verb (Participle I or Participle II) to fill in the blank and translate the sentences.

Explanation of Choices

• Participle I (Present Participle -ing): Often describes an action that is ongoing, or a characteristic of the subject. It can also act like an adjective describing a noun. Think of it like saying "... which is recommending..." or "...that is preventing...".

• Participle II (Past Participle -ed/irregular): Often used in passive voice constructions (something is being done) or as an adjective describing something that has been acted upon.

1.*Recommending/Recommended*

• The guidelines, _____ by the engineers, suggest thicker insulation for the building.

• _____ a comfortable temperature is important for productivity.

2.*Protecting/Protected*

• The window film is _____ the room from excessive sunlight.

• _____ from drafts, the workers felt much more comfortable.

3.*Exposing/Exposed*

• _____ the building to direct sunlight can significantly increase its temperature.

• _____ to extreme heat, the materials began to degrade.

4.*Assessing/Assessed*

• _____ the building's thermal performance is crucial for energy efficiency.

• The effectiveness of the new heating system was carefully _____.

5.Preventing/Prevented

• _____ heat loss is a key goal of insulation.

• The uncomfortable drafts were _____ by sealing the windows.

6.Measuring/Measured

• _____ the room temperature at different locations provides valuable data.

• The air velocity was _____ using a handheld anemometer.

7.Dissatisfying/Dissatisfied

• The inconsistent temperature was _____ many of the employees.

• _____ with the lack of ventilation, they requested improvements.

COLD STRESS AND SAFETY

A. Do you like walking in the cold weather? Could you work in such conditions? Why or why not? If yes, how long could you work?

B. You're going to read a text from OSHA Academy website https://www.oshatrain.org/ **. Skim the text and match the subheadings to the paragraphs.** **Introduction* **Protective Clothing* **Cold Stress Factors* **Engineering Controls* **Work Practice Measures*

Did you know…?

OSHAcademy offers an extensive list of free online safety training courses and resources that can help any company or individual comply with OSHA training guidelines. OSHAcademy offers both general and industry specific courses.

The free online training is recognized and used by government agencies, colleges and technical schools, and businesses and individuals across the nation.

Their professional training certificates document student achievement and are recognized worldwide.

[1]During emergency response activities or recovery operations, workers may be required to work in cold environments, and sometimes for extended periods of time. Cold stress is a common problem encountered in these types of situations. When the body is unable to warm it-

self, cold related stress may occur. This may include tissue damage and possibly death.

[2] Four factors contribute to cold stress:

- Cold air temperatures,
- High velocity air movement,
- Dampness of the air, and
- contact with cold water or surfaces.

Cold-related illnesses can slowly overcome a person who has been chilled by low temperatures, brisk winds, or wet clothing. A cold environment forces the body to work harder to maintain its temperature. Cold air, water, and snow all draw heat from the body.

[3] Protective clothing is the most important way *to avoid* cold stress. The type of fabric also makes a big difference. Cotton loses its insulation value when it becomes wet. Wool, silk and most synthetics, on the other hand, retain their insulation even when wet. Workers should wear at least three layers of clothing. There should be an inner layer of wool, silk or synthetic *to pull* moisture away from the body. The middle layer should include a layer of wool or synthetic *to provide* insulation, even when wet. Then, an outer wind and rain protection layer is needed *to allow* some ventilation *to prevent* overheating.

Here are some other protective clothing recommendations:

- Wear a hat or hood. Up to 40% of body heat can be lost when the head is left exposed.
- Wear insulated boots or other footwear.

- Keep a change of dry clothing available in case work clothes become wet.

[4] There are several work practice measures to protect workers in cold environments. Here are a few:

- Recognize the environmental and workplace conditions that may be dangerous.
- Learn the signs and symptoms of cold-induced illnesses and injuries and what to do to help workers.
- Train workers about cold-induced illness and injuries.
- Encourage workers to wear proper clothing for cold, wet and windy conditions, including layers that can be adjusted to changing conditions.
- Be sure workers in extreme conditions take a frequent short break in warm, dry shelters to allow their bodies to warm up.
- Try to schedule work for the warmest part of the day.
- Use the buddy system-work in pairs so that one worker can recognize danger signs.
- Avoid exhaustion or fatigue because energy is needed to keep muscles warm.

[5] Engineering controls can be effective in reducing the risk of cold stress. Radiant heaters may be used to warm workers. Shielding work areas from drafts or wind will reduce the wind chill. Use insulating materials on equipment handles, especially metal handles, when temperatures drop below 30 degrees Fahrenheit.

C. Read the questions then scan the text and find the answers to the questions. Answer yes or no.

1. Is cold stress a usual thing during working in cold environment?

2. Does low temperature make the body to work harder?

3. Does cotton have good insulation properties?

4. Can work in pairs prevent cold stress?

5. Is it necessary to use insulating materials on equipment handles when the temperature is below zero?

D. Read the text one more time and answer the following questions:

1. Which factors give a boost to cold stress?

2. How many layers of clothing should workers wear to prevent cold stress?

3. What do you think which work practice measures are the most efficient to protect workers in cold environments? Why?

UNIT VI
INDUSTRIAL ACCIDENTS

Industrial accidents are large-scale accidents that are caused by industrial companies and affect a lot of people or a large area.

Get ready to read

1. Where do you think this catastrophe occurred? What caused that disaster?

FUKUSHIMA DAIICHI ACCIDENT

A. Read the article from the site https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3246178/ and find if you were right.

B. Read the English words and match them to their Russian equivalents.

1. lead to major problems	a. нанести ущерб сооружениям
2. damage the facilities	b. электро-коммутационная аппаратура
3. release smth into	c. сносить

somewhere

4. restore heat removal	d. поддерживать /осуществлять
5. hydrogen explosion	e. восстановить теплоотвод
6. maintain	f. уязвимый/ незащищенный
7. electrical switch gear	g. привести к серьезным проблемам
8. despite many efforts	h. выпускать что-то в какое-то место
9. carry off	i. несмотря на усилия
10. vulnerable	j. взрыв водорода

On March 11, 2011, an earthquake led to major problems at the Fukushima Daiichi Nuclear Power Plant. A 14-m high tsunami _____1____ disabled all AC power to Units 1, 2, and 3 of the Power Plant, and carried off fuel tanks for emergency diesel generators. Despite many efforts, cooling systems did not work and _____2_____ damaged the facilities, releasing a large amount of radioactive material into the environment.

