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ENGLISH FOR MEDICAL SPECIALISTS

(TEXTBOOK OF ENGLISH FOR STUDENTS OF HIGHER MEDICAL EDUCATIONAL ESTABLISHMENTS OF UKRAINE III and IV LEVELS OF ACCREDITATION)

PART II

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АНГЛІЙСЬКА МОВА ДЛЯ ФАХІВЦІВ У ГАЛУЗІ МЕДИЦИНИ

(ПІДРУЧНИК З АНГЛІЙСЬКОЇ МОВИ ДЛЯ СТУДЕНТІВ ВИЩИХ МЕДИЧНИХ НАВЧАЛЬНИХ ЗАКЛАДІВ УКРАЇНИ III та IV РІВНІВ АКРЕДИТАЦІЇ)

ЧАСТИНА II

УДК 81.111 (075.8)
ББК 81.432.1-923
П 34

Рекомендовано Міністерством охорони здоров'я України як підручник для студентів вищих медичних навчальних закладів IV рівня акредитації (Протокол №3 від 22 травня 2009р.).

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Підручник з англійської мови "English for Medical Specialists" для студентів вищих медичних навчальних закладів України III-IV рівня акредитації. Частина II.

ISBN

Основна мета підручника – систематизувати та поглибити знання студентів вищих медичних закладів з фонетики, словотворення, граматики та лексики англійської мови та розвинути навички читання та перекладу літератури за фахом, а також сприяти можливості усного мовлення за фаховими темами. Підручник розрахований для студентів, магістрів та аспірантів вищих медичних навчальних закладів України III-IV рівня акредитації. Може бути використаним для проведення практичних занять та самостійної роботи.

CONTENTS

ПЕРЕДМОВА

Знання іноземних мов є важливою передумовою для налагодження особистих, культурних, професійних та економічних контактів. Зростаючі потреби в спілкуванні та співпраці між країнами і людьми з різними мовними та культурними традиціями, зміни освітніх концепцій, перехід від традиційних форм навчання до пошуку нових, ефективніших вимагають суттєвих змін у підході до викладання іноземних мов в вищій школі, особливо в умовах кредитно-модульної системи навчання відповідно до вимог Болонського процесу.

З урахуванням оновлених цілей, методів та освітніх технологій навчання іноземним мовам на основі програми з англійської мови для вищих медичних закладів освіти України III-IУ рівнів акредитації створений підручник з англійської мови "English for Medical Specialists". Його мета – сприяти розвиткові та поглибленню базових навичок фахового спілкування, що передбачає оволодіння відповідними фонетичними, лексичними, граматичними та стилістичними засобами. При цьому автори намагалися сприяти засвоєнню лінгвістичного компоненту мови у нерозривному поєднанні з соціокультурним компонентом та прагматичною ефективністю.

Підручник складається з двох частин – для студентів першого та другого року навчання. Перша частина містить 2 розділи, що включають 38 уроки, друга частина – 3 розділи, тобто 27 уроків (з 39 по 65). Кожну частину доповнює матеріал зі словотворення, граматичний довідник та словник.

Підручник включає автентичні чи частково адаптовані тексти фахового спрямування, що належать до наукового, науково-популярного та офіційно-ділового стилів різних жанрів, наприклад, інструкції до вживання ліків, статті з довідників, фрагменти наукових журнальних статей, історії хвороб. Усі тексти містять слова та граматичні конструкції високочастотного вжитку, а також терміни вузьких тематичних сфер. Чимало текстів супроводжується фото, малюнками.

Запропонована система вправ спрямована на розвиток різних видів мовленнєвої діяльності та містить завдання різного ступеня складності.

Автори підручника висловлюють свою подяку кафедрі іноземних мов з латинської мовою та медичною термінологією Вищого державного навчального закладу України "Українська Медична Стоматологічна Академія", особливо зав. каф., к. філол. н., доц. І.М. Сологор, к. філол. н., доц, Р.В.Шиленко, доц. Л.В. Потяженко, ст. викл. І.Г. Романко, викл. Н.М. Демченко за рецензування та підготовку підручника до друку.

ABC

A	[eI]	**N**	[en]
B	[bi:]	**O**	[ou]
C	[si:]	**P**	[pJ]
D	[di:]	**Q**	[kjH]
E	[J]	**R**	[R]
F	[ef]	**S**	[es]
G	[GJ]	**T**	[tJ]
H	[eIC]	**U**	[jH]
I	[aI]	**V**	[vJ]
J	[GeI]	**W**	[dAbljH]
K	[keI]	**X**	[eks]
L	[el]	**Y**	[waI]
M	[em]	**Z**	[zed]

UNIT 3
LESSON 39
RESPIRATORY SYSTEM

VOCABULARY

diaphragm ['daIqfrxm] діафрагма

nares ['neIrI:z] ніздрі

cilia ['sIlIq] війки

moisten [mOIsn] зволожувати

casing ['keIsIN] оболонка

adenoids ['xdInOIdz] аденоїди

dense [dens] щільний; стиснутий; густий

columnar [kq'lAmnq] стовпчиковий, стовпчикоподібний

apex ['eIpeks] верхівка

average ['xvqrIG] середнє число; в середньому дорівнювати, складати

clavicle ['klxvIkl] ключиця

alveolus (pl. alveoli) [xl'vIqlqs] альвеола

exhale [eks'heIl] видихати; робити видих

breathe out ['brI:D "aut] видихати

passageway ['pxsIGweI] прохід

bronchi (sing. bronchus) ['brONkaI] бронхи

bronchiole ['brONkIqul] бронхіола

sac [sxk] мішечок

capillary [kq'pIlqrI] капіляр

pleura ['pluqrq] плевра

expand [Iks'pxnd] розтягувати(ся), розширювати(ся); збільшувати(ся) в об'ємі, в розмірах

respiration ['respq'reIS(q)n] дихання

WORD-BUILDING

Ex. 1. Translate the following words:

Develop, development; acute, acuteness; pain, painless; sudden, suddenly; certain, certainly; hospital, hospitalize; important, importance; vomit, vomiting; pulse, pulsate, pulsation; bleed, bleeding.

GRAMMAR:

Ex. 2. Familiarize yourself with the data of the following table:

FORMS OF PARTICIPLE

PARTICIPLE	FORM	EXAMPLES
Present Participle (Active)	**V + -ing**	writing, working
Present Participle (Passive)	**being + V3**	being written, being worked
Past Participle (Passive)	**V3**	written, worked
Perfect Participle (Active)	**having + V3**	having written, having worked
Past Participle (Passive)	**having + been + V3**	having been written having been worked

Note: Perfect Participle означає дію, яка відбулась раніше дії, вираженої присудком.

Ex. 3. Read the following sentences with their translation:

The text **translated** was easy.	Перекладений текст був легким.
The **delivered** lecture was interesting.	Прочитана лекція була цікавою.
Made according to new method, the experiment showed good results.	Проведений відповідно до нового методу, експеримент продемонстрував добрі результати.
Being asked, he didn't answer the questions.	Коли його запитали, він не відповів на питання.
The nurse **working** here is my mother.	Медсестра, яка працює тут, моя мати.
Reading this paper, I made notes.	Читаючи цю статтю, я робив нотатки.
Having read the book, I gave it to the library.	Прочитавши книгу, я повернув її до бібліотеки.

Ex. 4. Read and translate the following sentences paying attention to the forms of participles:

1. Having passed the state examinations, young doctors begin to work as interns during a certain period. 2. Having investigated the patient's case history, the physician drew to the conclusion that the patient was sensitive to antibiotics. 3. Being asked some questions about the attack of cardiac

pain the patient stated that it was particularly acute on physical exertion. 4. Improved by this surgeon, this surgical instrument is used widely. 5. Having performed on the operation, we went home. 6. Having reported about patient's condition, the therapeutist proposed to use new drugs. 7. Being very busy, Mike cannot come there. 8. Measles, also known as rubeola, is a common childhood illness. 9. Measles is most contagious before the rash appears, making it difficult to avoid the disease. 10. The affected person becomes contagious 1 day before the symptoms appear. 11. Approximately 2.5 square cm of the skin contain millions of cells and many specialized nerve endings. 12. The skin is a dynamic organ, constantly being replenished.

Ex. 5. Translate the following sentences into Ukrainian:
1. Поверхня верхньої кінцівки, яка покрита (to cover) опіками (burn), була великою. 2. Виконана (to do) робота є необхідною для нашого експерименту. 3. Середостіння (mediastinum), що розділяє легені, розташоване в грудній порожнині. 4. Середостіння, що розділяє легені, проходить (to extend) між грудиною і хребтом. 5. Плевра (pleura), що покриває легені і стінки грудної порожнини, утворює плевральну порожнину (pleural cavity). 6. Збори, що були проведені (to hold) в цій групі вчора, були дуже цікавими. 7. Хворий чоловік, який поступив (to admit) до лікарні 15 червня, був в дуже поганому (poor) стані. 8. Пролікувавшись протягом тривалого (prolonged) періоду, пацієнт почуває себе краще. 9. Видаляючи (to remove) чужорідне тіло (foreign body), хірург прагнув не заподіяти (to cause) пацієнтові біль. 10. Пацієнт, що скаржиться на (to complain of) гострий (acute) біль у черевній порожнині, був негайно (immediately) направлений (to direct) до хірургічного відділення.

READING AND DEVELOPING SPEAKING SKILLS

Ex. 6. Read VOCABULARY and memorize new words.

Ex. 7. Compose 2-3 sentences using the words of the VOCABULARY.

Ex. 8. Insert the missing letters:
Diap_ragm; ex_ale; bre_the; na_es; bron_hi; aver_ge; pl_ura; cil_a; ape_; pas_ageway; d_nse; capil_ary; alve_lus; bronchiol_; exp_nd.

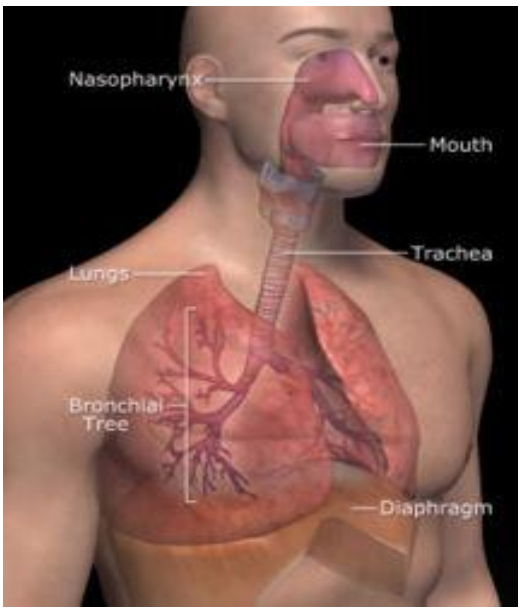
Ex. 9. Translate the following words and word-combinations into Ukrainian:
Ciliated columnar epithelium; larynx; pharynx; include; perform; individual cell; nares; cilia; pass; separate openings; nasopharynx; oropharynx; laryngopharynx; casing; cartilage; propel; apex of the lung.

Ex. 10. Read the following words and word-combinations:
Bronchi; associated; trachea; diaphragm; oxygen; release; atmosphere; moisten; adenoids; tonsils; unpaired cartilage; swallow; primary; superiorly; weight.

Ex. 11. Read the following text:

RESPIRATORY SYSTEM

The respiratory system consists of the nasal cavity, pharynx, larynx, trachea (windpipe), bronchi, and lungs. The upper respiratory tract includes the nasal cavity, pharynx, and associated structures, and the lower one involves the larynx, trachea, bronchi, and lungs. Respiratory movements are realized by the diaphragm and the muscles of the thoracic wall. All cells of the body perform aerobic metabolism for which oxygen is essential. The respiratory system and the cardiovascular system take oxygen from the air and transport it to individual cells. They then transport carbon dioxide from cells and release it from the body into the air. The respiratory system plays an important role in regulating pH of the body fluids.



Respiratory System

Respiration is the exchange of oxygen and carbon dioxide between the atmosphere and body cells.

Air enters the nasal cavity located inside the external nose and joined the pharynx through the external nares.

A mucous membrane and cilia warm the air and filter out foreign bodies. Then the air passes into the pharynx. Pharynx (throat) is the common opening of both the digestive and respiratory systems. Inferiorly, the pharynx leads to the separate openings of the respiratory system (opening into the larynx) and the digestive system (i.e. the esophagus). The pharynx can be divided into three regions, the nasopharynx, the oropharynx, and the laryngopharynx. The adenoids and the tonsils are located in the pharynx. Then the air reaches the larynx (voice box). The larynx consists of an outer casing of nine cartilages that are connected to each other by muscles and ligaments. Six of the nine cartilages are paired, and three are unpaired. The largest and most superior cartilage is unpaired thyroid cartilage, or Adam's apple. After that the air passes through the trachea and bronchi. The trachea is a membranous tube that consists of dense connective tissue and smooth muscle. The cilia propel mucus and foreign particles toward the larynx where they can enter the esophagus and be swallowed. The trachea connects the larynx to the primary bronchi. They go to each lung.

The lungs are the principal organs of the respiration and the largest organs of the body. Each lung is conical in shape, its base is on the diaphragm and its apex extends superiorly to a point approximately 2.5 cm superior to each clavicle. The right lung is larger than the left and weights an average of 620 g, whereas the left lung weights 560 g. The right lung has three lobes, and the left lung has two. The alveoli located in the lungs allow for the exchange of gases. The blood absorbs the oxygen from the alveoli and gives carbon dioxide away, which is exhaled (breathed out).

NOTES:

nasopharynx носоглотка
oropharynx ротова частина глотки
laryngopharynx гортаноглотка, гортанна частина глотки

Ex. 12. Translate the following words and word-combinations into English:
Верхівка; видихати; складатися з; для якого необхідний кисень; прохід; капіляр; середнє число, середня величина; зовнішня частина носа; щільний; війки; діафрагма; ніздрі; зволожувати; хрящ щитовидної залози; аденоїди; альвеола; плевра; розтягувати(ся), розширювати(ся), збільшувати(ся).

Ex. 13. Translate the text “Respiratory System” into Ukrainian.

Ex. 14. Insert the missing words:

1. The respiratory system consists of the nasal cavity, pharynx, larynx, trachea, _, and lungs. 2. The respiratory system and the cardiovascular system transport oxygen to _ cells. 3. Respiration is the _ of oxygen and carbon dioxide between the atmosphere and body cells. 4. Air enters the _ cavity. 5. Then the air passes into the _. 6. After that the air passes through the trachea and _. 7. The trachea connects the larynx to the primary _. 8. The lungs are the principal organs of the _. 9. The right lung is larger than the _. 10. The right lung has _ lobes, and the left lung has two.

Ex. 15. Answer the following questions:
1. What does the respiratory system consist of? 2. What is the major function of the respiratory system? 3. What parts is the respiratory tract divided into? 4. Where does air enter? 5. What is pharynx? 6. What is trachea? 7. What are the lungs? 8. What is the difference between right and left lungs?

Ex. 16. Describe the picture above.

Ex. 17. Read the following sentence and learn it by heart:
Respiration involves several important processes: 1) ventilation, the movement of air into and out of the respiratory passages and the lungs; 2) gas exchange between the air in the lungs and the blood; 3) transport of oxygen and carbon dioxide in the blood; and 4) gas exchange between the blood and the tissues.

Ex. 18. Read the following words and word-combinations and translate them into Ukrainian:
Fissure; lobule; visible; primary bronchi; secondary bronchi; respective lung; point of entry; hilum; tertiary bronchi; terminal bronchioles; duct; cluster; medial border; parietal pleura; to become continuous with; visceral pleura; fluid; lubricant; slide.

Ex. 19. Read the following abstract and entitle it:
The lobes are separated by deep, prominent fissures on the surface of the lung. The primary bronchi divide into secondary bronchi. The point of entry for the bronchi, vessels, and nerves in each lung is called the hilum, or root, of the lung. The secondary bronchi conduct air to each lobe. The secondary bronchi give rise to tertiary bronchi, which extend to the lobules. The bronchial tree continues to branch several times, finally giving rise to bronchioles. They also subdivide numerous times to become terminal bronchioles, which then divide into respiratory bronchioles. Each respiratory bronchiole divides to form alveolar ducts that end as clusters of air sac called alveoli. The lungs contain over 300 million such alveoli. If they could be stretched out on a flat surface, they would cover an area approximately the size of tennis court.

Ex. 20. Speak on the structure of the respiratory system.

Ex. 21. Read the following text and get ready to narrate it:

LUNGS

The lungs are the principal organs of respiration. They occupy the major part of the cavity on both sides of the chest. The two lungs are not equal in size. The right lung is divided into three lobes and is a bit larger. The left lung is divided into two lobes. The lobes are separated by deep, prominent fissures on the surface of the lung. Each lobe is divided into lobules that are separated from each other by connective tissue.

The primary bronchi divide into secondary bronchi as they enter their respective lungs. The point of entry for the bronchi, vessels, and nerves in each lung is called the hilum, or root, of the lung. The secondary bronchi, two in the left lung and three in the right lung, conduct air to each lobe. The secondary bronchi, in turn, give rise to tertiary bronchi, which extend to the lobules. The bronchial tree continues to branch several times, finally giving rise to bronchioles. The bronchioles

also subdivide numerous times to become terminal bronchioles, which then divide into respiratory bronchioles. Each respiratory bronchiole divides to form alveolar ducts that end as clusters of air sacs called alveoli. An alveolar sac is composed of two or more alveoli.

Each lung is surrounded by a separate pleural cavity, attached only along its medial border at the hilum. Each pleural cavity is lined with a serous membrane called the parietal pleura. At the hilum the parietal pleura becomes continuous with a serous membrane, the visceral pleura, which covers the surface of the lung.

The pleural cavity is filled with pleural fluid that is produced by the pleural membranes. The pleural fluid performs two functions: it acts as a lubricant, allowing the pleural membranes to slide past each other as the lungs and thorax change shape during respiration; and it helps hold the pleural membranes together.

Deoxygenated blood is transported to the lungs through the pulmonary arteries, and oxygenated blood leaves through the pulmonary veins. Oxygenated blood is mixed with a small amount of deoxygenated blood returning from the bronchi.

Ex. 22. Answer the following questions:

1. What are the lungs? 2. How many lobes do the right and left lungs have? 3. What is each lobe divided into? 4. Where do the primary bronchi divide into secondary ones? 5. What is hilum of the lung? 6. What does each respiratory bronchiole form? 7. What is the lung surrounded by? 8. What is the parietal pleura? 9. What is the visceral pleura? 10. What is the pleural cavity filled with? 11. What are the functions of the pleural fluid? 12. What are the two major routes of blood flow to and from the lungs?

Ex. 23. Give a summary of the text "Lungs".

Ex. 24. Make up the dialogue on the structure and functions of the lungs.

Ex. 25. Read the following words and word-combinations and memorize their meaning:

Branch розгалужуватися; **create** створювати; **adjacent** розташований поряд, суміжний, сусідній; **inhale** вдихати; **push down** натискати, тискнути; **suck** всмоктувати, засмоктувати; **similar** подібний, схожий; **file** ряд, колона; **merge** зливати(ся), сполучати(ся).

Ex. 26. Read and translate the following text:

NORMAL VENTILATION

The primary function of the lungs is to provide oxygen to the blood and to remove carbon dioxide from it. The lungs are within the chest, which is enclosed on all sides by the ribs, cartilages, and the muscles between them.

To reach the lungs, air enters through the mouth and nose and then travels through the pharynx, larynx, and down trachea. As you know the trachea branches into two main bronchial tubes, or air passageways. Each bronchial tube then branches into smaller passageways (bronchi), which divide several times more, finally forming much smaller tubes (bronchioles). The branching creates the appearance of an upside-down tree. The smallest bronchioles end in tiny closed elastic air sacs called alveoli. The blood is carried to these air sacs by tiny blood vessels. The vessels, called pulmonary capillaries, release carbon dioxide from the blood into air sacs and at the same time absorb oxygen from the air sacs into the blood.

The pleura covers the outside of the lungs and the adjacent chest wall. This membrane allows the lungs to move easily within the chest cavity as the human breathes.

When you inhale, the muscles of ribs contract, causing the ribs to move upward and outward. At the same time, the diaphragm contracts, pushing down toward the abdomen. These two actions increase the size of the chest cavity and thus cause the lungs to expand and air to be sucked into them.

When you exhale, the diaphragm and rib muscles relax and return to their original positions. This decreases the size of the chest cavity, compressing the lungs slightly and forcing the air, now carrying carbon dioxide, out of the body. The whole process of breathing in and out occurs automatically without your thinking about it.

The lungs are connected to the heart by the pulmonary veins and arteries (the term "pulmonary" comes from the Latin word *pulmo* for "lung"). The blood travels throughout the body, returns to the heart, and is pumped by the right ventricle through the pulmonary artery to the lungs. The blood then passes through the arteries of the lungs into smaller vessels, similar to the branching of the bronchi. Finally, it flows into the smallest blood vessels, which are located in the membranes lining the alveoli. Capillaries are so tiny that often the cells of the blood have to pass through them single file.

After gases are exchanged in the alveoli, the blood, now carrying oxygen, passes into the smallest veins. These veins merge to form larger and larger vessels until the pulmonary veins are formed. The pulmonary veins carry oxygenated blood from the lungs back to the heart, from which it is pumped out again to deliver oxygen to the cells of the body and to remove carbon dioxide.

Ex. 27. Make up a plan of the text "Normal Ventilation".

Ex. 28. Write out key words of the text "Normal Ventilation".

Ex. 29. Speak on the ventilation.

Ex. 30. Make up the dialogue on the normal ventilation.

Ex. 31. Read and determine the main idea of the following text:

SMOKING

Smoking is the primary cause of chronic obstructive pulmonary disease such as emphysema and chronic bronchitis. Deaths caused by emphysema and chronic bronchitis are significantly more frequent than among nonsmokers.