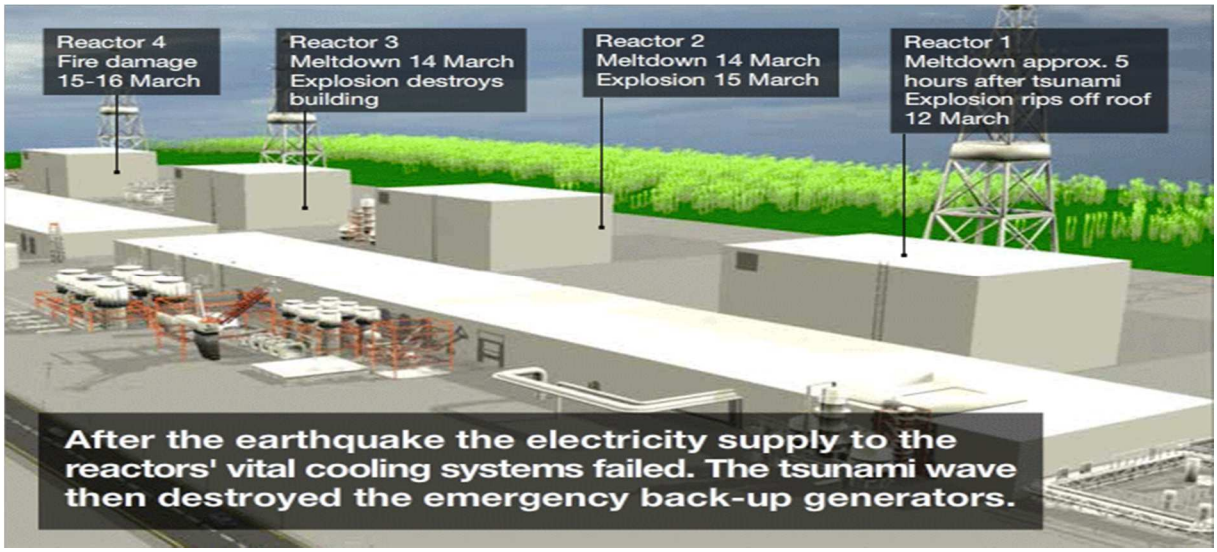
The reactors proved robust seismically, but vulnerable to the tsunami. Power, from grid or backup generators, was available to run the residual heat removal (RHR) system cooling pumps at eight of the eleven units, and _____3_____ they achieved 'cold shutdown' within about four days. The other three, at Fukushima Daiichi, lost power at 3.42 pm, almost an hour after the quake, when the entire site was flooded by the 15-metre tsunami. This disabled _____4____ and also the heat exchangers for dumping reactor waste heat and decay heat to the sea. The three units lost the ability to maintain proper reactor cooling and water circulation functions. Electrical switchgear was also disabled.

Thereafter, many weeks of focused work centered on restoring heat removal from the reactors and coping with overheated spent fuel ponds. This _____5_____ employees as well as some contractors, supported by firefighting and military personnel. Some of the Tepco staff had lost homes, and even families, in the tsunami, and were initially living in temporary accommodation under great difficulties and privation,

with some personal risk. A hardened emergency response center on site was unable to be used in grappling with the situation, due_____6_____.

Three Tepco employees at the Daiichi and Daini plants ____7_____the earthquake and tsunami, but there have been no fatalities from the nuclear accident.

Among hundreds of aftershocks, an earthquake with magnitude 7.1, closer to Fukushima than the 11 March one, was experienced on 7 April, but without further damage to the plant. On 11 April a magnitude 7.1 earthquake and on 12 April a magnitude 6.3 earthquake, both with epicenter at Fukushima-Hamadori, caused no further problems.



C. Read the article again and add the missing phrases.

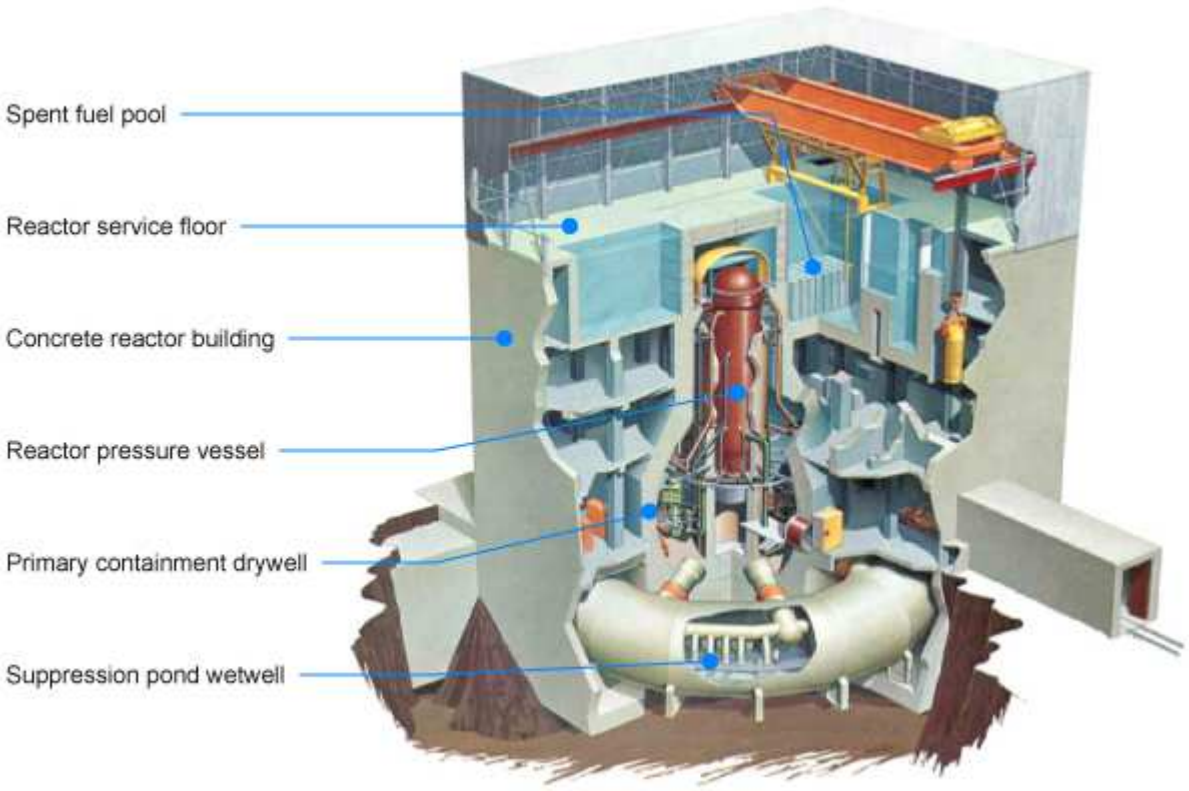
a. hydrogen explosions
b. was undertaken by hundreds of Tepco
c. to radioactive contamination
d. despite some problems
e. 12 of 13 back-up generators on site
f. triggered by the earthquake
g. were killed directly by

D. Read quickly the article from the site https://www.bbc.com/news/world-asia-16334434 and find what these numbers and numerical expressions refer to.