Tobacco smoke contains a mixture of chemicals, gases, and tiny droplets of tar. Thousands of substances have been identified in tobacco smoke. The toxic effects of many of them remain unknown. Some components are filtered off when the person draws the smoke through the remaining unburned tobacco. However, as the cigarette burns, these chemicals are vaporized again and each puff of smoke thus contains more of the components. Most smokers inhale the cigarette smoke, which makes it even more dangerous.

Cigarette smoke contains 2 to 6 percent carbon monoxide. Carbon monoxide is a toxic gas that combines with hemoglobin (carboxyhemoglobin). When this occurs the hemoglobin molecule cannot transport oxygen to the tissues. Many smokers have carboxyhemoglobin levels of 8 to 10 percent in their blood whereas a nonsmoker commonly has only up to 1.5 percent. A person dying from acute carbon monoxide poisoning has blood carboxyhemoglobin levels of 30 to 40 percent. Thus, the tissues are deprived of needed oxygen.

The tar found in cigarettes contains substances that cause cancer. Irritants in tobacco smoke cause the person's air passages to constrict and bronchial tubes to produce excess mucus, and they cause the person to cough. These irritants also may impair the function of the immune system cells in the lungs and upset the normal balance of pulmonary enzymes, which makes the person more susceptible to respiratory disease. Finally, inhaled tobacco smoke stops the action of the cilia in the airway. Cilia are tiny hair-like projections in the trachea and bronchial tubes. They help expel foreign material from the lungs.

Thus, the main health risks in tobacco pertain to diseases of cardiovascular system, in particular myocardial infarction, diseases of respiratory system, and cancer, particularly lung cancer and cancers of the larynx and tongue. A person's increased risk of contracting disease is directly proportional to the length of time that a person continues to smoke as well as the amount smoked.

However, if someone stops smoking, then these chances gradually decrease as the damage to their body is repaired. A year after quitting, the risk of contracting heart disease is half that of a continuing smoker.

Ex. 32. Speak on smoking and its fatal consequences.

Ex. 33. Read the following words:

Nicotine [ˈnɪkəti:n] нікотин; **addictive** [ə'dɪktɪv] до якого звикають; **target** [ˈta:gɪt] мати на увазі; **advertising** [ˈædvətaɪzɪŋ] реклама; **hurt** [hə:t] завдавати шкоди; **second-hand smoking** пасивне куріння; **claim** [kleɪm] стверджувати; **lack** відчувати нестачу; **self-confidence** [self'kɔnfɪdəns] самовпевненість; **give up** кидати (звичку); **calm down** [ka:m] заспокоювати; **mood** настрій; **get burned** згоріти; обпектися; **hopeless** невиправний; **bury** [ˈberɪ] ховати.

Ex. 34. How much do you know about cigarettes? Do you know the truth or you playing with fire? Try this test. Are the statements below true of false? Write "T" for true and "F" for false:

1. Smokers are more likely to get colds and the flu than non-smokers.
2. Cigarettes aren't tested on animals.
3. Nicotine is more addictive than most illegal drugs.
4. One in four smokers starts at the age of 12.
5. Cigarette companies specifically target young people in their advertising.
6. Smoking when you're pregnant doesn't hurt your baby.
7. Smoking causes heart problems, cancer, and ulcers.
8. Second-hand smoke from other people's cigarettes is harmless.
9. If you don't start smoking before age of 20, you probably won't ever start.
10. More girls smoke than boys.
11. Doctors claim that lots of teenagers smoke because they lack self-confidence.
12. Giving up smoking can make you gain weight.
13. Tobacco kills more persons each year than alcohol, illegal drugs, and AIDS combined.
14. Cigarettes are so addictive because it only takes 7 seconds to feel the effect of nicotine in the blood.
15. Cigarettes can calm you down.

Add up your score:

Less than 3 wrong: Congratulations. You can definitely see through the smoke.
4 to 8 wrong: Like most people, there are still a few things you need to know about nicotine.
9 to 11 wrong: You've got lots to learn about the dangers of smoking. Be careful, you might get burned.
More than 12 wrong: Hopeless! Which planet have you been living on? If you're not careful, they'll bury you ten years before your non-smoking friends.
(***Answers:*** *1-T; 2-F; 3-T; 4-T; 5-T; 6-F; 7-T; 8-F; 9-T; 10-T; 11-T; 12-T; 13-T; 14-T; 15-T)*

Ex. 35. Translate the following sentences into English:

1. Дихальна система забезпечує насичення організму киснем, виділення вуглекислого газу і води. 2. Система органів дихання складається із повітроносних шляхів (порожнини носа, глотка, гортань, трахея, бронхи) та дихальної частини. 3. Гортань – непарний орган завдовжки 4 см. 4. Трахея має форму трубки завдовжки 9-15 см. 5. Трахея виконує дихальну функцію. 6. Бронх має форму трубки. 7. Розгалудження бронха від головної до кінцевої бронхіоли називається бронхіальним деревом. 8. Легеня – це парний орган, який міститься в грудній порожнині. 9. У легені розрізняють верхівку, основу й три поверхні. 10. Основна функція легенів – дихальна (газообмін).

OVERVIEW

The respiratory system consists of the nasal cavity, pharynx, larynx, trachea (windpipe), bronchi, and lungs. The respiratory system and the cardiovascular system take oxygen from the air and transport it to individual cells. Air enters the nasal cavity. Then the air passes into the pharynx. After that air reaches the larynx and then trachea, bronchial tree, and lungs. The lungs are the principal organs of the respiration. The right lung is larger than the left. The right lung has three lobes, and the left lung has two. The primary function of the lungs is to provide oxygen to the blood and to remove carbon dioxide from it. Respiration involves several important processes: 1) ventilation, the movement of air into and out of the respiratory passages and the lungs; 2) gas exchange between the air in the lungs and the blood; 3) transport of oxygen and carbon dioxide in the blood; and 4) gas exchange between the blood and the tissues.

LESSON 40
RESPIRATORY DISORDERS

VOCABULARY

inflame [ɪn'fleɪm] запалюватися

ailment ['eɪlmqnt] захворювання, недуга

bring up [brlN] виводити; виробляти

sputum ['spju:tqm] мокротиння

soreness ['sO:nls] біль, болісність

constriction [kqn'strlkS(q)n] стиснення

chill [Cll] озноб, гарячка, пропасниця

fever ['fl:vq] жар, лихоманка, підвищена температура

hasten ['helsn] прискорювати

trace [trels] слідкувати; встанавлювати

occurrence [q'kAr(q)ns] наявність

damp [dxmp] сирість, вологість

community-acquired [q'kwalqd] позалікарняний

aspiration ["xspq'relS(q)n] аспірація

distortion [dls'tO:S(q)n] відхилення, аномалія

sample [sa:mpl] мазок

severity [sl'verltl] тяжкість

WORD-BUILDING

Ex. 1. Form new words adding the prefix anti-. Define the part of speech and translate:
MODEL:
toxin *токсин* – antitoxin *антитоксин*.
Body, gen, ferment, pepsin, septic, serum, virus, vaccination, bacterial, coagulant, microbic.

GRAMMAR

Ex. 2. Familiarize yourself with the data of the following table:

ABSOLUTE PARTICIPLE CONSTRUCTION

NOUN (or)	PRONOUN	PARTICIPLE
Doctor(s)	I	Participle I (Active): **V+ -ing** (working; writing)
	He	
Student(s)	She	Participle I (Passive): **being + V_3** (being worked; being written)
	It	
	We	Participle II (Passive): **V_3** (worked; written)
	You	
	They	Perfect Participle (Active): **having + V_3** (having worked; having written)
		Perfect Participle (Passive): **having + been + V_3** (having been worked; having been written)

На початку речення The Absolute Participle Construction перекладається на українську мову підрядним реченням із сполучниками "після того, як", "коли":

The work having been done, the students went home. Після того, як робота була виконана, студенти пішли додому.

У другій частині речення The Absolute Participle Construction перекладається самостійним простим реченням із сполучниками "при цьому", "а", "і" або без них:
The physician examined the patient, **the students helping him**. Лікар оглянув хворого, а студенти допомогли йому.

Ex. 3. Read and translate the following sentences:
1. The patient having fallen asleep, the nurse left the ward. 2. The last patient having been examined, the doctor went to the laboratory. 3. The patient being very weak, the operation was postponed. 4. A foreign organism entering the body, it is attacked and destroyed by immune system. 5. My friend suffering from a severe pain, I called in a doctor. 6. The physician palpated the patient's abdomen, the pain becoming severe. 7. The operation having been performed, the patient's condition began to improve. 8. The patient was in a very bad state, his pulse being rapid.

READING AND DEVELOPING SPEAKING SKILLS

Ex. 4. Read VOCABULARY once more and memorize new words.

Ex. 5. Compose 2-3 sentences using the words of the VOCABULARY.

Ex. 6. Insert the missing letters:
Sever_ty; oc_urrence; sput_m; chi_l; constri_tion; comm_nity-acquired; ai_ment; sam_le; sorene_s; asp_ration; infl_me; feve_.

Ex. 7. Translate the following words and word-combinations into Ukrainian:
Hasten; distortion; aspiration; flu; mucous membrane; air passageways; ailment; spread; deep cough; soreness; chill; fever; drinking extra liquids; damp environment; community-acquired pneumonia; aspiration pneumonia; to detect distortion; a sample of patient’s sputum; severity.

Ex. 8. Read the following words and word-combinations:
Virus; bronchitis; tuberculosis; virtually; cough; breathlessness; recovery; trachea; occurrence; susceptible; acquired; bloody sputum; identify; severity.

Ex. 9. Read the following text:

RESPIRATORY DISORDERS

If bacteria, viruses, or fungi enter the lungs and become established there, they can cause several diseases, classifying from common illnesses such as cold and flu to more serious illnesses such as pneumonia, bronchitis, and tuberculosis.

Bronchitis. When the mucous membranes that line the main air passageways of the lungs become inflamed, the condition is called bronchitis. Virtually everyone has bronchitis at some time.

In most cases, this ailment is the result of viral infections similar to those that cause the cold. The infection spreads to the bronchi, producing the deep cough that, in turn, tends to bring up the yellowish gray sputum from the lungs. The other symptoms are soreness and feeling of constriction in the chest, breathlessness, chill, and slight fever.

Because bronchitis most commonly is the result of a viral infection, the physician probably will be able to do relatively little to hasten the recovery. Rest, drinking extra liquids, and cough medicine are the cornerstones of treatment of bronchitis. The person must avoid other irritants to the airways, such as tobacco smoke. The person must remember that the act of coughing also is irritating to the trachea and bronchi.

If a person has repeated attacks of bronchitis, he/she may be able to trace the occurrence of the conditions in which he/she lives. Cold, damp environments combined with excessive air pollution can make a person more susceptible to bronchitis.

Pneumonia. Pneumonia is an inflammation of the tissues of the lungs. There are many different kinds of pneumonia. The major subtypes are community-acquired pneumonia, hospital-acquired pneumonia, and aspiration pneumonia. The causes of pneumonia are different. Among them are bacteria; influenza and other viruses; and chemical irritants.

The symptoms vary depending on the kind of pneumonia. Cough that produces bloody sputum, breathlessness, pain in the chest, chill, high fever are the major signs and symptoms of pneumonia.

The physician will listen to the chest to detect distortions in the breathing that suggest the presence of the infection. Chest X-rays also may be obtained to identify the location and extent of the infection. A sample of patient's sputum may be tested to identify the infecting agent. Blood test may also be conducted.

The treatment depends on the cause and severity of the patient's symptoms. It may include some antibiotics. Hospitalization may be necessary in severe cases.

Ex. 10. Translate the following words and word-combinations into English:
Озноб; мокротиння; мазок; позалікарняний; виводити; відхилення; біль, болісність; захворювання, недуга; запалюватися; наявність; слідкувати; стиснення; жар, лихоманка, підвищена температура; вологість; слизова оболонка; бронхіт; запалення легенів; задишка.

Ex. 11. Translate the text “Respiratory Disorders” into Ukrainian.

Ex. 12. Insert the missing words:
1. Pneumonia is an inflammation of the tissues of the _. 2. There are many different _ of pneumonia. 3. The major subtypes of pneumonia are _ pneumonia, hospital-acquired pneumonia, and aspiration pneumonia. 4. The physician will listen to the chest to detect _ in the breathing that suggest the presence of the infection. 5. A _ of patient's sputum may be tested to identify the infecting agent. 6. The treatment depends on the cause and _ of the patient's symptoms. 7. When the mucous membranes that line the main air passageways of the lungs become _, the condition is called bronchitis. 8. In most cases, this _ is the result of viral infections similar to those that cause the cold. 9. The infection spreads to the bronchi, producing the deep cough that, in turn, tends to _ up the yellowish gray sputum from the lungs. 12. The other symptoms are soreness and feeling of constriction in the chest, breathlessness, _ , and slight fever.

Ex. 13. Combine corresponding parts into sentences, paying attention to the meaning of the sentences:
1. Acute bronchitis is usually caused by viruses or bacteria and _. 2. Acute bronchitis is characterized by cough and sputum (phlegm) production and symptoms related to the obstruction of the airways by the inflamed airways and the phlegm, such as _. 3. _ will often reveal decreased intensity of breath sounds, wheeze and prolonged expiration. 4. To treat acute bronchitis that appears to be caused by a bacterial infection, or as a precaution, _. 5. The fever, fatigue, and malaise may last only a few days, _.

A. a physical examination **B.** shortness of breath and wheezing; **C.** antibiotics may be given; **D.** may last several days or weeks; **E.** but the wet cough may last up to several weeks.

Ex. 14. Answer the following questions:
1. What infections of the respiratory tract do you know? 2. What is bronchitis? 3. What is the cause of bronchitis? 4. What are the signs of bronchitis? 5. What is the treatment for bronchitis? 6. What is pneumonia? 7. What subtypes of pneumonia do you know? 8. What is the cause of pneumonia? 9.

What are the symptoms of pneumonia? 10. What tests may help to determine pneumonia? 11. What does the treatment of pneumonia include?

Ex. 15. Insert the prepositions:
A respiratory infection such as that caused _ the influenza virus or bacterium may cause bronchioles (small airways in the lungs) to become inflamed and to secrete an excessive amount _ mucus. Bronchiolitis is common, especially during the winter, _ children younger 2 years, but it can occur in young adults under special circumstances. It usually is caused by a viral infection, often contracted _ someone in the infant's household. In infants or families with a history _allergies or _ infants with recurring bronchiolitis, and allergic reaction may be the cause of the respiratory disorders.

Ex. 16. Write out key words of the text "Respiratory Disorders".

Ex. 17. Make up a plan of the text "Respiratory Disorders".

Ex. 18. Speak on the respiratory disorders.

Ex. 19. Make up a dialogue on respiratory disorders.

Ex. 20. Pronounce and memorize the words to the theme studied:
Mucoid мукоїд; мукоїдный, слизоподібний; **râles** хрипи; **subside** затихати, стихати, утихати; **purulent** гнійний; **encounter** зустріти(ся); **coarse** жорсткий (про хрипи); **persistent** стійкий.

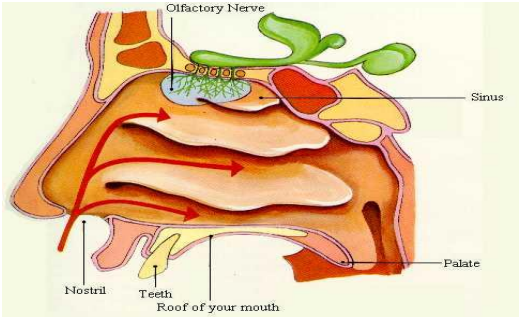
Ex. 21. Read the text in paragraphs. Define the main subject of each paragraph:

TRACHEOBRONCHITIS AND BRONCHITIS

Acute Tracheobronchitis. Acute tracheobronchitis is a primary disease but usually develops as a secondary infection following the common cold, sinusitis, whooping cough, or some other illnesses. It consists of diffuse inflammation of the trachea and bronchi, the mucous membranes of which are edematous and covered with sticky, grayish, mucoid exudates. Productive cough, hoarseness, chill, sweats, fever, and general malaise are usually present. They may develop suddenly or gradually. The sputum, at first mucoid, usually becomes purulent. Examination of the chest often reveals moist râles. Sometimes there are no physical signs at all. The fever usually subsides within a few days.

Chronic Bronchitis. A chronic cough, production of mucoid or purulent sputum, with little impairment of the general health, is not uncommonly encountered in persons with asthma, sinusitis, emphysema, and other disorders. Chronic bronchitis is never a primary disease and it always necessary to determine its primary cause. The physical signs of chronic bronchitis consist of coarse and moist râles. Some persons have a predisposition to bronchitis. The prognosis in young persons, when the primary cause can be determined, is favorable but beyond middle life chronic bronchitis is a persistent disease.

Ex. 22. Pronounce and memorize the following words:



Upper Airways

Drain відтікання; **lining** ['laInIN] слизова оболонка; **obstruction** непрохідність, закупорка, обструкція; **closure** ['klquZq] закриття; **rhinitis** [ral'naltls] риніт; **decongestant** протизастійний засіб, протинабряковий засіб; **encourage** [In'kArIG] стимулювати;

conventional [kqn'venSqnl] звичайний, традиційний;

gargle [ga:gl] полоскати;

overwhelm ["quvq'welm] вражати;

jaw [GO:] щелепа; **soothing** болезаспокійливий, заспокійливий; **lessen** зменшувати(ся), скорочувати(ся); **tickling** дертя; **rawness** [‘rO:nls] хворобливість; **reflux** [‘rl:flaks]відтікання, відплив, рефлюкс.

Ex. 23. Read and translate the following text:

DISORDERS OF THE SINUSES AND THROAT

The sinuses are cavities in the bone around the nose. There are four pairs of sinuses: the frontal (in the forehead), ethmoid (between the eyes), sphenoid (deeper in the head, behind the eyes), and maxillary (in the cheekbones). They are connected to the nasal cavities by small openings. Normally, air passes in and out of the sinuses and mucus drains through these openings into the nose. **Sinusitis** is an infection of the lining of one or more these cavities. When the sinus is infected, the membranes of the nose swell and cause a nasal obstruction. Swelling of the membranes of the nose may close off the opening of the sinus and thus prevent drainage of pus or mucus. Pain in the sinus, difficulty breathing through the nose, and fever may result from inflammation itself or from the pressure within the sinuses that result from closure of the opening. The infection can be bacterial, viral, or fungal. A common cold is the most frequent factor in sinusitis. Because the mucous membranes of the nose extend into and line the sinuses, a bacterial infection in the nose easily spreads into the sinuses. Secondary infections from colds, chronic allergic rhinitis, and a dental abscess can cause the sinusitis. If the infection is bacterial, the physician will prescribe a course of oral antibiotic therapy. The patient may take decongestants in the form of drops, sprays, or tablets to open the passages and encourage drainage of the sinuses. Sometimes endoscopic sinus surgery or conventional surgery may be performed.

The pharynx is the segment between the tonsils and voice box. Thus, **pharyngitis** is another name for a sore throat. The inflammation can be either acute or chronic. A bacterium or virus causes acute pharyngitis. The chronic form can be caused by a continuing infection of the sinuses, lungs, or mouth that spreads to the pharynx. Constant irritations such as smoking, breathing heavily polluted air, or consuming too much alcohol can also cause chronic pharyngitis. The signs of pharyngitis are sore throat, difficulty swallowing, and fever. If a patient has a bacterial infection, the physician will prescribe a course of antibiotic therapy. The patient can relieve the pain by gargling with warm salt water several times a day.

Tonsils are located at the back of the mouth. They filter our harmful microorganisms that could infect the body. When the tonsils become overwhelmed by a bacterial infection, they become inflamed. This infection is known as **tonsillitis**. Symptoms of tonsillitis are similar to those of the flu. The primary symptom is a sore throat that makes it difficult to swallow. Others are headache and fever. The lymph nodes in the area of neck and jaw may be enlarged. Drinking soothing fluids and gargling with warm salt water several times a day help lessen the pain. If a bacterial infection is the cause of the sore throat, the physician will prescribe a course of oral antibiotic therapy.

Laryngitis is an infection or irritation of the larynx (voice box), which is located at the top of the trachea (windpipe). The symptoms of laryngitis are hoarseness, tickling and rawness of the throat and constant need to clear the throat. Usually, a virus causes acute laryngitis, but it also can be the result of a bacterial infection. Laryngitis can occur in the course of another illness such as an ordinary cold, bronchitis, flu, or pneumonia. Excessive drinking of alcohol or heavy smoking or reflux of stomach acid into the esophagus most often causes chronic laryngitis. If the cause of disorder is bacterial, the physician may prescribe a course of antibiotics. The best treatment of viral laryngitis is to rest the voice as much as is practical and drink warm, soothing liquids.

Ex. 24. Make up a dialogue on obtained information.

Ex. 25. Read the following text, write out key words of it, and retell the text:

COUGH

A cough is a normal protective reflex, designed to defend the respiratory system against irritants. However, a forceful cough can be painful and bothersome. Some of these coughs need the physician's attention. Others respond to simple self-care and the right medicine.

What causes a cough? Here are some typical irritations that cause coughing:

Infections, such as cold and flu;

Environmental irritants, such as cigarette smoke, smog, dust, home aerosol sprays, and cold and dry air;

Asthma, which inflames and constricts the air passages;

Gastroesophageal reflux – the backup of stomach acid into the esophagus when a person lies down;

Medications, such as inhaled corticosteroids or certain medications prescribed for high blood pressure and heart disease;

Coughing itself. Sometimes there is no medical explanation for a cough. Some people cough to release nervous tension, gain attention, or express anger. Whatever the reason, one cough can irritate the person's throat and lead to another, setting up a vicious cycle.

A cough begins when an irritant reaches one of the cough receptors in the nose, throat, or chest. The receptor sends a message to the cough center in the brain, signaling the body to cough. After a person inhales, the epiglottis and vocal cords close tightly, trapping air within the lungs. The abdominal and chest muscles contract forcefully, pushing against the diaphragm. Finally, the vocal cords and epiglottis open suddenly, allowing trapped air to explode outward.