2013	**1000**	**2719**	**7**	**15**	**11th**	**100,000**

E. Match the abbreviations with their definitions.

1. PBq	a. International Nuclear Event Scale
2. MWe	b. Megawatt electric
3. INES	c. a radioactivity measurement



- Following a major earthquake, a 15-metre tsunami disabled the power supply and cooling of three Fukushima Daiichi reactors, causing a nuclear accident on 11 March 2011. All three cores largely melted in the first three days.
- The accident was rated 7 on the INES scale, due to high radioactive releases over days 4 to 6, eventually a total of some 940 PBq (I-131 eq).

- Four reactors were written off due to damage in the accident – 2719 MWe net.
- After two weeks, the three reactors (units 1-3) were stable with water addition and by July they were being cooled with recycled water from the new treatment plant. Official 'cold shut down condition' was announced in mid-December.
- Apart from cooling, the basic ongoing task was to prevent release of radioactive materials, particularly in contaminated water leaked from the three units. This task became news worthy in August 2013.
- There have been no deaths or cases of radiation sickness from the nuclear accident, but over 100,000 people were evacuated from their homes to ensure this. Government nervousness delays the return of many.
- Official figures show that there have been well over 1000 deaths from maintaining the evacuation, in contrast to little risk from radiation if early return had been allowed.

F. Look at the highlighted grammar forms in the article. Which do you think the Passive ones are? Define tense and grammatical aspect of each Passive form.

G. The following pictures show the stages of the nuclear accident at the Fukushima plant. Match the pictures with their descriptions.

a. Helicopters were used to drop water on reactor buildings 3 and 4 with the aim of replenishing water in the storage pools.

b. However with no power, the cooling system stopped working.
Water stopped circulating and began to boil, creating steam.
The fuel rods got hotter and reacted with the steam, creating hydrogen gas.

c. Each nuclear reactor heats water into steam; the steam turns turbines to generate electricity.
After the earthquake, control rods automatically activated to stop nuclear

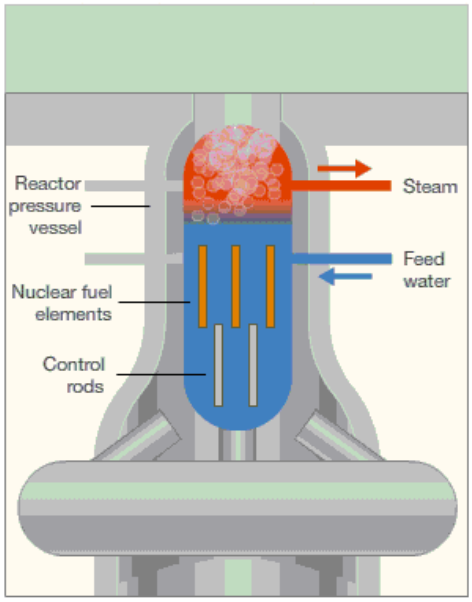
d. The explosion at reactor 2 damaged the suppression chamber, a water-filled structure below the main reactor which

reactions and to shut down the reactors.

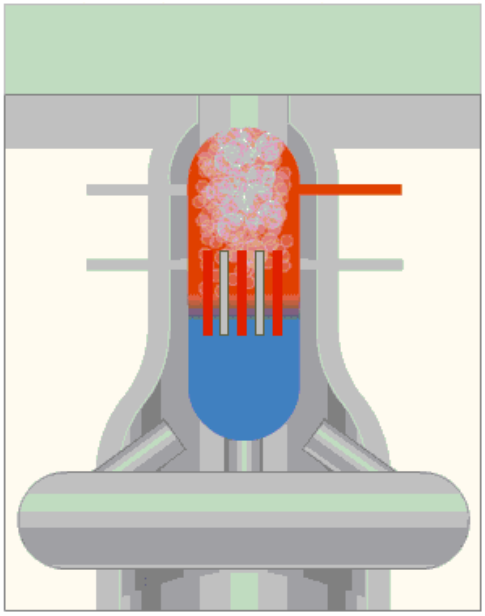
helps condense steam.

Experts believe this caused a mass discharge of radioactive material.

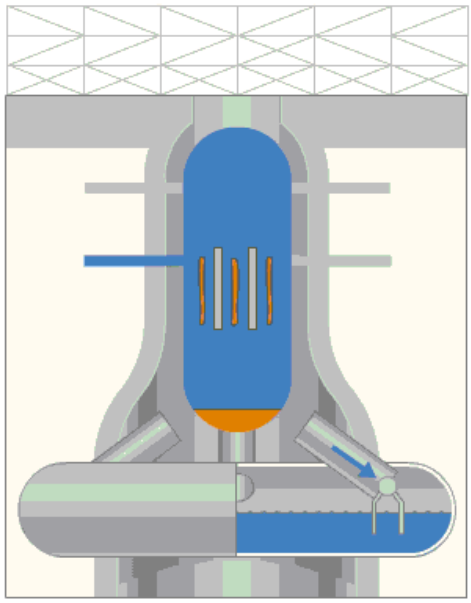
1.

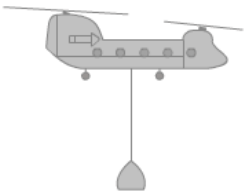


2.

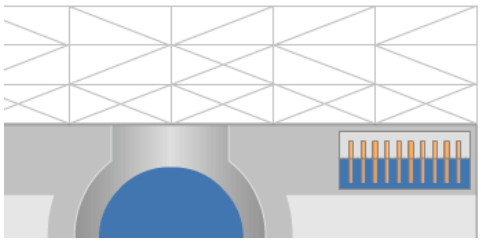


3.





4.



UNIT VII
JUST THE JOB!

Get ready to read

Imagine you need to get a job. How would you try and find a job? Tick the methods you would use.

I`d ask my friends if there were any opportunities where they worked. []

I`d write to companies I`d like to work for. []

I`d look at adverts in the newspaper. []

I`d search on the Internet. []

I`d go into places and ask about work opportunities. []

Did you know…?
If something is *just the job*, it is exactly what you want or need. If you say something is *just the job*, you are probably not talking about work! A cup of coffee in the morning, for example, could be just the job, if you are tired, thirsty or bored!

CAN YOU START IMMEDIATELY?

A. John is from the USA. He is studying his last year at university. He is hoping to find a job. Scan the advertisements from a newspaper. Is there any job suitable for John?

Learning tip
We often *scan* a text – look at it quickly- to find the part of the text which is most useful to us. We can then ignore the rest of the text and focus on the important part. We read the important part slowly, and we probably read some words/phrases/sentences more than once in order to understand the details.

Messer Construction Co

Has a vacancy for a Safety Engineer

Compensation: $90,000 to $120,000 Annually

Employment Type: Full-Time

Responsibilities are as follows:

•Pre-construction safety meetings

•Contractor safety orientations

•Weekly site safety inspections

•Involvement in OSHA inspections and related follow-up

•Accident/incident investigation

•Research on safety topics

•Employee safety training

•Organize and lead project safety committee

•Track and identify trends

Minimum Requirements:

•Degree in safety related program

•Efficient with Word, Excel, Outlook and PowerPoint or any new system deemed necessary for job performance

•Good verbal and written communication skills, strong organizational skills

•Ability to function in and support a team environment, to work non-routine hours as needed, to analyze options and problem solve creatively

•Accuracy and consistency of work product

We provide an excellent and comprehensive compensation package with unlimited opportunity for personal and professional growth. If you would like to join our team of employee-owners and are interested in a challenging and rewarding career, please visit our website at www.messer.com/careers.

Ford Motor Company Dearborn

Has a vacancy for a Core Functional Safety Engineer

Compensation: $95,000 to $130,000 Annually

Employment Type: Full-Time

Responsibilities are as follows:

•Development of Functional Safety Concepts, Technical Safety Concepts, Functional Safety Requirements and Technical Safety Requirements.

•Defining new methods to leverage systems engineering tools for Functional Safety.

•Driving the development and adoption of Functional Safety processes, guidelines, templates, and training.

•Analyzing the safety of each system as an integrated whole even when composed of diverse, specialized components and sub-systems.

Minimum Requirements:

•Bachelor's degree in mechanical engineering, electrical engineering, controls engineering or a related field.

•1+ years' experience working with complex systems 1+ years' experience with software development

•1+ years of previous work experience with Safety Analysis Techniques

•1+ years of previous work experience in Hazard Analysis and Risk Assessments.

Company website: www.applytracking.com

B. Read the advertisements carefully. Which advertisement gives the following information?

a. the name of the company/person offering the job

b. the money you will earn

c. the number of hours a week you will work

d. the time of the day when you will be working

e. the phone number of the contact person

C. Match the company with its description.

a. It is an award-winning construction manager and general contractor that provides leadership for complex commercial building projects. An employee-owned company, it now stands as one of the nation's leading health care and higher education builders. It is seeking a Safety Engineer to support projects and personnel with safety inspections, project planning, and employee training

b. The distance between imagination and … creation. It can be measured in years of innovation, or in moments of brilliance. When you join the team you will discover all the benefits, rewards and development opportunities you'd expect from a diverse global leader. You'll become part of a team that is already leading the way, with ingenious solutions and attainable products – and it is always ready to go further.

Focus on…Vocabulary

D. There are a lot of useful words used in applying for jobs. Complete the definitions of the following words: CV (curriculum vitae *Latin*), closing date, application form, referee, salary, vacancy.

a. A …. is a job that is available.

b. Your …. is a fixed amount of money that you get from your employer.

c. An …. is a document you use officially to ask for a job.

d. The …. is the last day on which you can apply for a job.

e. Your ….is a document describing your qualifications and the jobs that you have done, which you send to an employer that you want to work for.

f. A …. is someone who knows you well and writes a letter to say if you are suitable for a job.

HOW TO MAKE A PERFECT INTERVIEW

E. Put the words in the correct order to make questions from a job interview.

1. About / you /something / can /tell / yourself /me?
2. This/ why /for / you / did / job / apply?
3. Did / your / you / why / job / leave / last?

4. Me / about / tell / your / something / education
5. Working / tell / more /experience / me / you / can/ about / your/ something?
6. Hire/ you / should / why / we?
7. Strengths / are / what / your?
8. Your / are / what / weaknesses?
9. Are / five / horizon /goals / what / your / in/ year?
10. So far/ achievements / biggest / what / are / your/
11. Motivates / what / you?
12. Are / salary / your / what / expectations?
13. Able / you / start / are / to / when?
14. Have / do / any / you / questions?

F. Match the question with the tip how to give the best answer to the job interview question.

a. Motivation is crucial in every role. You need to convince the employer that you are motivated and do not need any special incentives to work hard. The best way to do so is to show the enthusiasm in the interview and be filled with energy!

b. Achievements are more important for the employers than your experiences. This is the fact. Other fact is that everyone of us has some achievements. Employers can be impressed by both tangible and intangible achievements. If you used to be a heavy smoker and were able to quit smoking, it shows that you have a strong determination and will. Our life is full of achievements. You just need to choose some for your answers to interview questions.

c. This is actually a good question. If the employer asks it, it means that he/she considers hiring you (or at least giving you a chance). The key is to emphasize that the salary is not the deciding factor for you.

d. Interview questions about strengths and weaknesses are typical. And it is easy to answer them. All you have to do is to pick one or two strengths that are relevant for the job.

e. This is typically the first question in the job interview. If you answer it well, you will make a good first impression and have better chances to get the job. You should focus on job related things in your answer: what you are good at, what you have done before and what are you looking for in your career.

f. Change is a part of life. However, employer wants to understand the reasons why you want to make a change. It is important to stay positive and do not mention any negative things about your previous employers. You should simply focus on the future and not on the past.