OVERVIEW

The most common disorders of the respiratory tract are bronchitis, pneumonia, tuberculosis, sinusitis, pharyngitis, tonsillitis and some others. **Bronchitis** is the inflammation of the mucous membranes that line the main air passageways of the lungs. The cause of bronchitis is the viral infections. The infection spreads to the bronchi, producing the deep cough, soreness and feeling of constriction in the chest, breathlessness, chill, and slight fever. Rest, drinking extra liquids, and cough medicines are the cornerstones of treatment of bronchitis. **Pneumonia** is an inflammation of the tissues of the lungs. The causes of pneumonia are different. Among them are bacteria; influenza and other viruses; and chemical irritants. Cough, breathlessness, pain in the chest, chill, and high fever are the major signs and symptoms of pneumonia. The treatment may include antibiotics as penicillin or erythromycin. Hospitalization may be necessary in severe cases. **Pharyngitis** is a sore throat. A bacterium or virus causes acute pharyngitis. The chronic form can be caused by a continuing infection of the sinuses, lungs, or mouth that spreads to the pharynx. The patient can relieve the pain by gargling with warm salt water several times a day. **Tonsillitis** is an inflammation of tonsils. The symptoms are a sore throat, headache and fever. Drinking soothing fluids and gargling with warm salt water several times a day help lessen the pain. If a bacterial infection is the cause of the throat, the physician will prescribe a course of oral antibiotic therapy.

LESSON 41

GRIPPE

VOCABULARY

virus [ˈvaIrqs] вірус, збудник захворювання

marked by depression [dIpˈreSn] *mym:* що характеризується пригніченим психічним станом

distressing fever [ˈfI:vq] температура, що виснажує

bronchi (sing. bronchus) [ˈbrONkaI] бронхи

neuralgic [njuqˈrxlGIk] невралгічний

persist [pqˈsIst] утримуватись, зберігатися **outbreak** [ˈautbreIk] спалах; раптова поява, початок

droplet [ˈdrOpIIt] краплина

to be liable to [ˈlaIqbl] бути схильним

chill [CiI] озноб, гарячка, пропасниця; застуда

convulsions [kqnˈvAlSnz] конвульсії

nervous disturbance [ˈnɑ:vəs dɪsˈtɜ:bəns] *mym:* ураження нервової системи

draught [dra:ft] протяг

catarrhal [kəˈta:rəl] катаральний, застудний

to be up [Ap] встати (з ліжка)

approval [əˈpru:vəl] *mym:* дозвіл

convalescent [kOnvəˈlesnt] одужуючий

strain [streIn] штам

fairly [ˈfeəlI] достатньо

WORD-BUILDING

Ex. 1. Form new words by adding the prefixes. Define the part of speech and translate them:

A. dis-: continue; like; appear.
B. un-: natural; cured; cooled; treated.
C. over-: use; work; eating; dosage.
D. intra-: venous; muscular; cellular; vascular.

GRAMMAR:

Ex. 2. Read the data of the following table:

CONSTRUCTION "IT IS (WAS, WILL BE) … THAT (WHO, WHOM)"

It was I who saw nurse in the hospital.	Саме я бачив медсестру у лікарні.
It was in the hospital that I saw the nurse.	Саме у лікарні я бачив медсестру.
It was the nurse whom I saw in the hospital.	Саме медсестру я бачив у лікарні.

Ex. 3. Translate the following sentences into Ukrainian:

1. It is in the evening that the patient develops a splitting headache. 2. It was after vomiting that patient Popov complained of severe pains in the back. 3. It was the patient of the third ward who asked some medicine for a bad headache. 4. It was severe pains in his legs and feet that he complained of. 5. It was about one of the new methods of testing that our professor spoke at the scientific conference.

Ex. 4. Translate into English:

1. Саме у дітей молодшого віку грип небезпечний. 2. Саме при тяжких випадках грипу у дітей часто виникає блювота. 3. Саме при типовій формі грипу початок захворювання буває раптовим та починається з ознобу.

Ex. 5. Find in the text "Grippe" the same constructions and translate them into Ukrainian.

READING AND DEVELOPING SPEAKING SKILLS

Ex. 6. Read VOCABULARY and memorize new words.

Ex. 7. Compose 3-5 sentences using the words of VOCABULARY.

Ex. 8. Insert the missing letters and translate the following words:

Vir_s; nerv_us; f_ver, elminth_ing; bro_chi; neural_ic; c_ills; ap_roval; conv_lescent; respirat_ry; dr_plet.

Ex. 9. Read the following words and word-combinations and translate them:

Infectious; caused by a virus; catarrhal; larynx; bronchi; muscular pains; gastrointestinal; disturbance; frequent; spread; especially; occur; widespread; mild; ache; limb; bronchitis; convulsion; fever; pneumonia; pulmonary; approval; therefore; draught; cough.

Ex. 10. Read the following text:

GRIPPE

Grippe is an acute infectious epidemic disease caused by a virus and marked by depression, distressing fever, acute catarrhal inflammation of the nose, larynx, and bronchi, neuralgic and

muscular pains, gastrointestinal disorders, weakness and nervous disturbances. All ages are liable to this disease. It is in severe cases that vomiting is frequent in babies and young children as well.

Like the common cold, grippe is primarily spread between people indoors, especially at schools, nursing houses, and other places where large numbers of people gather. Outbreaks usually occur in the winter and early spring.

There are three types of grippe viruses. All of them are spread from person to person by inhalation of infected droplets from the air. Type A usually is responsible for the large grippe epidemics. This type is constantly changing, with new strains appearing regularly. This results in a new epidemic every few years. Types B and C are not as widespread: type B causes smaller, more localized outbreaks, and type C is less common and usually causes only a mild illness. These types are fairly stable viruses.

It is the typical form of grippe that onset is sudden, beginning with chills, muscular pains and aches in the back and limbs, and bronchitis. Nervous symptoms, e.g., headache and in severe cases convulsions in babies are usually present.

There are mild cases of the disease. The duration of the disease in a mild case is usually three to four days and the temperature is not very high.

It is in severe cases that patient's temperature is very high. Distressing fever and other symptoms, e.g., acute catarrhal inflammation of the bronchi, muscular pains persist for several days. Sometimes pneumonia develops and even death may occur in two or three days. Therefore it is in very young children or when there are pulmonary complications that grippe is especially serious.

In order to minimize the severity of the attack in grippe and to protect the patient from secondary infection, the patient must go to bed at the beginning of an attack and not to be up again without the approval of his/her physician.

The effects of grippe may persist for a long period of time, therefore a convalescent becomes sensitive to heat, cold, draughts, and so on, he/she easily gets colds, coughs and other respiratory diseases.

Ex. 11. Translate the following words and word-combinations into English:
Біль у попереку; катаральне запалення бронхів; озноб; такий, що видужує; температура, що виснажує; легеневі ускладнення після грипу; штам; утримуватися, зберігатися; спалах хвороби.

Ex. 12. Translate the text "Grippe".

Ex. 13. Answer the questions:
1. What kind of disease is grippe? 2. What cases is vomiting frequent in? 3. What are symptoms of grippe? 4. What types of grippe viruses are there? 5. What nervous symptoms are usually present in severe cases? 6. What are the characteristic features of a mild case of grippe? 7. What are the characteristic features of a severe one? 8. What disorders may develop sometimes? 9. What must you do in order to minimize the severity of the attack in grippe? 10. How long may the effects of the grippe persist? 11. What does a convalescent become sensitive to?

Ex. 14. Insert the missing words:
Grippe is an _ disease. 2. It is marked by _ fever, _ inflammation of the nose, larynx, and bronchi, _ pains, _ disorder, and _ disturbances. 3. It is in _ cases there are _ symptoms. 4. _ pains often persist for several days. 5. In order to protect the patient from _ infection, he/she must be put to bed at the very beginning of an attack.

Ex. 15. Translate into English:
Грип – це одне з серйозних інфекційних захворювань. 2. Він спричиняється вірусами, які передаються від однієї людини до іншої. 3. Існує три типи вірусів: А, В і С. 4. Тип А зазвичай викликає серйозні епідемії грипу. 5. Типи В і С не досить поширені. 6. Захворювання

починається з ознобу, болю в м'язах, в спині та кінцівках, й головного болю. 7. Температура при грипі не дуже висока. 8. Грип може тривати протягом значного періоду часу.

Ex. 16. Choose the correct variant: A: I totally agree. B: I don't really think so:
There are five types of grippe viruses and all of them are spread from person to person by inhalation of infected droplets from the air. 2. Types B and C are not as widespread: type B causes smaller, more localized outbreaks, and type C is less common and usually causes only a mild illness. These types are fairly stable viruses. 3. In order to minimize the severity of the attack in grippe and to protect the patient from secondary infection, the patient mustn't go to bed at the beginning of an attack and not to be up again without the approval of his/her teacher.

Ex. 17. Write out key words of the text "Grippe".

Ex. 18. Make up a detailed plan of the text.

Ex. 19. Speak on the causes, signs, and treatment of grippe.

Ex. 20. Give a summary of the text "Grippe".

Ex. 21. Read the following text and compose your own dialogue:

PREVENTION OF GRIPPE

The primary way to prevent grippe is by use of grippe vaccine each fall. Amantadine hydrochloride decreases the risk of infection. However, if used for prevention, it must be started before or immediately after exposure to the grippe A virus. Note that amantadine protects against only grippe A, but the vaccine protects against both the A and B grippe strains. Neither prevents other types of viral diseases.

Immunization is recommended for people with impaired immune system or with serious illness such as chronic heart or kidney disease, lung disease or impaired ability to breathe, cystic fibrosis, chronic anemia, or severe diabetes. Elderly people, especially those older than 65, also should be vaccinated. Health care workers, police officers and fire fighters, and others on whom public safety depends should receive immunization.

The vaccine is given as one injection into the upper arm in early fall, just before the grippe season begins. Children may sometimes receive the vaccine in two separate injections, 1 to 2 weeks apart.

Ex. 22. Complete the following sentences using the necessary word-combinations from the box:
This disease is characterized in the typical form of sudden onset, fever of one to seven day's duration, accompanied by pains in the back and limbs,_ . 2. It is now recognized that there are several types of _. 3. Incubation period is short, usually _. 4. Natural resistance or relative immunity protects from one-quarters of persons intimately exposed to the disease even during _. 5. During epidemics efforts should be made to reduce opportunities for _. 6. To minimize the severity of the disease, and to protect the patient from secondary infections, patients should go to bed at the beginning of an attack and not return to work _.

1. widespread epidemics; 2. without the approval of their physicians; 3. influenza's viruses; 4. headache, and sore throat; 5. direct contact infection; 6. 24 to 72 hours.

Ex. 23. Read the following dialogue:
Medical Student: Two hours ago we admitted two patients to our hospital. The first patient's temperature is very high and he has a bad cough. The second patient's temperature is also rather high but he has no symptoms of chill.

Doctor: Have you any additional information about the first patient?
M.S.: Yes, I have. He has a bad cold: a catarrhal inflammation of the upper respiratory tract, with profuse discharge from the mucous membrane of the nose, due to a virus or bacteria.
D.: What is your diagnosis?
M.S.: My impression is that he has influenza.
D.: What kind of disease is influenza?
M.S.: It is an infectious, epidemic disease. The symptoms of influenza are a high fever, acute catarrhal inflammation of the nose, larynx and bronchi, and muscular pains.
D.: What can you say about our patient's lungs?
M.S.: He has no symptoms of any acute inflammatory condition of the lungs.
D.: Have you any impression of a peculiar of bronchopneumonia?
M.S.: No, I have not.
D.: And what can you say about the other patient?
M.S.: This patient's blood pressure is very high.
D.: Is there anything in his past medical history that explains the present illness?
M.S.: No, there is absolutely nothing there.
D.: Is there anything in the laboratory reports?
M.S.: Usual laboratory reports have nothing significant.

Ex. 24. Answer the following questions:
What are the two patients' symptoms? 2. What is the medical student's diagnosis? 3. What is influenza? 4. What can you say about the patient's lungs? 5. What can you say about the second patient's condition? 6. Is a patient's past history significant for the diagnosis? 7. What are the laboratory reports?

Ex. 25. Insert the missing words:
Influenza is an _ disease. 2. My impression is that the patient has an acute _ of the _. 3. The recently admitted girl has a high _. 4. The patient's blood _ is normal. 5. Is there anything _? 6. Laboratory reports are _ for the diagnosis.

Ex. 26. Reproduce the similar dialogue.

OVERVIEW

Grippe is an acute infectious epidemic disease. It is caused by viruses. The signs of grippe are depression, fever, inflammation of the nose, larynx, and bronchi, muscular pains, gastrointestinal disorders, and weakness. Grippe is spread from person to person. There are three types of grippe viruses. Type A usually is responsible for the large grippe epidemics. Type B causes more localized outbreaks, and type C usually causes only a mild illness. Onset begins with chills, muscular pains and aches in the back and limbs, and bronchitis. The duration of the disease in a mild case is usually three to four days and the temperature is not very high. In severe cases the patient's temperature is very high. Distressing fever, acute catarrhal inflammation of the bronchi, muscular pains, and so on last for several days. The patient must go to bed at the beginning of an attack and not to be up again without the approval of his/her physician.

LESSON 42
TYPES OF INFECTIOUS DISEASES

VOCABULARY

appear [ə'plɪə] виглядати
subdivision [sʌbdɪ'vɪʒ(ə)n] послідовне ділення
gain entry to ['geɪn 'entrɪ] отримати доступ
powerful ['pauəful] багаточисельний
rod [rɔd] стержень, паличка, призма
impetigo [ɪmpɪ'taɪgəu] імпетиго
dermatitis [də:mə'taɪtɪs] запалення шкіри, дерматит
arthritis [ɑ:'θraɪtɪs] артрит
HIV ['eɪʧ'aɪ'vɪ:] вірус імунодефіциту людини, ВІЛ
tetanus ['tetənəs] правець

beneficial [ben'fISql] цілющий; корисний

instruct [Inst'rAkt] наказувати, давати вказівки

host [hqust] "господар"

mold [mquld] пліснява; пліснявий грибок

yeast [j1:st] дріжджі

obviously ['Obvlqsll] очевидно, явно

take up a residence ['rezld(q)ns] займати місце, оселятися

glossitis [glO'saltls] глосит, запалення язика

gingivostomatitis ['GinGlvq'stoumq'taltis] гінгівостоматит

thrush [trAS] афтозний стоматит

gastroenteritis ['gxstrquentq'raltls] гастроентерит

bronchiolitis [brONklo'laltis] запалення бронхіол

Legionnaires' disease [ll:Gq'nFqz] хвороба легіонерів

tuberculosis [tjubqkju'lqusls] туберкульоз

influenza [Influ'qnzq] грип

typhoid fever ['ta1fOld"fl:vq] черевний тиф

cold [kquld] застуда

rabies ['relb1:z] сказ

roseola [rqu'z1:qlq] розеола

diphtheria [dlf'Tiqrlq] дифтерія

malaria [mq'lFqrlq] малярія

trichinosis [trlkl'nqusls] трихінельоз

tapeworm ['telpwWm] стьожковий черв'як, стьожак

infestation [Infes'telS(q)n] зараження паразитами

lice (sing. Louse) [lals] воші

flea [fll:] блоха

tick [tlk] кліщ

gonorrhea [gOnq'rl:q] гонорея, венеричний уретрит, гонорейний уретрит

chlamydial [klx'mldl:ql] хламідійний

wart [wO:t] бородавка, наріст (на шкірі)

READING AND DEVELOPING SPEAKING SKILLS

Ex. 1. Skim through previous lexical material and translate the following words:
Scarlet fever, measles, whooping cough, mumps, syphilis, chickenpox; parasite, fungi, protozoa, helminth.

Ex. 2. Read VOCABULARY and memorize new words.

Ex. 3. Insert the missing letters:
Influen_a, typ_oid fever, _old, instrc_t, dip_theria, mal_ria, ho_t, de_matitis, ar_hritis, obvio_sly, thru_h, gastr_enteritis, impet_go, tetan_s, r_bies, bron_hiolitis, tubercul_sis, infesta_ion.

Ex. 4. Match the medical term and its translation:

scarlet fever	вітряна віспа
measles	сифіліс
whooping cough	свинка, инфекційний паротит
mumps	коклюш
syphilis	кір
chickenpox	скарлатина
Legionnaires' disease	бронхіоліт, капілярний бронхіт
glossitis	гастроентерит
gastroenteritis	афтозний стоматит
gingivostomatitis	"хвороба легіонерів"
thrush	импетіго
bronchiolitis	гінгівостоматит
impetigo	запалення язика
rabies	сказ
tetanus	правець

Ex. 5. Translate the following words into Ukrainian:
Dermatitis, cause, arthritis, harmful, tetanus, produce, influenza, manufacture, cold, outside, rabies, roseola, ffect, tapeworm, infestation, lice, fleas, ticks, wart, invade.

Ex. 6. Read the following words and word-combinations:
Virus, fungus, fungi, thrush, botulism, glossitis, gingivostomatitis, encephalitis, meningitis, gastroenteritis, poliomyelitis; peritonitis; bronchiolitis, bronchitis, dermatitis; arthritis trachoma, Legionnaires' Disease, tuberculosis; impetigo, multiply, powerful, beneficial, yeast,
typhoid fever, trichinosis.

Ex. 7. Read the following text:

INFECTIOUS DISEASES AND THEIR TYPES

The infectious diseases are caused by the following types of organisms: bacteria, viruses, fungi, protozoa, helminthes.

Bacteria are one-cell organisms that are visible only under a microscope. They appear as slender rods or groups of round cells and are able to live and multiply by subdivision. When infectious bacteria gain entry to the human body, they multiply and may produce powerful chemicals, called toxins. A few of the common groups of bacteria that cause disease are Staphylococci, Streptococci, Chlamydia, Haemophilus, Gonococci, and Rickettsia. Not all bacteria are harmful. Some bacteria that reside in the body are beneficial.

A virus is a minute microorganism consisting of the one or more molecules of either DNA or RNA and covered by a protein coat. Viruses grow and multiply themselves only when they have invaded living cells.

The types of **fungi** are molds, yeasts, and mushrooms. Obviously, mushrooms are not infectious, but certain yeasts and molds can be. Of the thousands that are harmless or even helpful, only about 100 cause disease.

Protozoa are single-cell organisms that may live within a person as a parasite. Often these organisms spend part of their life cycle outside of humans, living in food, soil, water, or insects. Many protozoa reside in the intestinal tract and are harmless, although some may cause disease.

The word "**helminth**" comes from Greek word *helmins*, meaning "worm". Helminths are among the larger parasites. If they enter the body, they take up residence in the intestinal tract, lungs, liver, skin, or even brain.

So, some infectious diseases are bacterial, some are viral, and still others have other causes. The most common infectious diseases that affect only **one organ or body system** are: glossitis, gingivostomatitis, oral thrush, salivary gland infections (diseases of the mouth); botulism, encephalitis, meningitis, poliomyelitis (infections of the central nervous system); trachoma (infections of the eyes), acute viral gastroenteritis, Whipple's Disease, peritonitis (infections of gastrointestinal tract); bronchiolitis, acute bronchitis, Legionnaires' Disease, tuberculosis (infections of the respiratory system); impetigo, dermatitis (infections of the skin); infectious arthritis (joint disorder).

Some diseases affect multiple systems of the body. They are called **"generalized infections"**. They are: HIV infections and AIDS, influenza, typhoid fever, tetanus, rabies and others.

Common contagious diseases are common viral colds, measles, roseola, whooping cough, croup, chickenpox, mumps, diphtheria, and scarlet fever.

Parasitic infestations are malaria, tapeworm, trichinosis and others.

Some infestations are caused by small insects that attach themselves to the skin and feed off the blood. They are known as **insect infestations**, for example: lice, fleas, and ticks.

Bacteria and viruses transmitted by sexual contact can cause various **sexually transmitted diseases**. Gonorrhea, chlamydial infection, and syphilis are bacterial in origin. Herpes and venereal warts are viral infections.

Ex. 8. Translate the following words and word-combinations into English:
Виглядати; послідовне ділення; отримати доступ; цілющий; пліснявий грибок; оселятися; тиф; застуда; глосит; черевний тиф; бородавка.

Ex. 9. Translate text "Infectious Diseases and Their Types" into Ukrainian.

Ex. 10. Put 8-10 questions on the text "Infectious Diseases and Their Types" and be ready to answer them.

Ex. 11. Insert the missing words:

1. The infectious diseases are caused by the following types of organisms: bacteria, viruses, _, protozoa, and _ . 2. Some infectious diseases are bacterial, some are viral, and still others have other _ . 3. The most common infectious diseases, that affects only one organ or body system are: glossitis, oral thrush, salivary gland infections, encephalitis, _ , poliomyelitis, trachoma, peritonitis, _ , tuberculosis, _ and others. 4. Some diseases _ multiple systems of the body. 5. They are: HIV infections and AIDS, _ , typhoid fever, tetanus, _ and others. 6. When infectious bacteria gain entry to the human body, they multiply and may produce _ chemicals, called toxins.

Ex. 12. Make up sentences using the following words:

1. and / contagious / are / whooping cough / common / diseases / viral colds / measles / chickenpox /mumps / diphtheria / scarlet fever. 2. parasitic / are / malaria / infestations / and / tapeworm / others / trichinosis 3. infestations / that / themselves / and / feed off / the blood / some / are / by / small / caused / insects / attach / to the skin. 4. bacteria / and / can / various / sexually / transmitted / cause / viruses / diseases.

Ex. 13. Complete the following table:

Term	**Definition**
bacteria virus protozoa helminth	

Ex. 14. List the infectious diseases concerning the following groups:

a) organ or body system diseases; b) generalized infections; c) common contagious diseases; d) parasitic infestations; e) insect infestations; f) sexually transmitted diseases.

Ex. 15. Speak on the infectious diseases.

Ex. 16. Compose the dialogue using the information of the text "Infectious Diseases and their Types".

Ex. 17. Read the following abstract and retell it:

SUBGROUPS OF THE INFECTIOUS DISEASES

There are four subgroups of the infectious diseases. Intestinal infections compose the first subgroup. They are spread through the intestines and stools. Dysentery is an example.

The infections of the respiratory tract compose the second group. They are spread during coughing and talking. The diseases of this subgroup are diphtheria, smallpox and others.

The diseases of the third subgroup are spread through the skin and mucosa. Herpes and lichen (лишай) are the examples.

Blood infections compose the fourth subgroup. These diseases are spread by insects. Encephalitis is an example.

Ex. 18. Make up a dialogue using the following sentences:

Have you had direct contact with a sick infected person?	Чи був у вас контакт з інфікованим хворим?
Have you been inoculated against tetanus?	Чи є у вас щеплення проти правця?

Avoid contact with an infected patient. You may get infected.	Уникайте контакту з інфікованим хворим. Ви можете інфікуватися.
This vaccine confers immunity against … . Revaccination must be done in 5 years.	Ця вакцина викликає імунітет проти … . Повторне щеплення (ревакцинація) повинна проводитись через 5 років.
The patient must be isolated. Decontaminate the patient's discharge.	Хворого потрібно ізолювати. Проведіть знезараження виділень хворого.
Treat the patient's hair with antiparasitic remedies.	Обробіть волосся хворого протипаразитарними засобами.
The epidemic center has been liquidated. The epidemic (pandemic) has abated.	Епідемічне вогнище знешкоджено. Епідемія стихла.

OVERVIEW

The infectious diseases are caused by the following types of organisms: bacteria, viruses, fungi, protozoa, and helminthes. So, some infectious diseases are bacterial, some are viral, and still others have other causes. The most common infectious diseases that affect only one organ or body system are: glossitis, oral thrush, salivary gland infections, encephalitis, meningitis, poliomyelitis, trachoma, peritonitis, acute bronchitis, tuberculosis, dermatitis and others. Some diseases affect multiple systems of the body. They are: HIV infections and AIDS, influenza, typhoid fever, tetanus, rabies and others. Common contagious diseases are common viral colds, measles, whooping cough, chickenpox, mumps, diphtheria, and scarlet fever. Parasitic infestations are malaria, tapeworm, trichinosis and others. Some infestations are caused by small insects that attach themselves to the skin and feed off the blood. They are lice, fleas, and ticks. Bacteria and viruses can cause various sexually transmitted diseases. They are gonorrhea, chlamydial infection, syphilis, and herpes.

LESSON 43
IMMUNE SYSTEM

VOCABULARY

past [pAst] мимо; за, по той бік

defense [dI'fens] захист

humoral ['hju:m(ə)rəl] гуморальний, опосередкований антитілами

cell-mediated ["sel'mediIeItId] клітинно-опосередкований

parasite ['pxrqsQIt] паразит

derive [dI'rQIv] виводити; отримувати; добувати; породжувати

derived [dI'raIvd] похідний, вторинний

thymus gland ['TQIməs 'glxnd] тимус, вилочкова (зобна) залоза

dissolved [dI'zOlvd] розчинений

transparent [trxns'pFqr(ə)nt] прозорий

germ [Gq:m] мікроорганізм

recover [rI'kAvq] відновлювати; видужувати **suppress** [sq'pres] припиняти; стримувати

eliminate [I'lImIneIt] знищувати, ліквідувати

in response to [rIs'pOns] у відповідь на **exposure** [Iks'pquZq] зараження, контакт з джерелом зараження; стимуляція; експозиція

majority [mq'GOrItI] більшість

encounter [In'kQuntq] наштовхнутися

engulf [In'gAlf] поглинати

fungi (sing. fungus) ['fAnGaI] гриби; грибки

protozoa ["prqutqu'zqu] протозоа, прості одноклітинні тваринні організми

helminth ['helmInT] глист, паразитний глист

WORD-BUILDING

Ex. 1. Familiarize yourself with the following material:
Prefixes and term-elements:
inter- (between)
intra- (within)
macro- (large)

Ex. 2. Read and translate the following words:
A. Intercellular, interspersed, interdependence; intercostal; interaction; international; interrelate; intermediate; interphase.
B. Intracellular, intravenous; intramuscular; intracranial; intracardiac; intrapleural; intrathoracic; intraspinal.
C. Macrocephalia; macromolecule; macrophage.

GRAMMAR:

Ex. 3. Familiarize yourself with the data of the following table:

SIMPLE TENSES
(REVISION)

Tense	Active Voice	Passive Voice
Present	**V, V+s**	**am (is, are) + V_3**
Past	**V_2**	**was (were) + V_3**
Future	**will (shall) + V**	**will (shall) + be + V_3**

Ex. 4. Insert the correct forms of the verbs and translate the sentences into Ukrainian:
1. Immune system (to design) by nature millions of years ago to aid the body in recovering from injuries and illnesses. 2. The lymph (to flow) from the capillaries in all parts of the body into the lymphatic vessels. 3. Although we (to inhale) and (to eat) thousands of germs every day, the immune system (to prevent) the spread of various diseases. 4. We (to bear) with a genetically based natural defense system. 5. Diabetes (to occur) when the cells in the pancreas are destroyed. 6. Your immune system (to need) help to function at the highest capacity. 7. Sticky mucus in respiratory and gastrointestinal tracts (to trap) many microorganisms.

Ex. 5. Determine the tense-forms of the predicates in the following sentences:
1. Foreign substances enter the body and cause the manufacture of antibodies. 2. Various bacteria live in the nose and mouth. 3. An anaerobe is a microorganism that can live without oxygen, while an aerobe requires oxygen. 4. Some macrophages are concentrated in the lungs, liver, lining of the lymph nodes and spleen. 5. B cells are produced in the stem cells of the bone marrow. 6. Phagocytes dissolve and destroy bacteria, viruses, and fungi. 7. The lymph nodes are usually distributed in groups.

READING AND DEVELOPING SPEAKING SKILLS

Ex. 6. Read VOCABULARY and memorize new words.

Ex. 7. Compose 3-4 sentences using the words of VOCABULARY.

Ex. 8. Insert the missing letters:
Cell-medi_ted; eng_lf; enco_nter; elimin_te; para_ite; defen_e; e_posure; hum_ral; der_ve; suppre_s.

Ex. 9. Translate the following words and word-combinations into Ukrainian:
Dissolved; thymus gland; transparent; cell-mediated; fungi; engulf; encounter; eliminate; protozoa; in response to; majority; defense; exposure.

Ex. 10. Read the following words and word-combinations:
Nature; immune; recovering; positioned; lymphoid; hormone; thymus; transparent fluid; antigen; chiefly; defend; category; humoral and cell-mediated; certain; plasma; cell; lymphocyte; phagocyte; engulf; virus; fungi; protozoa; healthy diet.

Ex. 11. Read the following text:

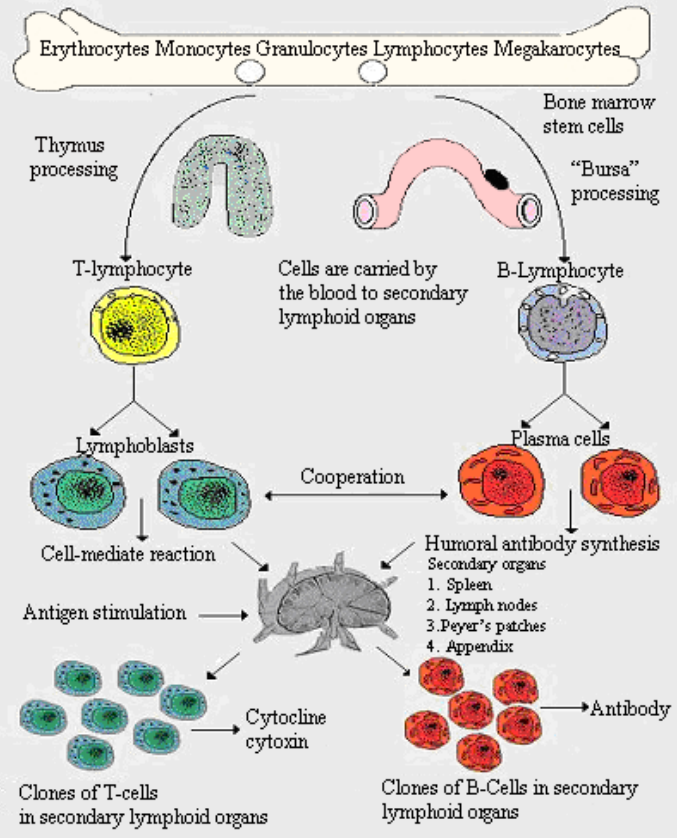
IMMUNE SYSTEM

The immune system is probably the most important system in the human body. It was designed by nature millions of years ago to aid the body in recovering from injuries and illnesses.

The immune system is a complex of organs, all of which work together to clear infection from the body. The organs of the immune system, positioned throughout the body, are called lymphoid organs. The major parts of immune system are the thymus, spleen, lymph system, bone marrow, white blood cells, antibodies, and hormones. Lymphatic vessels and lymph nodes are the parts of the special circulatory system that carries lymph, a transparent fluid containing white blood cells, chiefly lymphocytes.

Although we inhale and eat thousands of germs every day, the immune system prevents them from causing the diseases.

Human body has many mechanisms



The Work of Immune System

that defend the person against infectious organisms. The skin and gastrointestinal tract are the first lines of defense. The human organism has a specific capacity of resistance against infection called immunity. There are two general categories of immune mechanisms: humoral and cell-mediated.

Humoral immunity is based on certain body proteins called antibodies, which are found dissolved in the blood and other body fluids. The antibodies are made by plasma cells, which are derived from certain white blood cells called B lymphocytes (or B cells). The antibodies are produced in response to exposure to a foreign substance. Any foreign substance that enters the body and causes the manufacture of antibodies is called an antigen.

Cell-mediated immunity is based on the actions of phagocytes and other white blood cells. Phagocytes are cells that can dissolve or engulf and destroy viruses, bacteria, fungi, and cells foreign to the body. White blood cells that are involved in this defense are a type of lymphocyte called T cells because they are derived from the thymus gland.

Agents that can invade the human body live everywhere. The majority of these organisms do not produce disease, but some do. The basic types of organisms that cause infectious disease are bacteria, viruses, fungi, protozoa, and helminths.

Possible help for the immune system is a healthy diet, with lots of natural sources of vitamins A, C and E, zinc, iron, and vitamin B_6.

Ex. 12. Translate the following words and word-combinations into English:

Протозоа, прості одноклітинні тваринні організми; захист; поглинати; знищувати, ліквідувати, анулювати; розчинений; стримувати; тимус, вилочкова (зобна) залоза; клітинно-опосередкована; контакт з джерелом зараження; здібність до опору; грунтуватися на; вражати організм людини.

Ex. 13. Translate the text "Immune System" into Ukrainian.

Ex. 14. Insert the missing words:

1. The immune system is probably the most important _ in the human body. 2. It is a complex of organs, all of which work together to clear _ from the body. 3. The organs of the immune system are called _ organs. 4. The major parts of immune system are the _, spleen, lymph system, bone marrow, white blood cells, antibodies, and hormones. 5. Human body has many mechanisms that _ the person against infectious organisms. 6. The skin and gastrointestinal tract are the first lines of _. 7. The human organism has a specific capacity of resistance against infection called _ 8. There are two general categories of immune mechanisms: _ and cell-mediated.

Ex. 15. Answer the following questions:

1. What is the immune system? 2. What organs does the immune system consist of? 3. What is the main goal of the immune system? 4. What are the first lines of defense of the person against infectious organisms? 5. What categories of immune mechanisms do you know? 6. What is humoral immunity based on? 7. What is cell-mediated immunity based on? 8. What are the types of organisms that cause infectious disease?

Ex. 16. Match the following terms with their definitions:

1. Antibody	1. Cell possessing the property of ingesting bacteria, foreign particles, and other cells.
2. Antibody-mediated immunity	2. Resistance to infectious disease and harmful substances.
3. Humoral immunity	3. Immunity due to antibodies.
4. Immunity	4. Immunity due to B cells and the production of antibodies.
5. Phagocyte	5. Protein found in the plasma that is responsible for humoral immunity; binds specifically to antigen.

Ex. 17. Insert the missing prepositions (for, into, from, of**):**

1. The majority _ organisms that can invade the human body do not produce disease, but some do. 2. The basic types _ organisms that cause infectious disease are bacteria, viruses, fungi, protozoa, and helminths. 3. Possible help _ the immune system is a healthy diet, with lots of natural sources of vitamins A, C and E, zinc, iron, and vitamin B_6. 4. In active artificial immunity an antigen is introduced _ an individual to stimulate his/her immune system. 5. Active natural immunity results _ natural exposure to an antigen.

Ex. 18. Write out key sentences of the text "Immune System".

Ex. 19. Speak on the immune system.

Ex. 20. Read the following text and compose detailed plan to it:

IMMUNITY

There are four ways to acquire specific immunity: active natural, active artificial, passive natural, and passive artificial. Natural and artificial refer to the method of exposure. Natural exposure implies that contact with antigen or antibody (protein found in the plasma is responsible for humoral immunity) occurrs as part of everyday living and was not deliberate. Artificial exposure, also called immunization, is a deliberate introduction of antigen or antibody into the body.

"Active" and "passive" describe whose immune system is responding to the antigen (antigens are large molecules that stimulate a specific immune system response). When the individual is exposed to the antigen (either naturally or artificially), there can be a specific immune system response, which is called active immunity because the individual's own immune system is the cause of the immunity. Passive immunity occurs when another person or animal develops immunity and the immunity is transferred to a nonimmune individual.

Active natural immunity results from natural exposure to an antigen. Because the individual is not immune during the first exposure, he/she usually develops the symptoms of the disease. Interestingly, exposure to an antigen does not always produce symptoms. In active artificial

immunity an antigen is deliberately introduced into an individual to stimulate his/her immune system. This process is vaccination, and the introduced antigen is vaccine. Injection of the vaccine is the usual mode of administration (tetanus toxoid, diphtheria, and whooping cough), although ingestion (Sabin poliomyelitis vaccine) is sometimes used. Passive natural immunity results from transfer of antibodies from a mother to her fetus or baby. Achieving passive artificial immunity usually begins with vaccinating an animal such as a horse. After the animal's immune system responds to the antigen, antibodies are removed from the animal and are injected into the individual requiring immunity.

Ex. 21. Translate the following abstract without using dictionary:

Immunity can be natural or artificial, innate or acquired, and active or passive.

Active natural (contact with infection): develops slowly, is long term, and antigen specific.

Active artificial (immunization): develops slowly, lasts for several years, and is specific to the antigen for which the immunization was given.

Passive natural (transplacental = mother to child): develops immediately, is temporary, and affects all antigens to which the mother has immunity.

Passive artificial (injection of gamma globulin): develops immediately, is temporary, and affects all antigens to which the donor has immunity.

Ex. 22. Read the following text, entitle it, and discuss obtained information with your fellow-student:

Disorders in the immune system can cause various diseases. Immunodeficiency diseases occur when the immune system is less active than normal, resulting in recurring and life-threatening infections. Immunodeficiency can either be the result of a genetic disease, such as severe combined immunodeficiency, or be produced by pharmaceuticals or an infection, such as the acquired immune deficiency syndrome (AIDS) that is caused by the retrovirus HIV. In contrast, autoimmune diseases result from a hyperactive immune system attacking normal tissues as if they were foreign organisms. Common autoimmune diseases include rheumatoid arthritis, diabetes mellitus I, and lupus erythematosus. These critical roles of immunology in human health and disease are areas of intense scientific study.

Both immune cells and foreign molecules enter the lymph nodes via blood vessels or lymphatic vessels. All immune cells exit the lymphatic system and eventually return to the bloodstream. Once in the bloodstream, lymphocytes are transported to tissues throughout the body, where they act as sentries on the lookout for foreign antigens.

We are all born with a genetically based natural defense system. The skin is the most important organ of our natural defense system. An injury is a gateway for germs to enter the body. This, or the presence of a foreign object within the body, causes the immune system to act, getting rid of the invaders, while the skin takes care of the wound. When this process does not take place, it results in an infection. Another sign of the functioning of the immune system is when we get a rash or a bump on the skin after a mosquito bites.

When you have a vaccination, your immune system is given a copy of a specific disease, so that if the system comes across the disease again, the memory cells in the immune system will know exactly what action to take, likewise, if you have had a disease before, they know what to do in the event of reinvasion.

Ex. 23. Make up a dialogue on the immune system.

Ex. 24. Translate the following sentences into English:

1. Лімфатичні вузли, селезінка, червоний кістковий мозок і загруднинна залоза об’єднуються в імунну систему. 2. Імунна система забезпечує захист організму від генетично чужорідних клітин та речовин. 3. Імунітет – це спосіб захисту організму від інфекційних і неінфекційних агентів та речовин, які мають ознаки чужорідної генетичної інформації. 4. Залежно від

механізмів, які формують несприйнятливість організму до патогенних факторів, виділяють такі основні види імунітету: природний та штучний, активний та пасивний. 5. Імунна система включає всі органи, в яких відбувається утворення і диференціація клітин, що здійснюють захисні реакції організму. 6. Найважливіші клітини імунної системи – це лімфоцити, які поділяються на Т-лімфоцити і В-лімфоцити.

OVERVIEW

The immune system is one of the most important systems in the human body. The major parts of immune system are the thymus, spleen, lymph system, bone marrow, white blood cells, antibodies, and hormones. They work together to clear infection from the body. Human body has many mechanisms that defend the person against infectious organisms. The skin and gastrointestinal tract are the first lines of defense. The human organism has a specific capacity of resistance against infection called immunity. Agents that can invade the human body live everywhere. The majority of these organisms do not produce disease, but some do. The basic types of organisms that cause infectious disease are bacteria, viruses, fungi, protozoa, and helminths. Possible help for the immune system is a healthy diet, with lots of natural sources of vitamins A, C and E, zinc, iron, and vitamin B_6.

LESSON 44
AIDS

VOCABULARY

semen ['sI:mqn] сперма, секрет чоловічих статевих органів

contaminate [kqn'txmlneIt] заражати, інфікувати

exposure [Iks'pquZq] контакт з джерелом зараження

persist [pq'sIst] продовжувати; зберігати, утримувати;

soaking ['squklN] значний; абсорбуючий, поглинаючий

sweat [swet] піт; пітніння; потовиділення; функціональна секреція поту

spot [spOt] пляма; ділянка ураження

blemish ['blemlS] дефект

germ [Gq:m] мікроорганізм

meninx (pl. meninges) ['menINks] мозкова оболонка

dementia [dI'menSIq] недоумство

pandemic [pxn'demIk] пандемія

worldwide ['wq:ldwaId] в усьому світі, всесвітній

booster ['bu:stq] бустер; реімунізація, ревакцинація

opportunistic ["Opqtju:'nIstIk] умовно-патогенний, опортуністичний

awareness [q'wFqnls] обізнаність, знання

breast [brest] груди; молочна залоза

fungal [fANgql] грибковий

behavior [bI'helvjq] поводження; ставлення; манери, поведінка

tumor ['tjumq] неоплазма, новоутворення; пухлина

cyst [sIst] киста

WORD-BUILDING

Ex. 1. Familiarize yourself with the following material:

Prefixes and term-elements:

mal- (bad)

malposed *в аномальному положенні, ненормально розміщений*

micro- (small)

microtubule *мікротрубочка*

mis-

to inform *інформувати*– to misinform *неправильно інформувати*

Ex. 2. Read and translate the following words:

A. Malignant; malaise; malnutrition; malfunction.

B. Microscopic; microscopist; microulceration; microorganism; microvilli; microbiology; microtubule.

C. Misunderstand; misinform; misadvise; misaligned; misapply; misbecome; misbirth; miscall; miscode.

GRAMMAR:

Ex. 3. Familiarize yourself with the data of the following table:

FUNCTIONS OF "ONE"

AIDS is **one** of the most common diseases.	СНІД– одне з найбільш розповсюджених захворювань.
One may discuss this problem now.	Це питання можна обговорити зараз.
The right lung has three lobes, and the left **one** has two.	Праве легеня має три частки, а ліве – дві.

Ex. 4. Read and translate the following sentences into Ukrainian:

1. The upper opening of the stomach is called the cardiac sphincter and the lower one is called the pyloric sphincter. 2. Most organs are composed of two or more tissue types that perform one or more common functions. 3. One of the greatest contributions to the world science made by V. Vorobyov was "Atlas on Human Anatomy". 4. The upper cavity of the trunk is called the chest and the lower one is called the abdomen. 5. One of the prominent therapeutists professor Konchalovsky considers that a person may be a poor writer, he may be a bad painter or an actor but a person cannot and must not be a bad doctor. 6. Upper and lower incisors, cuspids and lower bicuspids are one root teeth, upper bicuspids and lower molars are two root teeth, upper molars are three root ones. 7. The blood analysis, urine ones and other tests help to make a correct diagnosis and administer proper treatment. 8. One can see surgical, cardiological, pulmonological, gastroenterological and other departments in this clinic. 9. In the cardiological department one can see patients with heart diseases, such as: myocarditis, pericarditis, cardiosclerosis and others. 10. Take these tablets one every three hours. 11. There are no serious injuries. Only superficial ones. 12. AIDS is one of the most dangerous diseases.

READING AND DEVELOPING SPEAKING SKILLS

Ex. 5. Insert the missing letters:

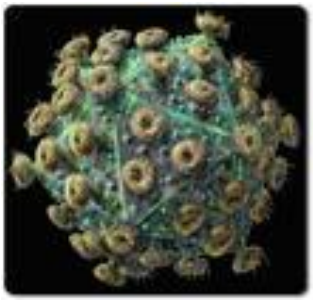
Blemi_h; contami_ate; demen_ia; expo_ure; meni_x; persi_t; b_oster; swe_t; sp_t; ge_m.