g. For some employers and for certain positions your education is very important. Degrees like MBA are prestigious and many employers prefer candidates with these forms of degrees. However, if you do not have it, you can still offer a good answer to this interview question. Try to focus on the knowledge you have gained.

h. Interviewer needs to understand your intentions. If you prepare a good answer to this interview question, you can convince him/her that you are the best person for the job. The key thing is to speak about the company and not about you.

i. You should pick just one or two from your previous jobs and describe briefly what you did and learned there.

j. It is not so important what weaknesses you list here. More important is to define how exactly you try to get rid of your weakness. Secondly, you should choose the weakness that is not so important for the job you are applying for.

k. Companies have their plans and needs. That is why it is better to say that you can start when they need you.

l. This is probably the most difficult interview question. However, if your answer is convincing enough, it really can persuade the employer to hire you! You should simply focus on your USP (unique selling point). It means to show the employer something special other candidates cannot offer him.

m. Every responsible person has some goals. When questioning you about goals, the employer simply wants to hear that you have some. You should either choose personal goals, or connect your goals with the company where you are applying for a job.

n. In every good job interview there is a place for candidates' questions. It is good to ask one or two questions. You should not ask about something that has been already mentioned in the interview or job description.

Focus on…Speaking

G. Discuss in a group or with a partner the following questions:

Do you think you are good or bad at job interview? Why?

Would you rather work for yourself or work in a company?

H. Look at task 1and work in pairs. Prepare a job interview for these positions.

MEDIA PROJECT

Napo - Safety with a smile

Use NAPO films to promote Safety and Health at work.
Napo is the hero in a series of animated films that introduce important workplace safety and health topics in a memorable, light-hearted way. The likeable character symbolizes an employee who could be working in any industry or sector.

The origins of Napo

Napo is an original idea conceived by a small group of OSH communications professionals in response to the need for high quality information products to break down national boundaries and address the diverse cultures, languages and practical needs of people at work. The films are not designed to provide comprehensive coverage of a topic, nor should they be seen as training or teaching films. The role of Napo and his friends is to provide an appetiser to OSH through their engaging characters, amusing story lines, and their humorous and light-hearted approach. “Safety with a smile” is Napo’s contribution to safer, healthier and better workplaces. Each film is co-produced by a number of European Institutions. The European Agency for Safety and Health at Work in Bilbao, Spain has funded the development of the website.

Napo and friends

Napo

Napo is the hero of the cartoon series. He is symbolic of an employee working in any industry or sector. Napo is not limited to one specific job or work environment but his personality and physical appearance remain the same in all the films.

Napo is a normal person - neither good nor bad, neither young nor old. In this respect, his culture is neutral. He is a willing worker who can be the victim of situations over which he has no control but he can also identify hazards or risks, and make good suggestions to improve safety and work organisation.

Napo is a likeable and attractive character with strong reactions and emotions. When Napo is annoyed, bored or in love - it shows! As such, everyone can identify with Napo, from young employees to someone who has worked in the company for many years.

The Boss

The boss is the main supporting character. He might be the foreman, site manager or factory director; he represents authority. The boss gives the orders and sets the rules,

and always instructs Napo directly. He is not only concerned about the safety of his staff but also about productivity. Often, he is under pressure from his superiors or his clients. Sometimes he gives orders that are contradictory or impossible to carry out. Contrary to the saying, the boss is not always right. Like Napo, he is not limited to one specific job or work environment but his personality and physical appearance remain the same in all the films.

Miss Strudel

Miss Strudel is an intense woman who represents a level of authority higher than or parallel to that of the boss. She might be the client, the works inspector or the company nurse who puts pressure on the boss and his staff. Miss Strudel is amusing through her excesses. Napo himself may be seduced by her rather special charm.

Napette

Napette may perform the same or similar duties to Napo or a different job but in the same work environment. Occasionally she makes mistakes in her job. Napette is at-

tracted by Napo's charm but her attempts to help him sometimes irritate or annoy Napo.

Colleagues

Depending on the stories, Napo may have one or two colleagues working in the same company and doing the same or similar jobs. These characters serve as a foil to Napo's exploits. For the main part, they are sensible employees who more or less follow the rules.

Discuss these questions

1. Have you ever heard of any of these Napo's films? If yes, what do you know about them?

2. Do you ever watch educational films? Do you have any favourites? What do you like/not like about educational films?

1. **Safety Inside and Outside of Work**

https://www.youtube.com/watch?v=MphhHz4-2uw

2. **Dust at Work**

https://www.youtube.com/watch?v=zsyPtsmV7XA

3. **Stop that Noise**

https://www.youtube.com/watch?v=BxCku4GRUko

4. What Causes Accidents

https://www.youtube.com/watch?v=dBf6BTX1bmM&index=17&list=RDQM62Dm5BfFtbs

5. Heat Stress

Episode 1https://www.youtube.com/watch?time_continue=7&v=m5TMO3L2iso

Episode 2 https://www.youtube.com/watch?time_continue=6&v=pphveldl_nU

6. Safe on Site

https://www.youtube.com/watch?time_continue=3&v=FYIu8mc4RaU

7. Best Signs Story

https://www.youtube.com/watch?time_continue=1&v=mQhFqoDxJUA

8. Safe Start

https://www.youtube.com/watch?v=7LjTvVKLWik

Watch the beginning of the film

1. What can you tell about the relationships between the people in the film?

2. What do you think of the film extract?

3. Does it make you want to watch the whole film?

4. What do you think happens in the rest of the film?

5. Is this type of film popular in your country? Why/Why not?

VIDEO PROJECT

THE CHILEAN MINERS

FILM PREVIEW

A. Work in pairs and match the words in the box with pictures A – H.

drill ***A***	miner	tunnel	microphone	note	underground	surface	accident

B. What do you know about the Chilean miners' story? Work in pairs and underline the correct alternative.

1. It was in 2008/2009/2010.
2. There was an accident/a lot of rain/a plane crash at the mine.
3. There were 23/33/43 miners underground.
4. For the first 3/7/17 days many people were sure the men were dead.
5. Then a note/a text message/ an email arrived from the men. They were OK!
6. Workers drilled a tunnel to the miners for 7 days/weeks/months.
7. The first miner arrived at the surface in the morning/in the afternoon/at night.
8. The last man out was the president/chef/boss.

C. Read the program information. Which sentences in Exercise B does it give information about? Were your answers correct?

The Chilean Miners Rescue

BBC

In 2010 there was an accident at a mine near Copiapó, Chile. 33 miners were underground at the time. Were they dead or alive? For 17 days, their families and friends waited. Then, on Day 17, a note arrived from the mine: it was from the men. They were OK. Workers drilled down to the miners for many weeks. People around the world watched and waited. Finally, after 69 days, one by one, the miners travelled to the surface. They were free! Watch their story on tonight's *Newsround*.

FILM VIEW

D. Watch the video and check your answers to the other sentences from Exercise B.

E. Complete the following sentences with the words from the box.

seven days worked families well travelled minutes rescue

1. Thirty-three miners were underground, seven hundred metres underground.
2. "We are _____ in the shelter, the 33".
3. The miners _____ to keep healthy and positive.
4. The miners'_____ watched and waited.
5. The tunnel was finished. The _____ started.
6. It was eighteen _____ from the mine to the surface.
7. One by one the miners _____ to the surface.
8. After sixty-nine _____ , the miners were free.

F. Watch the video again to check your answers.

APPENDIX

UNIT I
What is a Culture of Safety?
How do you know if you have one and how can you enhance this culture once it has been established?

It is actually much easier to identify an organization that does not exhibit a culture of safety. These are organizations that have recurring injuries and down time along with increasing insurance rates and possible litigation issues. At these facilities, workers don't feel safe or comfortable with the PPE provided to them and don't bother to alert someone if gloves, glasses or earplugs fit properly. Management and workers sometimes ignore safety procedures and safety is not looked at as a top priority, nor is it discussed or properly invested in. Workers are not empowered to make a difference and in these cases, the culture of safety is broken or non-existent.

In a culture of safety, workers are empowered to take action. They are responsible for safety and the safety of their coworkers and their leaders understand the value of safety. Management is committed to changing the environment for the better and continually and invest in the protective equipment, services and technology necessary to keep their workers and workplaces safe.

OSHA has reported that developing a strong culture of safety has a significant impact on reducing incidents and the development of these cultures should be a top priority for managers and supervisors.

Read the text and decide if the statements are true (T) or false (F).

1. It is complicated to identify a company without safety conscience culture.
2. The organizations have to deal with litigation issues if they don't exhibit a culture of safety.
3. The employees feel safe with PPE.
4. The workers are irresponsible for safety in a culture of safety.
5. OSHA has an important influence on safety culture.

UNIT II
The Fire Tetrahedron (A pyramid)

For many years the concept of fire was symbolized by the Triangle of Combustion and represented, fuel, heat, and oxygen. Further fire research determined that a fourth element, a chemical chain reaction, was a necessary component of fire. The fire triangle was changed to a fire tetrahedron to reflect this fourth element. A tetrahedron can be described as a pyramid which is a solid having four plane faces. Essentially all four elements must be present for fire to occur, fuel, heat, oxygen, and a chemical chain reaction. Removal of any one of these essential elements will result in the fire being extinguished.

The four elements are oxygen to sustain combustion, sufficient heat to raise the material to its ignition temperature, fuel or combustible material and subsequently an exothermic chemical chain reaction in the material. Each of the four sides of the fire tetrahedron symbolizes the Fuel, Heat, Oxygen and Chemical Chain Reaction. Theoretically, fire extinguishers put out fire by taking away one or more elements of the fire tetrahedron.

The symbol although simplistic, is a good analogy, how to theoretically extinguish a fire, by creating a barrier using foam for instance and prevent oxygen getting to the fire. By applying water you can lower the temperature below the ignition temperature or in a flammable liquid fire by removing or diverting the fuel. Finally interfering with the chemical chain reaction by mopping up the free radicals in the chemical reaction using, BCF and other halon extinguishers, it also creates an inert gas barrier. However this type of extinguisher is being phased out and in the future other extinguishing agents may be found using this principle.

Read the text and decide if the statements are true (T) or false (F).

1. Before the Triangle of Combustion symbolized the concept of fire.
2. A tetrahedron is a 2D shape.
3. At least three elements must be present for fire to occur.
4. Fire will be extinguished by taking one of the essential elements away.
5. Water lowers the temperature below the ignition temperature or takes the fuel away.

UNIT III
Hidden hazards in the office workplace

Without regular checks, even a seemingly safe office can hide serious health and safety risks. These hazards can be both inherently dangerous and, in the event of an accident, they can increase the risk that a member of staff gets injured. Regardless of whether an employee seeks to make a work injury compensation claim, if even a single member of staff is injured and unable to work for an extended period, the disruption to a small business can be significant.

In practice, it may be impractical to guard against every imaginable hazard. While accidents can happen even under the most rigorous safety regimes, the one regret that no employer wants to consider after an accident is that they 'could have done more' to prevent it. If staff or clients share that belief, the damage can be lasting and irreparable.

Part of the reason that office safety is often neglected is that this environment is considered 'safe', compared to the likes of building sites and warehouses. In fact, office staff are often exposed to risks that would be guarded against in a seemingly more dangerous workplace, with clear guidelines and regular checks.
Without a system of regular audits and access to health and safety resources, however, many other hazards can go unnoticed and unmonitored until they cause harm. Prevention is undoubtedly the best strategy, but an inadequate safety regime can breed complacency.

Read the text and decide if the statements are true (T) or false (F).

1. Regular checks will not make offices safer.
2. Nothing could disrupt a small business.
3. It is of utmost importance to guard against every imaginable hazard.
4. Regular audits notice all potential threat.
5. Prevention is the best way to avoid accidents.

UNIT IV
Dangers of Poor Lighting

Poor lighting can be a serious danger in your workplace.

1. Accidents

One of the most serious problems of bad lighting is accidents.

Poor lighting can become a danger in the workplace because it is hard to see things like the proximity, speed, depth, and exact shape of the things around you. This can lead to employees tripping and falling, causing serious injuries in some cases.

2. Squinting

When an employee cannot see what they are working on clearly, they start to squint and strain their eyes. This constant straining will make them uncomfortable, and they could end up with irritated eyes, including burning, tearing, or dryness.

If the conditions are bad enough, they can actually develop serious eye problems, like reduced vision sharpness, poor depth perception, and double vision.

3. Headaches

Whether the light is too dim or too bright, your employees could suffer from extreme headaches. If they are working in the same location frequently, these headaches can start to repeat.

Employees who are in pain or discomfort will find it difficult to focus on their work, which will also affect what they can get done.