Ex. 6. Translate the following words into Ukrainian:

Contaminate; exposure; persist; soaking; sweat; spot; blemish; germ; meninx; dementia; pandemic; worldwide; booster; opportunistic.

Ex. 7. Read the following words and word-combinations:

Acquired; immunodeficiency; deficient; fluid; blood; semen; vaginal secretions; breast; contaminated; intravenous; however; exposure; fatigue; chronic diarrhea; headache; cough; breath; tongue; microscopic germ; foreign organism; lymphocyte; spinal cord; peripheral nerves; pneumonia; cancer; fungal; cause; meningitis; encephalitis; cyst; tumor; dementia; scientist; antiviral; prevent; through; behavior.



AIDS Virus

Ex. 8. Read the following text:

AIDS

Acquired Immunodeficiency Syndrome (AIDS) is an immune deficient state caused by human immunodeficiency virus (HIV). AIDS was first reported in 1981. HIV is transmitted from an infected to a noninfected person by transfer of body fluids (e.g., blood, semen, vaginal secretions,

breast milk) containing the virus. The major methods of transmission are sexual contact, contaminated needles used by intravenous drug users, and blood products.

Once infected with HIV, most people have no symptoms and no indication that they are infected. However infected individuals are able to transmit the virus to others. The signs and symptoms of AIDS are the following: persisted unexplained fatigue, soaking night sweats, shaking chill or fever lasting for several weeks, unexplained weight loss, swelling of lymph nodes which persists more than 3 months, chronic diarrhea, headaches, persistent dry cough and shortness of breath, white spots or unusual blemishes on the tongue or in the mouth, difficulties with speech, memory, concentration, or coordination.

If your immune system is healthy, white blood cells and antibodies help to fight against microscopic germs to keep you free from disease. When a foreign organism enters the body, it is attacked and destroyed. This response is coordinated by T-cell lymphocytes.

Most persons with AIDS develop pneumonia or a skin cancer. Approximately a third develops nervous system diseases, which include viral, fungal, or bacterial infections that cause meningitis (inflammation of the meninges), encephalitis, or myelitis (inflammation of the spinal cord). Other diseases of nervous system that occur in association with AIDS include parasitic cysts in the brain, abnormal growth of lymphoid tumors in the nervous system, and progressive form of dementia.

AIDS is a worldwide pandemic. At the beginning of 1996, scientists determined that more than 20 million people worldwide were infected with HIV and that more than 4.5 million people had AIDS. The WHO estimated that by the year 2000, more than 40 million people worldwide had been HIV-positive.

There are three main types of medications for HIV and AIDS. They are antiviral drugs, immune system boosters, and medications to help prevent or treat opportunistic infections. But the effectiveness of standard treatments is limited by the state of immunodeficiency. Researches on treatment are very active and new medications are being tested. The best way to fight AIDS is through education, awareness, and avoiding behaviors that may transmit HIV. Learning the facts about HIV and AIDS is the best protection.

Ex. 9. Translate the following words and word-combinations into English:

Плямочка, ділянка ураження; умовно-патогенний; грибковий; неоплазма, новоутворення, пухлина; реімунізація, ревакцинація; заражати, інфікувати; контакт з джерелом зараження; зберігати, утримувати, продовжувати; обізнаність, знання; потовиділення; мікроорганізм; мозкова оболонка; недоумство.

Ex. 10. Translate text “AIDS” into Ukrainian.

Ex. 11. Insert the missing words:

1. AIDS is an immune _ state caused by HIV. 2. HIV is transmitted by blood, semen, vaginal secretions, _ milk containing the virus. 3. The methods of transmission are sexual contact, contaminated needles used by _ drug users, and blood products. 4. Most people with AIDS have no _ and no indication that they are infected. 5. The symptoms of AIDS are the following: unexplained _, soaking night _, shaking chill or _, weight loss, swelling of lymph nodes, dry _, shortness of breath and others. 6. AIDS can _ to various nervous system diseases as meningitis, _, or myelitis. 7. Scientists estimated that more than 20 million people worldwide _ with HIV. 8. Researches on _ are very active, and new medications are being _.

Ex. 12. Answer the following questions:

1. What is AIDS? 2. How is HIV transmitted? 3. What are the signs and symptoms of AIDS? 4. What helps to fight against microscopic germs if the human immune system is healthy? 5. What diseases can AIDS lead to? 6. What are the medications for AIDS? 7. What is the best prevention of AIDS?

Ex. 13. List the symptoms of AIDS.

Ex. 14. Write out key words of the text "AIDS".

Ex. 15. Speak on the causes and the signs of AIDS.

Ex. 16. Make up a plan of the text "AIDS".

Ex. 17. Give a summary of the text "AIDS".

Ex. 18. Make up the dialogue on the AIDS. You may begin some of your questions with the following phrases:
Could you tell me …
Do you happen to know…
Is it true that …
I know that …
I'd like to know if …
Would you explain why (how, where, what …)?

Ex. 19. Put the questions on the following text and answer them:

Acquired immune deficiency syndrome or acquired immunodeficiency syndrome (AIDS or Aids) is a collection of symptoms and infections resulting from the specific damage to the immune system caused by the human immunodeficiency virus (HIV). The late stage of the condition leaves individuals prone to opportunistic infections and tumors. Although treatments for AIDS and HIV exist to slow the virus's progression, there is no known cure. HIV is transmitted through direct contact of a mucous membrane or the bloodstream with a bodily fluid containing HIV, such as blood, semen, vaginal fluid, and breast milk. This transmission can come in the form of sex, blood transfusion, contaminated hypodermic needles, exchange between mother and baby during pregnancy, childbirth, or breastfeeding, or other exposure to one of the above bodily fluids.

Most researchers believe that HIV originated in Africa during the twentieth century; it is now a pandemic, with an estimated 38.6 million people now living with the disease worldwide. The Joint United Nations Programme on HIV/AIDS (UNAIDS) and the World Health Organization (WHO) estimate that AIDS has killed more than 25 million people since it was first recognized on June 5, 1981, making it one of the most destructive epidemics in recorded history. In 2005 alone, AIDS claimed an estimated 2.4–3.3 million lives, of which more than 570,000 were children. A third of these deaths are occurring in sub-Saharan Africa, retarding economic growth and destroying human capital. Antiretroviral treatment reduces both the mortality and the morbidity of HIV infection, but routine access to antiretroviral medication is not available in all countries. HIV/AIDS stigma is more severe than that associated with other life-threatening conditions and extends beyond the disease itself.

Ex. 20. Skim through the text and say what it deals with:

HIV is transmitted in several ways, including sexual transmission, transmission through infected blood; it easily transmitted trough needles contaminated with infected blood and from infected mother to child. Each year, nearly 600,000 infants are infected with HIV, either during pregnancy or delivery or through breast feeding. The rate of mother-to-child transmission in resource-poor countries is as much as 40 percent higher than it is in the developed world. But if women receive treatment for HIV infection during pregnancy, the risk to their babies is significantly reduced. Combinations of HIV drugs may reduce the risk of mother-to-child transmission even more.

WHO has been working with multiple partners to define and strengthen the normative guidance, policies and implementation of prevention, care and treatment of women and infants infected with HIV and AIDS.

OVERVIEW

AIDS is an immune deficient state caused by human immunodeficiency virus. HIV is transmitted by transfer of body fluids containing the virus. The major methods of transmission are sexual contact, the using of infected needles, and blood products. Once infected with HIV, most people have no symptoms and no indication that they are infected. However infected persons are able to transmit the virus to others. The signs and symptoms of AIDS are the following: fatigue, night sweats, chill or fever lasting for several weeks, weight loss, swelling of lymph nodes and others. AIDS can lead to pneumonia, skin cancer, meningitis, encephalitis, myelitis, progressive form of dementia and others. There are three main types of medications for HIV and AIDS. They are antiviral drugs, immune system boosters, and medications for prevention or treatment of opportunistic infections. But the effectiveness of standard treatments is limited by the state of immunodeficiency.

LESSON 45
ENDOCRINE SYSTEM

VOCABULARY

hormone ['hO:mqun] гормон

pancreas ['pxNkrlqs] підшлункова залоза

adrenal gland [qd'rlnql] надниркова залоза

pituitary gland [pl'tju(:)lt(q)rl] гіпофіз

thyroid (gland) ['TalrO:ld] щитоподібна залоза

parathyroid (gland) ["pxrq'TalrO:ld] прищитоподібна залоза

ovary ['quvqrl] яєчник

testicle ['testlkl] яєчко

markedly ['ma:ktll] помітно; значно

influence ['lnfluqns] впливати

gonad ['gOunxd] статева залоза

pineal gland ['plnlql] шишкоподібна залоза

thymus (gland) ['Talmqs] загруднинна залоза, тимус

in response to [rls'pOns] у відповідь на

burst [bq:st] вибух, спалах

stimuli (sing. stimulus) ['stlmjulal] подразники, стимули

adrenaline [xd'renqlln] адреналін, епінефрин

mammary gland ['mxmqrl] молочна залоза

lacrimal gland ['lxkrlmql] сльозна залоза

sweat gland [swet] потова залоза

target ['ta:glt] мішень

protein ['prqutll:n] білок, протеїн

glycoprotein ["glalko'prqutll:n] глікопротеїн

polypeptide ["pOll'peptald (tld)] поліпептид, поліпептидний

amino acid ['xmlno 'xsld] амінокислота

lipid ['llpld ('llpald)] ліпід

glandular ['glxndjulq] гландулярний, залозовий, такий, що стосується залози

WORD-BUILDING

Ex. 1. Familiarize yourself with the following material:

Prefixes and term-elements:

over-

overstrain *перенапруження*

para- (near, beside; abnormal)

paracystic *приміхуровий, такий, що розміщений біля міхура*

parafunction *парафункція, порушена або аномальна функция*

per- (through)

pernasal *черезносовий, такий, що виконується через ніс*

poly- (many)

polymelia *полімерія, потологія розвитку, що характеризується наявністю зайвих кінцівок*

Ex. 2. Read and translate the following words:

A. Overweight; overgrowth; overestimate; overdose; overeating; overactivity; overabundance; overproduction.
B. Parathyroid; paramedical; paranasal; parafollicular.
C. Percutaneous; perfuse; peroral; perpendicular.
D. Polymorphonuclear; polyneuritis; polypeptide; polyclinic.

GRAMMAR:

Ex. 3. Familiarize yourself with the following grammar material:

INFINITIVE AND ITS FORMS

Інфінітив – це не особова форма дієслова, яка називає дію і відповідає на запитання *що робити?, що зробити?*: to write – писати Ознакою інфінітива є частка to. Інфінітив часто вживається без частки to після модальних дієслів та після деяких дієслів, що виражають сприймання за допомогою органів чуттів.

INFINITIVE	**ACTIVE**	**PASSIVE**
Indefinite	**V** (to write)	**to be + V_3** (to be written)
Continuous	**to be + V_{ing}** (to be writing)	–
Perfect	**to have + V_3** (to have written)	**to have + been + V_3** (to have been written)

Інфінітив у формі **Indefinite** вживається: якщо дія, яку він виражає, одночасна з дією, вираженою дієсловом-присудком речення; з дієсловами, що виражають намір, надію, бажання і т.ін. **Indefinite Infinitive** може означати дію, майбутню по відношенню до дії, вираженої дієсловом-присудком:

He was the first dentist **to speak** to me about it.	Він був першим стоматологом, який заговорив про це зі мною.
I want **to become** a doctor.	Я хочу стати лікарем.
They conduct blood test **to determine** the amount of the hormones.	Вони виконують аналіз крові для того, щоб встановити кількість гормонів.

Інфінітив у формі **Continuous** виражає тривалу дію, що відбувається одночасно з дією, вираженою дієсловом-присудком:

It was pleasant **to be performing** on the operation again.	Було приємно знову проводити операцію.
He seems **to be writing** something.	Він, здається, щось пише.

Інфінітив у формі **Perfect** виражає дію, що передує дії, вираженій дієсловом-присудком:

I am glad **to have seen** you.	Я дуже радий, що ми побачилися з вами.

Ex. 4. Read and translate the following sentences:

1. It was very hard to pass entrance exams. 2. Cells are grouped into tissues, and each tissue type is specialized to perform specific functions. 3. Serious investigations were being done by various scientists to establish functions and anatomical structure of the stomach. 4. The bile acids are then reabsorbed in the small intestine and cycled into the liver to be used again. 5. The contraction of the muscle causes blood to be pumped. 6. To reach the lungs, air enters through the mouth and nose and then travels through the pharynx, larynx, and down trachea. 7. Unlike other organs and body parts that enable to move, breathe, eat, or sense the world around us, the endocrine system influences the body's processes. 8. The pancreas secretes the hormone insulin, which enables the body to regulate the amount of sugar in the bloodstream. 9. The hormones produced by the pancreas enable the body to break down the food you eat. 10. Muscle and fat cells are stimulated by insulin to absorb the glucose they need as fuel for their activities. 11. The anterior lobe produces six hormones, including

prolactin to stimulate the production of breast milk and growth hormone to regulate the body's physical growth. 12. Antidiuretic hormone acts on the kidneys to control urine output.

Ex. 5. Find in the text "Endocrine System" sentences containing infinitives and translate them into Ukrainian.

Ex. 6. Familiarize yourself with the data of the following data:

SUBJECTIVE INFINITIVE CONSTRUCTION

<table>
<tr><th>NOUN
(Common Case)</th><th>or
PRONOUN
(Subjective Case)</th><th>PREDICATE</th><th colspan="2">INFINITIVE</th></tr>
<tr><td rowspan="5">Doctor(s)

Dentist(s)

Scientist(s)</td><td rowspan="5">I

He

She

It

You

We

They</td><td rowspan="5">Passive Voice

to think (думати),
to believe (думати),
to know (знати),
to suppose
(вважати,
допускати),
to consider
(вважати),
to see (допускати),
to hear (слухати),
to report
(повідомляти)
to say (говорити)
Active Voice

to seem (здаватися),
to appear
(здаватися),
to happen
(траплятся)</td><td>Indefinite
(Active)</td><td>V
(to write)</td></tr>
<tr><td>Indefinite
(Passive)</td><td>to be + V₃
(to be written)</td></tr>
<tr><td>Continuous
(Active)</td><td>to be + V_{ing}
(to be writing)</td></tr>
<tr><td>Perfect
(Active)</td><td>to have + V₃
(to have written)</td></tr>
<tr><td>Perfect
(Passive)</td><td>to have been + V₃
(to have been written)</td></tr>
</table>

Речення з суб'єктним інфінітивним комплексом на українську мову перекладаються здебільшого складно-підрядними реченнями із сполучником "що". Переклад слід починати з присудка, який в українській мові перетворюється на неозначено-особове або безособове головне речення. Перша частина комплексу (іменник або займенник) стає підметом підрядного речення, а інфінітив перекладається особовою формою дієслова, що стає присудком підрядного речення:

These doctors are known **to be** good specialists.	Відомо, що ці лікарі гарні фахівці.
She is said **to treat** this disease.	Кажуть, що вона лікує це захворювання.
He seems **to have passed** his examinations well.	Здається, він успішно здав іспити.

У якості присудка також можуть вживатися такі словосполучення: to be sure напевно, to be certain безумовно, to be likely напевно:
They are likely to return next week. Напевно, вони повернуться на наступному тижні.

Ex. 7. Read and translate the following sentences:
1. X-ray examination is considered to be very important in diagnosis. 2. He is supposed to discharge the patient from the hospital 3. The heart is considered to have been enlarged. 4. The patient is said to become well. 5. This drug is known to give a good effect. 6. This disease is said to have a chronic course. 7. The urgent operation was supposed to have saved the patient's life. 8. The nurse seems to be very experienced. 9. The pain is considered to be caused by too hot or too cold food. 10. All drugs appear to be kept in drug cabinets. 11. Excessive smoking and alcohol consumption are known to produce mild gastritis or to aggravate existing gastritis symptoms. 12. One of the major aids in acute and chronic anemia as well as in shock, hemophilia and so on is known to be transfusion of blood. 13. The causes for hypersecretion or hyposecretion of growth hormone are known to involve tumors in the hypothalamus or the pituitary gland. 14. The most common thyroid disorders are considered to be hyperthyroidism and hypothyroidism. 15. The endocrine system was believed to be relatively independent and different from the nervous system, but a relationship between these systems is now recognized.

READING AND DEVELOPING SPEAKING SKILLS

Ex. 8. Read VOCABULARY and memorize new words.

Ex. 9. Compose 2-3- sentences using the words of VOCABULARY.

Ex. 10. What endocrine glands do you know?

Ex. 11. Insert the missing letters:
_drenal; pitu_tary; thyr_id; pancre_s; parathyr_id; o_ary; testi_le; p_neal; t_ymus; ma_mary; la_rimal; swe_t.

Ex. 12. Translate the following words and word-combinations into Ukrainian:
Target organ; response; stimuli; adrenaline; separate glands; enable; secrete the insulin; burst; lacrimal gland; sweat gland; external body surface; bloodstream; produce; glandular; pancreas; adrenal; pituitary; thyroid; parathyroid.

Ex. 13. Read the following words and word-combinations:

Protein; lipid; amino acid; hormone; glycoprotein; polypeptide; breathe [*brɪD*]; usual; although; either; affect; mechanism; release; amount of sugar; certain; particular hormone; insulin ['*ɪnsjulɪn*]; to separate; separate glands; via [*vaɪq*].

Ex. 14. Read the following text:

ENDOCRINE SYSTEM

Structure of Endocrine System

The endocrine system consists of cells, tissues, and organs that produce hormones or other chemical substances. The organs of endocrine system act together to control body activities and maintain homeostasis. In most people, the pancreas, the adrenal, pituitary, thyroid, and parathyroid glands, and ovaries or testicles work in tandem. The endocrine system regulates various functions of a human organism.

It functions as a control system for the human body. Unlike other organs and body parts that enable to move, breathe, eat, or sense the world around us, the endocrine system influences the body's processes. Along with nervous system, it coordinates the body's activities and responses to usual and unusual events.

Although both the endocrine system and the nervous system regulate the activities of structures in the body, they do so in different ways. These two systems cannot be separated

completely either anatomically or functionally. For example, some hormones secreted by endocrine glands affect the nervous system and markedly influence its activity.

The key mechanism of the endocrine system is the hormone. Different types of endocrine hormones are secreted by different glands (pituitary gland, thyroid gland, parathyroid glands, pancreas, adrenal glands, gonads: ovaries and testicles, pineal gland, and thymus gland). Most of these hormones are released into the bloodstream so that they can deliver instructions to various organs and tissues. The pancreas, for example, secretes the insulin hormone, which enables the body to regulate the amount of sugar in the bloodstream. In response to stress or other stimuli, the adrenal glands secrete adrenaline, which produces a sudden and remarkable burst of energy.

Similarly, the pituitary, thyroid, parathyroid, and gonadal glands influence certain body functions. Glands, which send the chemical substances into ducts leading to external body surfaces, are called exocrine glands. They are mammary, salivary, lacrimal and sweat glands.

A hormone is an organic substance with a special molecular structure secreted by definite cells that has an effect on the function of another cells. Although hormones circulate throughout the body via the bloodstream, each hormone influences on only certain organs (target organs) or tissues. So, several types of chemicals are produced by cells and act as chemical messengers, but not all of them are hormones.

Hormones are proteins, glycoproteins, polypeptides, derivatives of amino acids, or lipids (steroids or derivatives of fatty acids).

As a rule, the greater the amount of a particular hormone in the bloodstream, the greater activity of the target organ. Some hormones (such as several of those produced by the pituitary gland) control other glandular activity, but virtually every system in the body is subject to the influence of the hormones, either directly or indirectly.

Ex. 15. Translate the following words and word-combinations into English:
Адреналін, епінефрин; залозовий, такий, що стосується залози; гіпофіз; щитоподібна залоза; прищитоподібна залоза; підшлункова залоза; надниркова залоза; здійснювати вплив, впливати; подразники, стимули; шишкоподібна залоза; загруднинна залоза, тимус; гормони, що виробляються ендокринними залозами; жирні кислоти.

Ex. 16. Translate the text “Endocrine System” into Ukrainian.

Ex. 17. Answer the following questions:
1. What does the endocrine system consist of? 2. What is the function of endocrine system? 3. What glands of external secretion do you know? 4. What glands are the glands of internal secretion? 5. What is a hormone? 6. Where do the hormones circulate?

Ex. 18. Read the following abstract and say what it deals with:
Pituitary gland is at the base of the brain. Thyroid gland is located on either side of the trachea below the thyroid cartilage. Parathyroid glands are located on the dorsal side of the thyroid gland. Pancreas is behind the stomach. The adrenal glands are situated one on top of each kidney.

Ex. 19. Choose the correct terms (parathyroid gland; thyroid gland; adrenal glands; endocrine gland; pancreas; exocrine gland; pituitary gland) **for the following definitions:**
1. Gland that releases its secretion internally into a body fluid. 2. A gland that releases its secretion to the outside through a duct. 3. A set of glands located near the surface of the thyroid gland. 4. This is a largest gland of the human body. 5. This gland is located in the neck and consists of two lobes. Its hormones are thyroxine and calcitonin. 6. These glands are located atop the kidneys. Each gland consists of a medulla and a cortex. 7. This gland is attached to the base of the brain, has an anterior lobe and a posterior lobe. Most its secretion are controlled by the hypothalamus. Its hormones are growth hormone, thyroid-stimulating hormones, and some others.

Ex. 20. Choose the correct answer:
A mother consulted the doctor about her son who had grown up in height about 18 cm during the summer. On examination: height – 190 cm, weight – 68 kg. What endocrine gland's hypersecretion may cause this condition? (thyroid gland, epiphysis, adrenal gland, pituitary gland, pancreas)

Ex. 21. Write out key words of the text "Endocrine System".