4. Lack of Productivity

Bad lighting can actually make your employees less productive. And if your employees are less productive than they should be, you're entire business will suffer.

Dim lights can cause employees to become drowsy and work slower than normal. This means the amount of work they should be doing decreases.

Read the text and decide if the statements are true (T) or false (F).

1. Poor lighting is not considered to be a serious hazard.
2. Proximity, speed and exact shape of the things around you are affected by poor lighting.
3. Squinting is not caused by bad lighting.
4. Only too dim light can provoke problems with eyes and headaches.
5. Bad lighting influences productivity.

UNIT V
Office Temperature and Productivity in the Workplace

In today's competitive business climate, companies need employees to be as productive as possible to achieve their goals. That's why temperature and office productivity is an issue that's getting more attention as the need for improved worker output increases.

What's the relationship between temperature and productivity in the workplace?

Productivity suffers significantly when workers are too hot or too cold because they are distracted and make more mistakes. Studies find the highest productivity levels with temperatures at 71.6 degrees F. You could be paying 10 percent more in labor expenses when the office temperature is uncomfortable, according to a Cornell University study.

Research published by the National Center for Biotechnology Information suggests that improving indoor air quality (of which temperature is an important component) can lead to work performance and productivity gains in the range of 6 to 9 percent.

The Cornell study mentioned earlier suggested (in 2004) that companies can save $2 per hour per worker by keeping temperatures comfortable. That savings is probably even higher today. How much would that add up to for your company?

What is the optimum temperature for an office?

Although OSHA recommends a temperature range between 68 and 76 degrees F, most studies show the highest productivity levels with temperatures in the low 70s. It's also important to keep humidity levels between 20 and 60 percent, because humidity can change how people perceive temperature.

Read the text and decide if the statements are true (T) or false (F).

1. The need for productive employees increases.
2. Workers can make more mistakes because of environment temperature.
3. The highest productivity levels are at 71.6 degrees Celsius.
4. Improving indoor air quality leads to improving work productivity.
5. OSHA does not have any particular recommendations about temperature.

UNIT VI
Bhopal disaster

Bhopal disaster, chemical leak in 1984 in the city of Bhopal, Madhya Pradesh state, India. At the time, it was called the worst industrial accident in history.

On December 3, 1984, about 45 tons of the dangerous gas methyl isocyanine escaped from an insecticide plant that was owned by the Indian subsidiary of the American firm Union Carbide Corporation. The gas drifted over the densely populated neighborhoods around the plant, killing thousands of people immediately and creating a panic as tens of thousands of others attempted to flee Bhopal. The final death toll was estimated to be between 15,000 and 20,000. Some half a million survivors suffered respiratory problems, eye irritation or blindness, and other maladies resulting from exposure to the toxic gas; many were awarded compensation of a few hundred dollars. Investigations later established that substandard operating and safety procedures at the understaffed plant had led to the catastrophe. In 1998 the former factory site was turned over to the state of Madhya Pradesh.

In the early 21st century more than 400 tons of industrial waste was still present on the site. Neither the Dow Chemical Company, which bought out the Union Carbide Corporation in 2001, nor the Indian government had properly cleaned the site. Soil and water contamination in the area was blamed for chronic health problems and high instances of birth defects in the area's inhabitants. In 2004 the Indian Supreme Court ordered the state to supply clean drinking water to the residents of Bhopal because of groundwater contamination. In 2010 several former executives of Union Carbide's India subsidiary—all Indian citizens—were convicted by a Bhopal court of negligence in the disaster. Continued corporate and government mishandling of the disaster sparked decades of protests by victims and others.

Read the text and decide if the statements are true (T) or false (F).

1. The tragedy in Bhopal was caused by an explosion.
2. The first two hours twenty thousand people died because of dangerous gas.
3. The survivors suffered from digestive problems.
4. Nowadays, a lot of industrial waste is still present on the site there.
5. In 2014 the Indian Supreme court ordered the state to supply clean drinking water to the residents of Bhopal because of groundwater contamination.

UNIT VII
How To Get A Good Job Without Experience Fast With Ease – The Best Tips To Apply

Job search canbe stressful, overwhelming and time-consuming. Yet, with some hard work, a lot of ambition, and confidence in yourself, you can make it happen.

A perfect job that will be personally satisfying and give financial stability is what most people in the world want. The problem is that finding a job is not easy for everyone. Many people get hired so quickly while the other is still looking? Why? Some might say it is luck, and certainly there is an element of that. However, in the job hunting market, you have to make your own luck. How? Here are 3 useful tips on how to get a good job fast that you can refer to.

1. Identify What You Really Want To Do:

We spend a large part of our lives working, so the more enjoyable your work is, the more you will enjoy life!" That is why you should figure out exactly what you really want to do.

2. Start Volunteering:

LinkedIn found that 1 out of 5 hiring managers consider volunteer work experience a great asset when considering candidates. Therefore, another tip on how to get a good job without experience is volunteering.

3. Invest More Time In Job-Hunting:

Job-hunting itself is a full-time job, which you should spend more time and effort into it. The sooner you start looking the faster you land a job. It is better to embark on job-hunting when you are final year student, even third-year student, don't wait until you graduate.

Read the text and decide if the statements are true (T) or false (F).

1. Looking for a job is a pleasant and relaxing process.
2. It is impossible to get a job quickly.
3. Work takes up a lot of time.
4. Volunteering is a waste of time.
5. You should begin searching for a job after graduation.

WORD LIST
UNIT I

absenteeism, n	игнорирование мероприятий
attrition, n	изнурение, истощение
affect, v	воздействовать, влиять
care about one's well-being, v	заботиться о здоровье
debilitating effects, n	негативные последствия
eliminate, v	устранять, ликвидировать
engender trust, v	вызвать доверие
ensure, v	гарантировать, обеспечивать
financial burden, n	финансовые затруднение
follow through, v	завершать, доводить до конца
hazard, nопасность, риск	
impose, v	налагать, возлагать
incapacitated, adj	нетрудоспособный
injury, nповреждение	
litigation, n	тяжба; судебный процесс
major obstacles, n	значительные препятствия
margins	прибыль
recognize, vпризнавать	
recompense, v	компенсировать, возместить
reduce fatalities, v	сокращать, уменьшать несчастные случаи
remain loyal, v	оставаться верным
risk assessment, n	оценка риска
undertake, v	предпринимать
work environment, n	производственная среда