Ex. 22. Make up a plan of the text "Endocrine System".

Ex. 23. Give a summary of the text "Endocrine System".

Ex. 24. Pronounce and memorize the words to the theme studied:
Secretory [sl'krl:tqrl] **activity** секреторна діяльність; **extension** подовження; **band** смуга, зона; зв'язка; **vascular** судинний; **triiodothyronine** ["traIal'OdqTal'ronln] трийодтиронін; **tetraiodothyronine** тетрайодтиронін; **thyroxine** [Tal'rOksln] тироксин (гормон щитоподібної залози); **parietal** [pq'ralltl] парієтальний, пристінковий; **peritoneum** ["perltqu'nl:qm] очеревина; **adrenal cortex** ['kO:teks] кора надниркової залози; **adrenal medulla** [me'dAlq] мозкова речовина надниркової залози; **pancreatic islet (**Langerhans islet**)** ['la:Ngqha:ns 'allIt] острівець Лангерганса, панкреатичний острівець; **norepinephrine** ['nourepl'nefrln] норепінефрин, норадреналін; **circulatory system** система кровообігу, кровотворна система; **glucagon** ['glu:kqgOn] гіперглікемічний гормон підшлункової залози, глюкагон; **immature** ["lmq'tjuq] **cell** незріла клітина.

Ex. 25. Read the following words and word-combinations:
Hypophysis; antidiuretic; hypothalamus; molecule; initiate protein synthesis; embryonic; capsule; mesoderm; elongate; enzyme.

Ex. 26. Read the following text:

ENDOCRINE GLANDS

The pituitary gland, or hypophysis, is known to secrete some major hormones (e. g. antidiuretic hormone, growth hormone, thyroid-stimulating hormone, adrenocorticotropic hormone, lipotropins, prolactin) that directly regulate numerous body functions and the secretory activity of several other endocrine glands. The hypothalamus of the brain regulates the secretory activity of the pituitary gland, and, in turn, the activity of the hypothalamus is influenced by the central nervous system, and by the emotional state of the individual. The hypothalamus and pituitary gland are the major sites in which the two regulatory systems of the body (the nervous and endocrine systems) interact. Indeed, a major portion of the pituitary gland (the posterior pituitary) is an extension of the hypothalamus. As for pituitary gland, it is roughly 1 cm in diameter and weighs 0.5 to 1 g. The pituitary gland is located inferior to the hypothalamus. It is divided functionally into two parts (posterior pituitary gland and anterior pituitary gland).

The thyroid gland is composed of two lobes connected by a narrow band of thyroid tissue. The lobes are lateral to the upper portion of the trachea just inferior to the larynx. The thyroid gland is one of the largest endocrine glands with a weight of approximately 20 g. It is highly vascular and appears redder than its surrounding tissues. The thyroid hormones include both triiodothyronine (T_3) and tetraiodothyronine (T_4); T_4 is also called thyroxine. These substances constitute the major secretory products of the thyroid gland, with 10% T_3 and 90% T_4. Thyroid hormones bind with intracellular receptor molecules and initiate new protein synthesis.

The adrenal glands are near the top of each kidney. Like kidneys, they lie posterior to the parietal peritoneum and are surrounded by adipose tissue. They are enclosed by a connective tissue

capsule and receive a well-developed blood supply. The adrenal glands are composed of an inner medulla and an outer cortex, which are derived from two separate embryonic tissues. Unlike most glands of the body, which develop from epithelial tissue, the adrenal cortex is derived from mesoderm. The adrenal medulla is a component of the autonomic nervous system and secretes two types of hormones: epinephrine (adrenaline), 80%, and norepinephrine (noradrenaline), 20%. The adrenal cortex secretes three hormone types: mineralocorticosteroids, glucocorticoids, and sex hormones. All are similar in structure in that they are steroids, highly specialized lipids that are derived from cholesterol.

The pancreas lies behind the peritoneum between stomach and the duodenum. It is elongated structure approximately 15 cm long. It weighs 85 to 100 g. The head of the pancreas lies near the duodenum, and its body and tail extend toward the spleen. The pancreas plays a key part in the digestive process, producing enzymes essential to the digestion of food. The pancreas is both an exocrine gland and endocrine gland. The endocrine portion, consisting of pancreatic islets (islets of Langerhans), produces hormones that enter the circulatory system. Each islet is composed of alpha cells (20%), which secrete glucagons, beta cells (75%), which secrete insulin, and other cell types (5%). The remaining cells are either immature cells of questionable function or delta cells, which secrete somatostatin.

Ex. 27. Insert the missing words from the box:

1. The _ secretes at least nine hormones that regulate numerous body functions and other endocrine glands. 2. The hypothalamus _ pituitary gland activity through neurohormones. 3. The _ is just inferior to the larynx. 4. Thyroid hormones increase the rate of glucose, fat, and protein metabolism in many tissues, thus increasing body _. 5. Normal growth of many tissues is dependent on _ hormones. 6. The adrenal glands are near the superior pole of each_. 7. The adrenal cortex is derived from _. 8. Norepinephrine stimulates cardiac muscle and causes constriction of most peripheral _ vessels. 9. The adrenal _ hormones prepare the body for physical activity. 10. The pancreas is located along the small _ and the stomach. 11. It is both an _ and endocrine gland. 12. The endocrine portion of pancreas _ the pancreatic islets.

thyroid gland; exocrine; regulates; consists of; thyroid; mesoderm; blood; medulla; temperature; pituitary gland; kidney; intestine.

Ex. 28. Answer the following questions:

1. What hormones of the pituitary gland do you know? 2. What is the major function of the pituitary gland? 3. Where is the pituitary gland located? 4. What is the thyroid gland composed of? 5. What thyroid hormones do you know? 6. What do thyroid hormones initiate? 7. Where are the adrenal glands located? 8. What are the adrenal glands composed of? 9. What hormones does the adrenal cortex secrete? 10. What does the pancreas consist of? 11. What is the major function of the pancreas?

Ex. 29. Pick up correct statements (true or false choice):

1. As a group, endocrine glands are concerned with the regulation of metabolic processes. 2. Exocrine glands secrete hormones. 3. Hormone is carried to its target cells by body fluid. 4. Endocrine glands do not secrete hormones that affect target cells possessing specific receptors.

Ex. 30. Retell the text “Endocrine Glands”.

Ex. 31. Pronounce and translate the following terms to the theme studied:

Minute [maI'nju:t] amount; interstitial ["Intq:'stISql] space; fuel [fjuql]; starchy ['sta:CI] food; potassium [pq'txslqm]; sodium ['squdjqm]; the rate of chemical activity; distinct [dIs'tINkt] hormones; prompt [prOmpt]; urine output ['autput].

Ex. 32. Read the following text, make up a plan, and speak on the functions of hormones:

FUNCTIONS OF HORMONES

The secretory products of endocrine glands are hormones. Traditionally a hormone is defined as a substance that is produced in minute amounts by a collection of cells, is secreted into the interstitial spaces, enters the circulatory system on which it is transported some distance, and acts on specific tissues called target tissues at another site in the body to influence the tissues' activity.

The hormones produced by the **pancreas** enable the body to break down (metabolize) the food you eat. They regulate the body's use of glucose, a simple form of sugar that is an energy source for much of the daily activities of all human cells. Three hormones are produced by the pancreas. The first is insulin, which is produced when the concentration of glucose in the blood increases. This normally occurs shortly after a person eats a meal. Muscle and fat cells are stimulated by insulin to absorb the glucose they need as fuel for their activities. The second pancreatic hormone is glucagon. When needed, it breaks down the glycogen stored as fuel into the bloodstream. In effect, this raises the concentration of sugar in the blood. The third hormone produced by the pancreas, somatostatin, is a factor in regulating the production and release of both insulin and glucagon.

When secreted into the bloodstream **adrenal** medulla hormones increase cardiac output, blood flow to skeletal muscles and heart, and release of glucose and fatty acids into blood. The cortex produces a group of hormones called corticosteroids, of which there are three kinds. One kind is the sex hormones. They affect sexual development and reproduction. Another kind includes glucocorticoids. They influence the conversion of starchy foods into glycogen in the liver. The third kind is the mineralocorticosteroids. They control the body's use of minerals, sodium and potassium. The hormones of the adrenal gland affect virtually every system in the human body to some degree.

The thyroid gland helps set the rate at which the body functions. It responds to instructions from the pituitary gland to secreting the hormone thyroxine, whose actions control the rate of chemical activity in the body. Such activities vary directly with the quantity of thyroxine present: the more hormones circulating in the bloodstream, the greater the speed at which chemical reactions occur.

As you know **the pituitary gland** (hypophysis) consists of two parts, the front (anterior) lobe and the posterior lobe. The anterior lobe produces six distinct hormones, including prolactin to stimulate the production of breast milk and growth hormone to regulate the body's physical growth. The other four hormones influence other parts of the endocrine system, stimulating activities in the thyroid gland, ovaries, testicles, and adrenal glands. The posterior lobe produces two hormones: oxytocin and antidiuretic hormone. Oxytocin prompts contractions during childbirth and stimulates the breast to release milk during breastfeeding. Antidiuretic hormone acts on the kidneys to control urine output.

Ex. 33. Try to organize obtained information in the form of the following table:

Gland	Location	Hormones produced by gland	Function of the gland or hormone

Ex. 34. Speak on the some endocrine glands using obtained data. You may use the following expressions:

The endocrine system consists of _. The _ gland is one of the endocrine glands. It is located _. The _ glands secrete the following hormones _. These hormones play a key part in _.

Ex. 35. Read and translate the following text:

THYROID GLAND

Thyroid Gland

The thyroid gland is one of the endocrine glands, which make hormones to regulate physiological functions in the human body. The thyroid gland manufactures thyroid hormone, which regulates the rate at which the body carries on its necessary functions.

The thyroid gland is located in the middle of the lower neck, below the larynx (voice box) and just above your clavicles (collarbones). It is shaped like a "bow tie," having two halves (lobes): a right lobe and a left lobe joined by an "isthmus".

The thyroid gland contains numerous follicles, which are small spheres with their walls composed of a single layer of cuboidal epithelial cells. The center, or lumen, of each thyroid follicle is filled with a protein called thyroglobulin to which thyroid hormones are bound. The thyroglobulin stores large amounts of thyroid hormone.

Between the follicles a delicate network of loose connective tissue contains numerous capillaries. Scattered parafollicular cells are found between the follicles and among the cells that comprise the wall of the follicle. Calcitonin is secreted from the parafollicular cells and plays a role in reducing the concentration of calcium in the body fluids when calcium levels become elevated.

Diseases of the thyroid gland are very common. The most common diseases are caused by an over- or under-active glands. These conditions are called hyperthyroidism (e.g., Grave's disease) and hypothyroidism. Sometimes the thyroid gland can become enlarged from over-activity (as in Grave's disease) or from under-activity (as in hypothyroidism). An enlarged thyroid gland is often called a "goiter."

Patients may develop "lumps" or "masses" in their thyroid gland. They may appear gradually or very rapidly. Patients who had radiation therapy to the head or neck are more prone to develop thyroid malignancy.

Ex. 36. Compose your own dialogue on the endocrine system.

Ex. 37. Read the definitions and fill in blanks with proper term elements given below:

1. Endo_ is the branch of medicine dealing with endocrine glands and internal secretion of the body. 2. Endo_ is abnormal condition when endocrine glands fail to perform their functions. 3. Endo_ is a method of treatment, which includes the using of some hormones. 4. Endo_ is inflammation of the endothelial membrane lining the cavities of the heart. 5. Endo_ is the use of a specific often flexible instruments in medical examination.

A. _scopy; B. _crinology; C. _carditis; D. _crinopathology; E. _crinotherapy.

Ex. 38. Skim through the following text and entitle it:

Although the stated differences between the endocrine and nervous systems are generally true, exceptions do exist (e.g., some endocrine responses are more rapid than some neural responses, and some endocrine responses have a shorter duration than some neural responses). The endocrine system was believed to be relatively independent and different from the nervous system, but a relationship between these systems is now recognized. In fact, the two systems cannot be separated completely either anatomically or functionally. Some neurons secrete into the circulatory system regulatory chemicals called neurohormones, which function like hormones. Other neurons directly innervate endocrine glands and influence their secretory activity. Conversely, some hormones secreted by endocrine glands affect the nervous system and markedly influence its activity.

Several types of chemicals are produced by cells and act as chemical messengers, but not all of them are hormones. Intercellular chemical messengers act as signals that allow one cell type to communicate with other cell types. The signals coordinate and regulate the activities of the many cells that comprise the body. Terms such as hormones, neurohormones, neuromodulators are used to classify these substances. Although many intercellular chemical messengers consistently fit one specific definition, others do not.

Ex. 39. Make up a plan of the text (ex. 38) supplying each item with key words and then narrate the information according to your plan.

Ex. 40. Translate the following sentences into English:

1. Залози внутрішньої секреції виділяють гормони. 2. Вони надходять у кров і беруть участь у гуморальній регуляції функцій різних систем організму людини. 3. Залози, які мають протоки, називають залозами зовнішньої секреції, або екзокринними залозами. 4. Залози, які не мають вивідних проток – це залози внутрішньої секреції, або ендокринні залози. 5. Продукти їхньої діяльності потрапляють у серцево-судинну або лімфатичну систему. 6. Щитоподібна залоза – непарний орган масою 20-50 г. Залоза розташована в передній ділянці шиї. 7. Прищитоподібні залози парні. Загальна маса залоз становить у середньому близько 1 г. 8. Надниркова залоза – парний ендокринний орган. Маса залози 12-13 г, довжина 5 см, ширина 3 см. 9. Кора надниркових залоз (adrenal cortex) виробляє кортикостероїди. Мозкова речовина надниркової залози (adrenal medulla) виробляє адреналін і норадреналін. Ці гормони мобілізують захисні сили організму.

OVERVIEW

The endocrine system consists of cells, tissues, and organs that produce hormones or other chemical substances. The organs of endocrine system act together to control body activities and maintain homeostasis. There are two types of glands. They are endocrine glands and exocrine glands. Endocrine glands are pituitary gland, thyroid gland, parathyroid glands, pancreas, adrenal glands, gonads and others. They secrete hormones into the body fluids. Exocrine glands are mammary, salivary, lacrimal, and sweat glands. They secrete chemical substances into ducts, which lead to external body surfaces. Hormone is organic substance, which acts in the metabolic processes and has an effect on the functions of another cells. The endocrine system functions as a control system for the human body.

LESSON 46
HORMONAL PROBLEMS

VOCABULARY

growth hormone [grqus 'hO:mqun] гормон росту

hypothalamus ["haIpo'Txlqmqs] гіпоталамус

somatomedin ['soumqtou'mI:dIn] соматомедін, інсулиноподібний фактор росту

lack [lxk] нестача, відсутність

dwarfism ['dwourfIzm] карликовість

stature ['stxCq] зріст; статура

obesity [qu'bI:sltl] ожиріння

retard [rI'ta:d] уповільнювати; затримувати

giantism ['GaIqntIzm] гігантизм

acromegaly ["xkro'megqll] акромегалія, синдром Тінеля

diuretic ['daIjuq'retlk] діуретик; сечогінний засіб; сечогінний

dilute [daI'lju:t] зниженої концентрації; розбавляти

diabetes insipidus ["daIq'bI:tI:z] нецукровий діабет

removal [rI'mu:v(q)l] видалення

diabetes mellitus ["daIq'bI:tI:z 'mellIqs] цукровий діабет

hyperthyroidism ['haIpq'TaIrOIdIzm] базедова хвороба, гипертиреоідизм, зоб дифузний тиреотоксичний

occur [q'kq:] виникати, відбуватися, траплятися

goiter ['gOltq] зоб

iodine ['aIqudI:n] йод

remain [rI'meIn] залишатися, перебувати, знаходитися

consumption [kqn'sAmpS(q)n] споживання

disturbance [dIs'tq:b(q)ns] порушення, розлад, патологічне відхілення

aldosteronoma [xl"dOsterO'nomq] альдостеронома

release [rI'fI:s] вивільнення (речовини)

supplement ['sApllmqnt] додаток

fail [fel] слабшати, перестати діяти

hyperglycemia [ˌhaɪpəglaɪˈsiːmɪə] гіперглікемія

spill [spɪl] попадати

detect [dɪˈtekt] виявляти

READING AND DEVELOPING SPEAKING SKILLS

Ex. 1. Compose 2-3- sentences using the words of VOCABULARY.

Ex. 2. Insert the missing letters and translate the following words and word-combinations into Ukrainian:
Reta_d; r_moval; o_cur; diureti_; iod_ne; r_main; dilut_; diabetes insip_dus; diabetes m_llitus; hypergl_cemia.

Ex. 3. Translate the following words and word-combinations into Ukrainian:
Disturbance; fail; goiter; stature; release; lack; obesity; remain; consumption; intricate; aldosteronoma; supplement; detect.

Ex. 4. Read the following words and word-combinations:
Pituitary gland; associated; hypothalamus; chronic; dwarfism; dilute urine; diabetes; sign; frequency; diarrhea; iodine; thyroxine; aldosteronoma, congenital adrenal hyperplasia; tachycardia; insulin; require.

Ex. 5. Read the following text:

HORMONAL PROBLEMS

Because of the complexity of the endocrine system, many problems, great or small, can result from a malfunction.

Pituitary gland disorders. Growth hormone (GH) stimulates growth in most tissues and is one of the major regulators of metabolism. Several pathological conditions are associated with abnormal GH secretion. In general, the causes for hypersecretion or hyposecretion of GH involve tumors in the hypothalamus or the pituitary, the synthesis of structurally abnormal GH, the inability of the liver to produce somatomedins, or the lack of receptor molecules in the target cells. Chronic hyposecretion of GH in infants and children leads to dwarfism in which the stature is short because of delayed bone growth; however, the bones usually have a normal shape. Other symptoms that result from the lack of GH include mild obesity and retarded development of the adult reproductive functions. Chronic hypersecretion of GH leads to one of two conditions (giantism and acromegaly). Treatment for chronic hypersecretion of GH often involves surgical removal or irradiation of a GH-producing tumor.

The inability to secrete antidiuretic hormone (ADH) leads to the production of a large volume of dilute urine. This condition is called diabetes insipidus.

The most common **thyroid disorders** are hyperthyroidism and hypothyroidism. Hyperthyroidism occurs when the thyroid gland produces excessive amounts of thyroid hormone. The signs of this disorder are the following: weight loss despite increased appetite, increased heart rate and blood pressure, nervousness, swelling at the base of the neck (goiter), increases in the frequency of bowel movements, sometimes diarrhea, and muscle weakness. Three types of treatment are available: a liquid form of radioactive iodine, an antithyroid medication, and surgery. An underactive thyroid gland causes hypothyroidism. This disorder can occur in either sex and at any age. However middle-aged women are most commonly affected. The key treatment is daily consumption of thyroid hormone. Physicians generally prescribe a synthetic thyroxine. The individual must continue this treatment for the rest of his or her life.

The hormones of the **adrenal** glands affect virtually every system in the body to some degree. Their effects are complex. Disturbances can occur in this intricate system, leading to such

disorders as Addison's disease, aldosteronoma, congenital adrenal hyperplasia and others. Symptoms result from the release of large amounts of epinephrine and norepinephrine and include weight loss, darkening of the skin, sweating, nervousness, and tachycardia. Treatment requires daily doses of steroid tablets and salt supplements.

Sometimes the **pancreas**' balanced system of control fails. The amount of glucose in the bloodstream increases. The result is hyperglycemia. This condition is easily diagnosed by measuring the concentration of glucose in the blood. If it is high enough, some glucose will spill into the urine, where it can be detected easily. When the body's cells are unable to use the glucose in the bloodstream because of a lack of insulin activity (absence of enough hormone or resistance to the hormone), diabetes mellitus results. It is very serious disease but modern medications have made possible the effective management of diabetes mellitus.

Ex. 6. Translate the following words and word-combinations into English:
Залишатися, знаходитися; уповільнювати, затримувати; гігантизм; причина; акромегалія, синдром Тінеля; пухлина; порушення, розлад, патологічне відхилення; базедова хвороба; сечогінний засіб; слабшати; гормон росту; слабкість; цукровий діабет.

Ex. 7. Translate the text "Hormonal Problems" into Ukrainian.

Ex. 8. Insert the missing words or word-combinations:
1. _ hormone (GH) stimulates growth in most tissues. 2. Several pathological conditions are associated with abnormal GH _. 3. They are _ and hyposecretion. 4. The causes for hypersecretion or hyposecretion _ tumors in the hypothalamus or the pituitary, the synthesis of structurally abnormal GH, the inability of the liver to produce somatomedins and others. 5. Chronic hyposecretion of GH in infants and children leads to _. 6. Treatment for chronic hypersecretion of GH often _ surgical removal or irradiation of a GH-producing tumor. 7. Hyperthyroidism _ when the thyroid gland produces excessive amounts of thyroid hormone. 8. The signs of this disorder are the following: weight loss despite increased appetite, increased heart rate and blood pressure, nervousness, _ at the base of the neck and others. 9. An underactive _ gland causes hypothyroidism. 10. The key treatment is daily _ of thyroid hormone.

Ex. 9. Answer the following questions:
1. What does GH stimulate? 2. What are the causes for hypersecretion or hyposecretion of GH? 3. What does the treatment for chronic hypersecretion of GH involve? 4. What thyroid disorders do you know? 5. What are the signs of hyperthyroidism? 6. What does the treatment for hyperthyroidism include? 7. What is the cause for hypothyroidism? 8. What is key treatment? 9. What disorders of adrenal glands do you know? 10. What are the symptoms of adrenal glands disorders? 11. What are the causes of the pancreas disorders?