UNIT II

alarm system, n	система аварийной сигнализации
arson, n	поджёг
be aware of, v	осознавать
come across, v	сталкиваться с
exit route, n	маршрут выхода
fire code, n	нормы противопожарной безопасности
fire escape plan, n	план эвакуации при пожаре
Fire Prevention Plan, n	план противопожарной безопасности
fire resistant material, n	огнестойкий материал
fixed fire extinguishing system, n	стационарная система пожаротушения
fuel source, n	источник топлива
loose wire, n	ослабленный провод
negligence, n	халатность
permit prompt evacuation, v	обеспечить быструю эвакуацию
poor circuit, n	некачественное соединение проводов
property loss, n	материальный ущерб

UNIT III

apply a floor finish, v	наносить покрытие (лак для пола)
belt, n	лента конвейера
carbon monoxide, n	угарный газ
certified tower crane operator, n	сертифицированный машинист башенного крана
cleaning crew, n	уборщики
concrete, n	бетон
contact control system, n	ручная система управления
co-worker, n	коллега по работе
demonstrate competency, v	продемонстрировать компетентность
derail the dream, v	поставить крест на мечте
difficulty breathing, n	затрудненное дыхание
engine’s exhaust, n	выхлоп двигателя
exposed roller, n	наружный вращающийся барабан
exposed to the gas	подвергнуться воздействию газа
feel nauseous, v	тошнить
vision (get) blurry	расплывается перед глазами
hidden hazards, n	скрытые угрозы
hoist drum brake, n	тормоз подъемного барабана
incompetence, n	некомпетентность, несоответствие требованиям
idle, v	работать вхолостую

injury, n	телесное повреждение
install, v	устанавливать
irritation in the throat, n	раздражение в горле
liquid chlorine, n	жидкий хлор
load-failure incident, n	инцидент с загрузкой
malfunction, v	выйти из строя
muriatic acid, n	соляная кислота
propane-fuelled forklift, n	автопогрузчик работающий на пропане
plunge downward, v	стремительно падать
regain consciousness, v	прийти в сознание
remain in critical condition, v	по-прежнему находиться в критическом состоянии
slip uncontrollably, v	бесконтрольно скользить
sorting conveyer, n	сортировочный конвейер
stricken oil rig, n	поврежденная буровая вышка
surgery, n	хирургическое вмешательство
take the shift, v	заменять
underscore the need, v	подчеркнуть необходимость
unconscious, adj	без сознания
warehouse, n	склад
warning signs, n	предупреждающие знаки
workplace, n	место работы

UNIT IV

ailment, n	нездоровье
blindness, n	слепота
colour spectrum, n	цветовая гамма
dreary environment, n	мрачная обстановка
disrupt, v	разрушать
energy consumption, n	энергопотребление
eyestrain, n	напряжение зрения
foot candle, n	фут свеча (единица освещенности)
general malaise, n	общее недомогание
illumination, n	яркость
induce, v	вызывать, приводить (к чему то)
lead to visual fatigue, v	привести к зрительному утомлению
light intensity, n	интенсивность освещения
light level, n	уровень яркости/ освещенности
light source, n	источник света
over headlight, n	верхнее освещение
poor lighting, n	плохое освещение
proper lighting, n	надлежащее освещение
reflectance, n	отражательная способность

relieve symptoms, v	облегчить симптомы

UNIT V

buddy system-work in pairs, n	система работы с напарником
build up a tolerance, v	выработать иммунитет
dampness of the air, n	влажность воздуха
emergency response activities, n	действия при возникновении аварийной ситуации
equipment handles, n	ручки, рукоятки (оборудования)
excessive heat/cooling, n	перегрев/переохлаждение
exposed to extreme temperatures	подверженный экстремальным температурам
feasible, adj	возможный
General Duty Clause of the OSH Act, n	статья об обязанностях общего назначения Закона об охране труда и здоровья
give a boost, v	способствовать
in normal operations	при работе в штатном режиме
increased fatigue, n	переутомление
prevent exposure, v	предотвращать риск
pull moisture away, v	отводить влагу
radiant heater, n	радиатор
recovery operations, n	ремонтно-восстановительные работы
schedule work, v	установить расписание работы
substitute, v	заменять
tissue damage, n	повреждение тканей
vital organs, n	жизненно-важные органы

UNIT VI

Account for, v	являться причиной
allow, v	позволять, разрешать
announce, v	объявлять
cooling reactor	охлаждающий реактор
contaminated, adj	загрязненный
core, n	центр
earthquake, n	землетрясение
eventually, adv	в итоге
grapple, v	сталкиваться
grid, n	энергетическая система
leak, n	утечка
maintain, v	осуществлять эксплуатацию
melt, v	плавиться
power supply, n	электрическое питание
prevent release, v	предотвратить выброс
radioactive release, n	радиоактивный выброс
recycle, v	перерабатывать
suffer, v	страдать, понести убытки
tsunami, n	громадная океанская волна
suffer, v	страдать, понести убытки
vulnerable, adj	уязвимый

UNIT VII

Attainable products, n	достижимый продукт
Application form, n	анкета поступающего на работу
benefits, n	льготы и пособия
compensation package, n	оплата труда
employment type, n	вид занятости, форма трудоустройства
expectation, n	ожидание
guidelines, n	руководство, рекомендации
ingenious solution, n	гениальное решение
opportunity, n	возможность
previous work experience, n	предыдущий опыт работы
referee, n	рекомендательное лицо
related field, n	смежная область
relevant, adj	важный, относящийся к делу
responsibilities, n	обязанности
safety inspection, n	проверка соблюдения требований техники безопасности
special incentive, n	особый стимул
template, n	базовая форма документа
work non-routine hours, v	выполнять внеплановые работы

Федотова Елена Михайловна
Киселева Елена Викторовна
Корнилова Елена Сергеевна

SAFETY MATTERS

Учебное пособие

Подписано в печать формат 60х90 1/8. Бумага газетная. Печать трафаретная.
Уч. изд. л. 8,5. Усл. печ. л. 8,7. Тираж 100 экз. Заказ №

Федеральное государственное образовательное учреждение высшего образования
«Нижегородский государственный архитектурно-строительный университет»
603000, Нижний Новгород, ул. Ильинская, 65.
Полиграфический центр ННГАСУ, 603000, Нижний Новгород, ул. Ильинская, 65
http://www.nngasu.ru, rector@nngasu.ru