Ex. 10. Insert the missing prepositions:
1. The hormones of the adrenal glands affect virtually every system _ the body. 2. Disturbances can lead _ such disorders as Addison's disease, aldosteronoma, congenital adrenal hyperplasia and others. 3. Treatment requires daily doses _ steroid tablets and salt supplements. 4. Sometimes the pancreas' balanced system _ control fails. 5. The amount of glucose _the bloodstream increases. 6. It can lead _ diabetes mellitus. 7. It is very serious disease but modern medications have made possible the effective management _ diabetes mellitus.

Ex. 11. Write out key words of the text "Hormonal Problems".

Ex. 12. Make up a plan of the text "Hormonal Problems".

Ex. 13. Speak on:

pituitary gland disorders;
thyroid disorders;
adrenal glands disorders;
pancreas disorders.

Ex. 14. Compose your own dialogue on hormonal problems.

OVERVIEW

Pituitary gland disorders. Growth hormone (GH) stimulates growth in most tissues. Several pathological conditions are associated with abnormal GH secretion. They are hypersecretion and hyposecretion. The causes for hypersecretion or hyposecretion involve tumors in the hypothalamus or the pituitary, the synthesis of structurally abnormal GH, the inability of the liver to produce somatomedins and others. Chronic hyposecretion of GH in infants and children leads to dwarfism. Treatment for chronic hypersecretion of GH often involves surgical removal or irradiation of a GH-producing tumor. The most common **thyroid disorders** are hyperthyroidism and hypothyroidism. Hyperthyroidism occurs when the thyroid gland produces excessive amounts of thyroid hormone. The signs of this disorder are the following: weight loss despite increased appetite, increased heart rate and blood pressure, nervousness, swelling at the base of the neck and others. Three types of treatment are available: a liquid form of radioactive iodine, an antithyroid medication, and surgery. An underactive thyroid gland causes hypothyroidism. The key treatment is daily consumption of thyroid hormone.

LESSON 47
DIABETES MELLITUS

VOCABULARY

diabetes mellitus ["daIq'bI:tI:z 'melItqs] цукровий діабет

respond [rIs'pOnd] реагувати

pancreatic ["pxNkrI'xtIk] що стосується підшлункової залози, панкриатичний

juvenile (-onset) ['Gu:vInaIl] юнацький, ювенільний

adult-onset diabetes ['xdAlt, q'dAlt] діабет дорослих

diminish [dI'mInIS] зменшуватися, знижуватися

heredity [hI'redItI] спадковість

thirst [Tq:st] спрага

consequence ['kOnsIkwens] наслідок, результат

adipose ['xdIpqus] адипозний, жировий

target ['ta:glt] мішень

readily ['redIlI] легко, без напруги

sheep [SI:p] вівця

Langerhans islet ['la:Ngqha:ns 'aIlIt] панкреатичний острівець, острівець Лангерганса

confusion [kqn'fjuZ(q)n] розгубленість, порушення орієнтації

Ex. 1. Familiarize yourself with the following material:
Prefixes and term-elements:
post- (after, behind)
postaxial *заосьовий*
pre- (before, in front of)
prerenal *передниркoвий, пренальний*

Ex. 2. Read and translate the following words:
A. Postnatal; postoperative; postpone; post-graduate.
B. Preclinical; premedical; precancerous; premolar; preexisting; preposition; preceding; prescribe.

GRAMMAR:

Ex. 3. Familiarize yourself with the data of the following table:

OBJECTIVE INFINITIVE CONSTRUCTION

NOUN or (Common Case)	**PRONOUN (Objective Case)**	**INFINITIVE**	
Doctor(s)	me *(мут: я)*	Indefinite (Active)	**V** (to write)

Student(s)	him *(тут: он)* her *(тут: она)* it *(тут: он, она, оно)* us *(тут: мы)* you *(тут: ты, вы)* them *(тут: они)*	Indefinite (Passive)	**to be + V_3** (to be written)
		Continuous (Active)	**to be + V_{ing}** (to be writing)
		Perfect (Active)	**to have + V_3** (to have written)
		Perfect (Passive)	**to have + been + V_3** **(**to have been written)

На українську мову об'єктний інфінітивний комплекс перекладається здебільшого підрядним додатковим реченням. Перша частина комплексу відповідає підмету підрядного речення, а друга частина – присудку.
Об'єктний інфінітивний комплекс вживається після певних груп дієслів:

1. Що виражають бажання, намір, почуття: to want – хотіти; to wish – бажати; to desire – бажати; should/would like – хотів/ла би; to hate – ненавидіти; to intend – мати намір та ін.	He wanted **us to go** to the clinic. Він хотів, щоб ми пійшли до кліники.
2. Що виражають думку (погляд), припущення, сподівання: to expect – сподіватися; to think – думати; to believe – вважати; to suppose – припускати; to consider – вважати; to find – знаходити; to know – знати та ін.	We think **her to have worked** at this hospital. Ми думаємо, що вона працювала в цій лікарні. She considers **him to be** the best surgeon. Вона вважає його кращим хірургом.
3. Що виражають наказ, прохання, дозвіл, пораду, примус: to ask – просити; to order – наказувати; to allow – дозволяти; to request – просити; to permit – дозволяти; to advice – радити, рекомендувати; to recommend – рекомендувати; to cause – примушувати; to force – примушувати; to make – примушувати; to let – дозволяти. (Після дієслів to make і to let інфінітив вживається без частки to).	The teacher allowed **us to use** dictionaries. Вчитель дозволив нам користуватися словниками. The doctor made **the patient lie** down. Лікар примусив хворого лягти.
4. Що виражають сприймання за допомогою органів чуттів: (після цих дієслів інфінітив вживається без частки to)**:** to see – бачити; to hear – чути; to feel – відчувати; to watch – спостерігати; to observe – спостерігати; to notice – відзначати.	I felt the **pain become** less. Я відчула, що біль зменшився. I heard **her call** my name. Я почув, що вона покликала мене.

Ex. 4. Read and translate the following sentences:
1. I want my sister to follow a bed regimen. 2. The nurse saw the surgeon enter the operating room. 3. The patient felt the pain decrease. 4. The students watched the doctor examine the patient. 5. The professor expects (розраховувати) the assistant to finish his scientific work ahead of time. 6. We know him to be skilled surgeon. 7. I want you to rewrite the case history. 8. The doctor

recommended the room of the patient to be aired every two hours. 9. The nurse heard the patient talk at night. 10. Physicians consider the diabetes mellitus to occur mainly as a result of inadequate secretion of insulin.

READING AND DEVELOPING SPEAKING SKILLS

Ex. 5. Read VOCABULARY and memorize the following words.

Ex. 6. Compose 2-3 sentences using the words of VOCABULARY.

Ex. 7. Insert the missing letters:
Adip_se; juven_le; respo_d; diabet_s mellitus; pan_reatic; d_minish; ta_get tissue.

Ex. 8. Translate the following words and word-combinations into Ukrainian:
Langerhans islet; heredity; respond; occur; confusion; adipose; insulin-dependent diabetes; extract; thirst; diminish; readily; consequence.

Ex. 9. Read the following words and word-combinations:

Diabetes mellitus; inadequate; glucose [ˈgluːkqus]; pancreatic islets; juvenile; viral; intestine; synthesize; secrete; source; neuron [ˈnjuqrOn]; convulsion; injection; currently; associate; fatigue [fəˈtlːg]; since [slns].

Ex. 10. Read the following text:

DIABETES MELLITUS

Scientists consider the diabetes mellitus to occur as a result of inadequate secretion of insulin or the inability of tissues to respond to insulin. Thus, when body's cells are unable to use the glucose in the bloodstream because of a lack of insulin activity, diabetes mellitus occurs. Insulin hyposecretion is usually caused by degeneration of the beta cells in the pancreatic islets. There are two types of diabetes mellitus: insulin-dependent diabetes mellitus (IDDM) and non-insulin-dependent diabetes mellitus (NIDDM). Insulin-dependent diabetes mellitus is also known as type I, juvenile or juvenile-onset diabetes. Terms used for NIDDM include adult-onset, stable, and type II diabetes. Juvenile-onset diabetes usually develops in young people. It is caused by diminished insulin secretion. It is not clear if heredity plays a major role in its onset, but viral infection of the pancreatic islets may be involved. NIDDM develops in older people and often does not result from a lack of insulin but from the inability of the tissues to respond insulin.

The symptoms associated with diabetes mellitus are increased thirst, increased urination, fatigue, nausea, vomiting, skin infections, and bladder infections. These symptoms are the consequence of the abnormal metabolism of nutrients, which is caused by diminished insulin secretion or a decreased number of insulin receptors. In patients with diabetes mellitus nutrients are absorbed from the intestine after a meal, but without insulin skeletal muscle, adipose tissue, the liver and other target tissues do not readily take glucose into their cells. Consequently, blood level of glucose increases dramatically.

Diabetes mellitus often is treated by administration of insulin by injection. Insulin is extracted from sheep or pork pancreatic tissue. Genetic engineering currently is used to synthesize human insulin. In some cases diabetes mellitus can be treated by administering drugs that stimulate beta cells to secrete more insulin. This treatment is effective only if an adequate number of functional beta cells is present in the islets of Langerhans.

Too much insulin or too little food intake after an injection of insulin by a diabetic patient causes insulin shock. The high level of insulin causes target tissues to take up glucose at a very high rate. As a result, blood glucose levels rapidly fall to a low level. Since the nervous system depends on glucose as its major source of energy, neurons malfunction because of a lack of metabolic energy. As the blood glucose level decreases, the concentration of fatty acids increases in the blood,

resulting in a decrease in the blood pH, which also causes nerve cells to malfunction. The result is a series of nervous system malfunctions that include disorientation, confusion, and convulsions.

Ex. 11. Translate the following words and word-combinations into English:
Діабет дорослих; ювенільний діабет; цукровий діабет; інсулін(о)залежний діабет; зменшуватися, знижуватися; адипозний, жировий; спадковість; виникати; реагувати; панкреатичний острівець, острівець Лангерганса; спричинятися чимось; слабкість, тканина.

Ex. 12. Translate the text "Diabetes Mellitus" into Ukrainian:

Ex. 13. Insert the missing words:
1. Diabetes mellitus occurs as a result of inadequate secretion of _. 2. There are two types of diabetes mellitus: insulin-dependent diabetes mellitus and _ diabetes mellitus. 3. Insulin-dependent _ is also known as type I; and non-insulin-dependent diabetes mellitus is known as type II. 4. Viral infection and _ play definite role in diabetes onset. 5. The symptoms of diabetes mellitus are increased _, increased urination, weight loss, fatigue, nausea, vomiting, skin infections, and bladder infections. 6. Diabetes mellitus often is _ by administration of insulin by injection.

Ex. 14. Answer the following questions:
1. What are the causes of diabetes mellitus? 2. What types of diabetes mellitus do you know? 3. What are the symptoms of diabetes mellitus? 4. How is diabetes mellitus treated?

Ex. 15. Insert the prepositions:

1. Most persons _ NIDDM are overweight or obese [qu'bl:s]. 2. Excess weight worsens the state _ the diabetes, and weight reduction has a favorable effect. 3. In some cases, insulin injections will be required to keep blood glucose concentrations _ satisfactory limits. 4. Medicines taken _ mouth, called oral hypoglycemic agents, often are helpful in NIDDM. 5. A weight-loss program often decreases the need _ insulin or an oral hypoglycemic medication. 6. Diabetes mellitus often is treated _ administration of insulin by injection. 7. Insulin is a drug used _ IDDM. 8. Many people _ IDDM can undertake a regimen called intensive insulin therapy. 9. People _ diabetes must carefully regulate their consumption of carbohydrates, fats, and proteins.

Ex. 16. Write out key words of the text "Diabetes Mellitus".

Ex. 17. Compose detailed plan of the text "Diabetes Mellitus".

Ex. 18. Speak on the diabetes mellitus. The following expressions may be helpful:
Diabetes mellitus is … .
Its causes are … .
There are some types of dibetes mellitus. They are .. .
The the signs and symptoms of diabetes mellitus are the following … .
Diabetes mellitus is treated by … .

Ex. 19. Make up a dialogue on the diabetes mellitus.

Ex. 20. Pronounce and memorize the words to the theme studied:

Needle голка; **plunger** ['plʌnGq] поршень; **rubber stopper** гумова пробка; **upright** ['ʌpraIt] *mym:* вертикально, прямовисно; **tip** тонкий кінець, кінчик; **syringe** ['sIrInG] шприц; **adjust** [q'GʌSt] регулювати, вивіряти; **swab** тампон; **utensil** [ju'tensl] приладдя; **pinch** стискувати, затискати; **rub** терти.

Ex. 21. Read the following text and give a summary of it:

INSULIN INJECTION

All insulin is administered by injection. When taken orally, the digestive system destroys hormone before the body can put it to use. It is important that this simple procedure be conducted properly:

1. Remove the protective covering from the needle.
2. Hold the bottle of insulin upright in one hand, and push the needle through the rubber stopper. Push the plunger down to empty the air from it.
3. Turn over the bottle and syringe together. Check that tip of the needle is covered by the solution, then slowly pull the plunger back, drawing in slightly more than your prescribed dose.
4. To remove any air bubbles, tap the syringe until the bubbles rise to the needle end, and then push the plunger until they return to the bottle. Adjust the solution in the syringe to your exact dose, and remove the needle from the bottle.
5. Using an alcohol swab or a cotton ball soaked with alcohol or soap and water; clean the area of the injection.
6. Hold the syringe as you would a writing utensil. With your other hand, pinch a 1- to 2-inch fold of skin.
7. Quickly insert the needle into the fold of the skin.
8. Release the pinched skin and inject the insulin by gently pushing the plunger all the way down at a steady, moderate rate.
9. After injecting the insulin, cover the area of the injection with an alcohol swab or a cotton ball dampened with alcohol. Apply pressure to the area for a few seconds, but do not rub it because rubbing could cause the insulin to be absorbed into the bloodstream too quickly.

Ex. 22. Find unknown words from the following text and memorize their meanings:

MEDICATION

Medications to treat diabetes include insulin and glucose-lowering pills called oral hypoglycemic drugs.

Persons with type I diabetes cannot make their own insulin, so daily insulin injections are needed. Insulin does not come in pill form. Injections that are generally needed one to four times per day. Some people use an insulin pump, which is worn at all times and delivers a steady flow of insulin throughout the day. Other people may use a new type of inhaled insulin. Insulin preparations differ in how quickly they start to work and how long they remain active. Sometimes different types of insulin are mixed together in a single injection. The types of insulin to use, the doses needed, and the number of daily injections are chosen by a health care professional trained to provide diabetes care.

People who need insulin are taught to give themselves injections by their health care providers or diabetes educators.

Unlike type I diabetes, type II diabetes may respond to treatment with exercise, diet, and medicines taken by mouth. There are several types of medicines used to lower blood glucose in type II diabetes. Most persons with type II diabetes will need more than one medication for good blood sugar control within 3 years of starting their first medication. Different groups of medications may be combined or used with insulin.

Some people with type II diabetes find they no longer need medication if they lose weight and increase activity, because when their ideal weight is reached, their own insulin and a careful diet can control their blood glucose levels.

Regular exercise is especially important for people with diabetes. It helps with blood sugar control, weight loss, and high blood pressure. People with diabetes who exercise are less likely to experience a heart attack or stroke than diabetics who do not exercise regularly. You should be evaluated by your physician before starting an exercise program.

Ex. 23. Say to what conclusion you have come after having read the text "Medication".

OVERVIEW

Diabetes mellitus occurs as a result of inadequate secretion of insulin. There are two types of diabetes mellitus: insulin-dependent diabetes mellitus and non-insulin-dependent diabetes mellitus. Insulin-dependent diabetes mellitus is also known as type I; and non-insulin-dependent diabetes mellitus is known as type II. Viral infection and heredity play definite role in diabetes onset. The symptoms of diabetes mellitus are increased thirst, increased urination, weight loss, fatigue, nausea, vomiting, skin infections, and bladder infections. Diabetes mellitus often is treated by administration of insulin by injection. In some cases diabetes mellitus can be treated by administering drugs that stimulate beta cells to secrete more insulin.

LESSON 48
REVISION

I. Read and translate one of the following texts:

Text A

THYROID DISEASES

The diagnosis of a thyroid abnormality in function or a thyroid mass is made by taking a medical history and a physical examination. Specifically, your doctor will examine your neck and ask you to lift up your chin to make your thyroid gland more prominent. You may be asked to swallow during the examination, which helps to feel the thyroid and any mass in it. Other tests your doctor may order include: an ultrasound examination of your neck and thyroid; blood tests of thyroid function; a radioactive thyroid scan; a fine needle aspiration biopsy; and a chest X-ray.

Abnormalities of thyroid function (hyper or hypothyroidism) are usually treated medically. If there is insufficient production of thyroid hormone, this may be given in a form of a thyroid hormone pill taken daily. Hyperthyroidism is treated mostly by medical means, but occasionally it may require the surgical removal of the thyroid gland.

If there is a lump of the thyroid or a diffused enlargement (goiter), your doctor will propose a treatment plan based on the examination and your test results. Most thyroid "lumps" are benign. Often they may be treated with thyroid hormone, and this is called "suppression" therapy. The object of this treatment is to attempt shrinkage of the mass over time, usually three-six months. If the lump continues to grow during treatment when you are taking the medication, most doctors will recommend removal of the affected lump.

If the fine needle aspiration is reported as suspicious for or suggestive of cancer, then thyroid surgery is required.

Text B

ALLERGY

Allergies are the result of a response by the body's immune system to agents it perceives as possibly dangerous. Allergy-producing substances are called “allergens”. Allergens may be present in certain medications, in parts of plants, in house dust, in animal dander, in molds, in fungi, in foods, and in insect venom. To understand the language of allergy it is important to remember that allergens are substances that are foreign to the body and can cause an allergic reaction in certain people.

When an allergen comes in contact with the body, it causes the immune system to develop an allergic reaction in persons who are allergic to it. When you inappropriately react to allergens that are normally harmless to other people, you are having an allergic reaction and can be referred to as allergic or atopic.

The word allergy is derived from the Greek words “allos”, meaning different or changed and “ergos”, meaning work or action. Austrian pediatrician Clemens Pirquet (1874-1929) first used the term allergy in 1905 to describe the adverse reactions of children who were given repeated shots of horse serum to fight infection. The following year, the term allergy was proposed to explain this unexpected “changed reactivity”.

The aim of the immune system is to mobilize its forces at the site of invasion and destroy the enemy. One of the ways it does this is to create protective proteins called antibodies. These

antibodies, or immunoglobulins (IgG, IgM, IgA, IgD), help to destroy a foreign particle by attaching to its surface, thereby making it easier for other immune cells to destroy it. The allergic person however, develops a specific type of antibody called immunoglobulin E, or IgE, in response to certain normally harmless foreign substances. To summarize, immunoglobulins are a group of protein molecules that act as antibodies. There are 5 different types: IgA, IgM, IgG, IgD, and IgE. IgE is the allergy antibody.

Most people are susceptible to skin allergies or reactions at some time during their lives. The most common such sensitivity is to plants such as poison ivy or poison oak. In susceptible individuals, contact with one of these plants produces an itchy, blistering rash. Another type of allergy causes swelling of tissues beneath the skin or in the throat for no apparent reason. All of these discomforts are caused by histamines and other chemicals released into the skin or under the lining of the throat or bronchial passages as a result of allergic response. The common skin allergies are dermatitis, hives, and angioedema.

Allergies of the respiratory tract often produce symptoms that are similar to those of a cold: headache, stuffy or runny nose, cough, and sneezes. All respiratory allergies represent responses of the immune system to airborne allergens. The most common respiratory allergies are hay fever, allergies to mold, dander and dust, and asthma.

Allergies to foods, drugs, and insect stings may be the result of antibody responses to allergens that have come into contact with the internal systems of the body. The symptoms may range from a simple rash to a systemic reaction involving the gastrointestinal tract and the respiratory and cardiovascular systems.

Text C

TUBERCULOSIS

Tuberculosis, often called TB, is a chronic bacterial infection. It can develop after a person inhales droplets sprayed into the air (as from a cough or sneeze) by someone infected with *Mycobacterium tuberculosis*. Good ventilation and exposure to sunlight decrease the risk of exposure.

If a person is exposed to the TB bacterium, the organism may gain entry to the lungs. If a person is infected, usually no symptoms (cough that produces discolored or bloody sputum, pain with breathing or coughing, and pain in the spine or large joints, fatigue, and night sweats) are apparent initially, although there may be a mild cough and slight fever. Sometimes tuberculosis develops within weeks after the initial exposure. More often, the TB organism may lie dormant for many years before the disease becomes apparent. The disease may be reactivated under conditions in which the immune system is weakened, including old age, malnutrition, alcoholism, immunosuppressive therapy, or certain illnesses such as AIDS or malignancies of the lymph or blood system.

The spread of disease generally is limited by lymph nodes. The TB organism can spread through the lymph nodes and blood to almost any organ in the body. The areas affected include the lining of the lungs, the bones of the spine or large joints, and kidneys.

The preliminary diagnosis of TB is based on review of the chest X-ray. Usually within 2 to 3 months after the initial infection, a spot may be noticeable on an X-ray of the chest. This spot persists indefinitely and usually is no cause for concern. The tuberculin skin test converts from negative to positive at this time.

In addition to the chest X-ray, the physician may obtain a sample of material from the sputum for staining and examination under the microscope.

In the past, sanitariums often were used for persons who had active TB. In recent years, modern drugs are used for treatment of this disease. The drug regimens often include combined use of isoniazid and rifampin, although other combinations also can be used.

II. Speak on the following topics:

1. Respiratory System
2. Immune System.

3. AIDS.
4. Endocrine System.
5. Diabetes Mellitus.

UNIT 4
LESSON 49
NERVOUS SYSTEM

VOCABULARY

neuron ['njuqrqn] нейрон

branching ['brQnClN] розгалуження, гілкування

axon ['xksOn] аксон, провідна частина нервової клітини, відросток нервової клітини

dendrite ['dendralt] дендрит, відросток нервової клітини, що розгалуджується

synapse ['salnxps] синапс

spinal cord ['spalnql 'kO:d] спинний мозок

meninges (sing. meninx) [ml'nlnGl:z] мозкові оболонки

dura mater ['djuqrq 'meltq] тверда мозкова оболонка

arachnoid [q'rxknOld] павутинна оболонка (мозку)

pia mater ['palq 'meltq] м'яка мозкова оболонка

innermost ['lnqmqust] той, що знаходиться глибоко усередині; внутрішній

relay [rl'lel] передавати

afferent ['xfqrqnt] аферентний

efferent ['efqrqnt] еферентний, відцентровий

forth ['fO:T] вперед, далі

distribution ["dlstrl'bjuS(q)n] розподіл

brainstem (brain stem) ['brelnstem] стовбур головного мозку

hypothalamus ["halpo'Txlqmqs] гіпоталамус

blood supply ['blAd sq'plal] кровопостачання

critical ['krltlk(q)l] важливий, суттєвий, необхідний

signal [slgnl] сигнал

output ['autput] об'єм

consume [kqn'sju:m] вживати, поглинати, споживати

action potential ['xkS(q)n pqu'tenS(q)l] потенціал дії

viscera ['vlsqrq] внутрішні органи

WORD-BUILDING
COMPOUND WORDS

Ex. 1. Familiarize yourself with the following material:
head *голова* + ache *біль* = headache *головний біль*

Ex. 2. Read and translate the following words:
Textbook; homework; stomachache; toothache; gallbladder; cheeckbone; eyebrow.

GRAMMAR:
VERBAL NOUN
V + -ing

Ex. 3. Read and translate the following sentences paying attention to the verbal nouns:
1. **The reading** of this article is necessary. 2. **The using** of this method has been known for over 152 years. 3. What are **the readings** of this device? 4. **The bleeding** was severe. 5. **The remodeling** is responsible for the formation of new osteons in compact bone. 6. The prominent **openings** into the skull are orbits and the nasal cavity.

READING AND DEVELOPING SPEAKING SKILLS

Ex. 4. Read VOCABULARY and memorize new words.

Ex. 5. Compose 2-3- sentences using the words of VOCABULARY.

Ex. 6. Insert the missing letters and translate the following words and word-combinations:
S_napse; effer_nt; menin_es; h_pothalamus; den_rite; vis_era; sp_nal cord; brain_tem; dura m_ter; a_on; arac_noid; ne_ron.

Ex. 7. Read the following words and word-combinations:

Neuron; branching fiber; chemical; peripheral; spinal cord; vertebrae; meninges; liquid; numerous; sources; primarily; potential; muscle; blood flow; sweating.

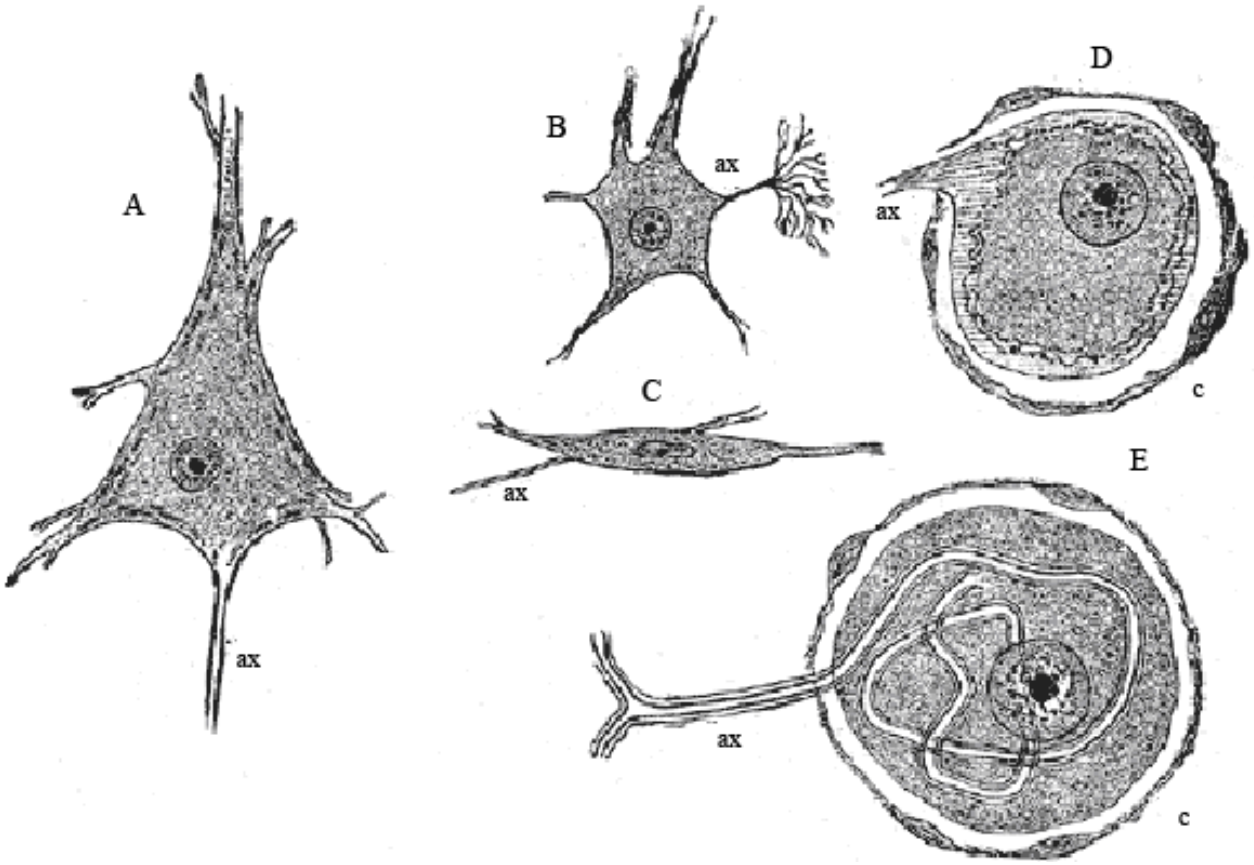
Ex. 8. Read the following text:

NERVOUS SYSTEM

The nervous system is the human's information center and control system. The basic unit in the system is the nerve cell, called neuron. A neuron consists of a cell body, one major branching fiber (axon), and numerous smaller branching fibers (dendrites). Each neuron is connected to other neurons by synapses on the axons and dendrites. A neuron receives chemical signals from other neurons through the synapses. All of these incoming signals are combined as an electrical signal within the neuron, and it may or may not send an outgoing chemical signal down its axon to another set of synapses. The nervous system can be divided into central nervous system (CNS) and peripheral nervous system (PNS).

The CNS processes information, initiates responses, and integrates mental processes. The central nervous system consists of the brain and the spinal cord. The brain is protected by the skull, and the spinal cord is protected by the vertebrae. Three connective tissue layers (the meninges) surround and protect the brain and spinal cord. They are dura mater (outermost), arachnoid (middle), and pia mater (innermost). In addition, a liquid called cerebrospinal fluid, between the arachnoid and pia mater, protects the brain and spinal cord from injury.

The peripheral nervous system (PNS) consists of cranial part, consisting of 12 pairs of nerves, and spinal part, consisting of 31 pairs of nerves. The PNS collects information from numerous sources both inside and on the surface of the individual and relays it by way of afferent fibers to the central nervous system. Efferent fibers in the PNS relay information from the CNS to various parts of the body, primarily to muscles and glands. Peripheral nerves run from the spinal cord to all parts of the body. The parts of this system are named for the four spinal regions from which they branch: neck (cervical), chest (thoracic), lower back (lumbar), and pelvis (sacral). The spinal cord acts as a central communication network to transmit signals back and forth between the brain and peripheral nervous system. Two subdivisions comprise the PNS: the afferent, or sensory, division and the efferent, or motor, division. Afferent neurons carry action potentials from the periphery to the CNS, and efferent neurons carry action potentials from the CNS to the periphery. The efferent neurons belong to either the somatomotor (somatic) nervous system, which supplies skeletal muscles, or to the autonomic nervous system (ANS), which supplies smooth muscles, cardiac muscle, and glands. The ANS regulates the activities of viscera such as the heart, blood vessels, digestive organs and reproductive organs. This system controls distribution of blood flow, regulation of blood pressure, heartbeat, sweating, and body temperature.



Various forms of nerve cells.
A. Pyramidal cell. B. Small multipolar cell, in which the axon quickly divides into numerous branches. C. Small fusiform cell. D and E. Ganglion cells (E shows T-shaped division of axon). ax. Axon. c. Capsule.

Ex. 9. Translate the following words and word-combinations into English:
Дендрит; стовбур головного мозку; аксон; включати; синапс; поглинати; аферентний; внутрішні органи; мозкова оболонка; спинний мозок; павутинна оболонка (мозку); м'яка мозкова оболонка; тверда мозкова оболонка.

Ex. 10. Translate the text "Nervous System" into Ukrainian.

Ex. 11. Answer the following questions:
1. What is the nervous system of the human? 2. What is the major unit of this system? 3. What does a neuron consist of? 4. How is neuron connected to other neurons? 5. What is the function of a neuron? 6. What parts is the nervous system divided into? 7. What does the CNS consist of? 8. Where are the brain and spinal cord located? 9. What meninges do you know? 10. What is cerebrospinal fluid? 11. What parts is the PNS composed of? 12. What neurons does the PNS consist of? 13. What is the function of PNS? 14. What is the function of the spinal cord? 15. What is the major function of the ANS?

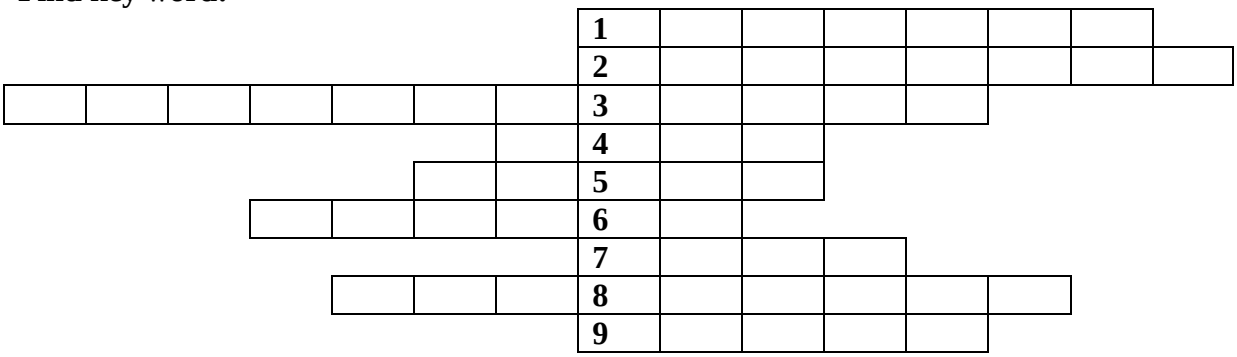
Ex. 12. Insert the missing words:
1. The nervous system is the information center and _ system. 2. The basic _ is the neuron. 3. A neuron _ a cell body, axon, and dendrites. 4. A neuron _ chemical signals from other neurons through the _. 5. Neuron sends an outgoing _ signal to another synapses. 6. The nervous system is divided into _ nervous system and _ nervous system. 7. The central nervous system consists of the brain and the _ . 8. The meninges surround and _ the brain and spinal cord. 9. They are dura mater, _ , and pia mater. 10. The peripheral nervous system _ cranial part and spinal part. 11. It is composed of afferent and _ neurons. 12. The peripheral nervous system collects information from

numerous sources and _ it to the central nervous system. 13. The autonomic nervous system _ smooth muscle, cardiac muscle, and glands. 14. It regulates the _ of the heart, blood vessels, digestive organs and reproductive organs. 15. The somatic nervous system transmits action potentials from _ to skeletal muscles.

Ex. 13. Try to organize the information of the text in table:

Parts of the nervous system	**Structure**	**Function**
CNS		
PNS		

Ex. 14. Crossword.
Find key word:



1. Functional membrane-to-membrane contact of a nerve cell with another nerve cell, muscle cell, gland cell, or sensory receptor; functions in the transmission of action potentials from cell to another. 2. Portion of the brain derived from the telencephalon: the cerebral hemispheres, including cerebral cortex, cerebral medulla, and basal ganglia. 3. Important autonomic and neuroendocrine control center beneath the thalamus. 4. Basic living subunit of humans, plants, and animals. 5. Bundle of nerve fibers and accompanying connective tissue located outside of the central nervous system. 6. Morphological and functional unit of the nervous system, consisting of the nerve cell body, the dentrites, and the axon. 7. Neuron cell body or the enlarged portion of the neuron containing the nucleus and other organelles. 8. Portion of the brain consisting of the midbrain, pons, and medulla oblongata. 9. Perspiration; secretions produced by the sweat glands of the skin.

Ex. 15. Insert the prepositions (to; at; by; for; of; from, about**):**
1. Connections between autonomic and other brain functions occur _ the brainstem and hypothalamus. 2. The arterial blood supply, carrying oxygen and nutrients, is critical _ the functioning of the brain. 3. Despite its small size and weight, the brain uses 20 percent of the heart's output of blood and 20 percent of the oxygen consumed _ the body at rest. 4. The major function of nervous system is to collect information _ the external conditions in relation to the body's external state, and to analyze this information. 5. The peripheral nervous system is responsible _ the body functions, which are not under conscious control like the heartbeat or the digestive system. 6. The nervous system uses electrical impulses, which travel along the length _ the cells. 7. The cell processes information _ the sensory nerves and initiates an action within milliseconds.

Ex. 16. Write out key words of the text “Nervous System”.

Ex. 17. Make up a plan of the text “Nervous System”.

Ex. 18. Speak on the structure and functions of nervous system.

Ex. 19. Compose the dialogue on nervous system.

Ex. 20. Find in the dictionary unknown medical terms from the text "Spinal Cord" and memorize them.

Ex. 21. Read the following text and retell it:

SPINAL CORD

The spinal cord is extremely important to the overall function of the nervous system. It is the communication link between the brain and the peripheral nervous system inferior to the head, integrating incoming information and producing responses through reflex mechanisms.

The spinal cord extends from the foramen magnum to the level of the second lumbar vertebra. It is shorter than the vertebral column because it does not grow as rapidly as the vertebral column during embryonic development. It is composed of cervical, thoracic, lumbar, and sacral segments, which are named according to the area of the vertebral column from which their nerves enter and exit. Because the spinal cord is shorter than the vertebral column, the nerves do not always exit the vertebral column at the same level that they exit the spinal cord. Thirty-one pairs of the spinal nerves exit the spinal cord and pass out of the vertebral column through the intervertebral foramina.

The spinal cord is not uniform in diameter throughout its length. There is a general decrease in diameter superiorly to inferiorly, and there are two enlargements where nerves supplying the limbs enter and leave the cord. The cervical enlargement in the inferior cervical region corresponds to the location at which nerves that supply the upper limbs enter or exit the cord, and the lumbosacral enlargement in the inferior thoracic and superior lumbar regions is the site at which the nerves that supply the lower limbs enter or exit.

Immediately inferior to the lumbar enlargement the spinal cord tapers to form a cone-like region called the conus medullaris. Its tip is at the level of the second lumbar vertebra and is the inferior end of the spinal cord. A connective tissue filament, the filum terminale, extends inferiorly from the apex of the conus medullaris to the coccyx and functions to anchor the cord to the coccyx. The nerves supplying the legs and other inferior structures of the body (L2 to S5) exit the lumbar enlargement and conus medullaris, course inferiorly through the vertebral canal, and exit through the intervertebral foramina from L2 to S5. The conus medullaris and the numerous nerves extending inferiorly from it resemble a horse's tail and are therefore called the cauda equina.

NOTE:

S – sacral L – lumbar

OVERVIEW

The nervous system is the information center and control system. The basic unit is the neuron. A neuron consists of a cell body, axon, and dendrites. A neuron receives chemical signals from other neurons through the synapses. All signals are combined as an electrical signal within the neuron. It sends an outgoing chemical signal to another synapses. The nervous system is divided into central nervous system and peripheral nervous system. The central nervous system consists of the brain and the spinal cord. The meninges surround and protect the brain and spinal cord. They are dura mater, arachnoid, and pia mater. CNS processes information and integrates mental processes. The peripheral nervous system is divided into two parts: a cranial part and spinal part. PNS is composed of afferent and efferent neurons. The peripheral nervous system collects information from numerous sources and relays it to the central nervous system.

LESSON 50

BRAIN

VOCABULARY

brain [*breIn*] головний мозок

vault [*vO:lt*] склепіння

cerebrum [*'serlbrqm*] великий мозок

midbrain [*'mIdbreIn*] середній мозок

pons [*pOnz*] міст

medulla oblongata [*me'dAlq "OblON'geItq*] довгастий мозок

thalamus [*'Txlqmqs*] таламус

affect [*q'fekt*] впливати

add up [*'xd 'Ap*] відповідати

convey [*kqn'veI*] передавати

hemisphere [*'hemIsflq*] півкуля

conscious [*'kOnSqs*] свідомий

cerebellum [ˌserl'belqm] мозочок

bit [blt] шматочок; частина, невелика кількість

linking ['lINkIN] зв'язок

core [kO:] серцевина; ядро

atop [q'tOp] поверх; над

cerebral cortex ['kO:teks] кора головного мозку

WORD-BUILDING

Ex. 1. Read and translate the following words and word-combinations:

Ache; acute ache; bad ache; bone ache ; dull ache; face-ache; persistent ache; toothache; acheless; aching;

Act; action; emergency action; reflex action; activate; activation; active; radioactive implant; activity; hyperactivity; inactivate; inactivation;

Adhere; adherence; adherent; adhesion; primary adhesion; adhesive; biological adhesive; adhesiveness.

GRAMMAR:

Ex. 2. Familiarize yourself with the data of the following table:

SEQUENCE OF TENSES

	he **examined** patients in the morning. (Past Simple) оглядає пацієнтів вранці.
He **said** (Past Simple) Він сказав, що	he **had examined** patients. (Past Perfect) оглянув пацієнтів.
	he **would examine** patients. (Future-in-the-Past) огляне пацієнтів.

Ex. 3. Read and translate the following sentences:

1. We learned the brain was the part of the central nervous system. 2. She knew the surgeon had performed on the operation a day before. 3. They said the flow of stimuli came into the brain from the eyes, ears, and other sense organs. 4. The scientists determined the hypothalamus controlled blood pressure. 5. It was estimated the patient would restored his health by the end of June.

Ex. 4. Translate the following sentences into English:

1. Лікар виявив, що у хворого високий кров'яний тиск. 2. Професор сказав, що кровоносні судини поділяються на артерії, вени і капіляри. 3. Лектор сказав, що м'язові волокна з'єднуються за допомогою сполучної тканини. 4. Ми дізналися, що мозок складається з 100 мільярдів нейронів.

READING AND DEVELOPING SPEAKING SKILLS

Ex. 5. Read VOCABULARY and memorize the following words.

Ex. 6. Compose 2-3- sentences using the words of VOCABULARY.

Ex. 7. Insert the missing letters:

Mi_brain; med_lla oblongata; co_tex; brain ste_; cereb_um; hemis_here; co_e; t_alamus; p_ns; cerebell_m.

Ex. 8. Translate the following words into Ukrainian:

Affect; hemisphere; vault; cortex; cerebrum; relay; linking; pons; convey; cerebellum; bit; midbrain; core.

Ex. 9. Read the following words and word-combinations:
Region; hypothalamus; medulla oblongata; analyze; function; signal; vital; breathing; tongue; mass; divide; conscious; hemisphere; beneath; area.

Ex. 10. Read the following text:

BRAIN

The brain is the part of the CNS located within the cranial vault. The major regions of the adult brain are the cerebrum, the thalamus and hypothalamus, midbrain, pons, medulla oblongata, and cerebellum. The brain works to analyze bits of information before transmitting these messages throughout the body. These messages affect functions such as coordination, learning, memory, emotion, and thought.

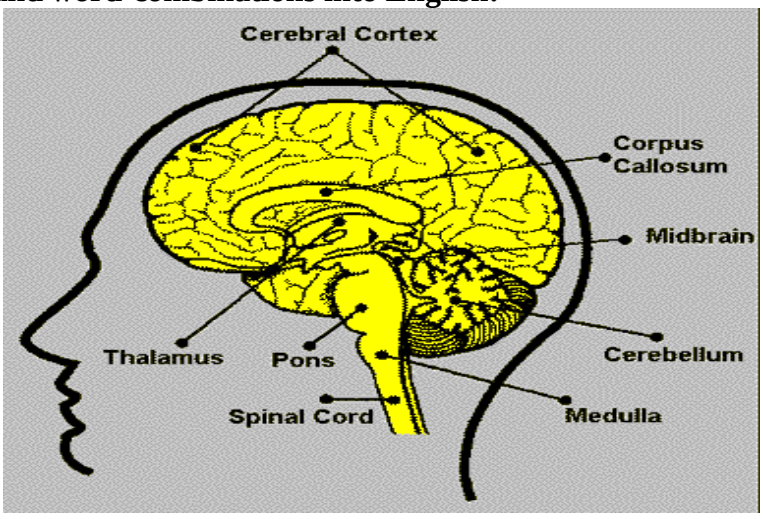
The scientists determined the brain was composed of approximately 100 billion neurons, their connections, and supporting cells, which add up to approximately 3 pounds of tissue. This dense network of interconnected neurons is organized to convey all the control signals necessary for individual activities.

The brain is connected to the spinal cord by the brain stem, which is composed of the medulla, the pons, and midbrain. The brain stem controls many of the vital functions, such as breathing and circulation of blood. Cranial nerves exit from the brain stem to control muscles of the face, eyes, tongue, ears, and throat. They also convey sensations from these parts back to the brain.

The cerebrum consists of thick masses of nerve tissue. It is divided into two sides (cerebral hemispheres). Conscious functions such as speech, memory, and vision are controlled in the cerebral hemispheres. Specific areas within these hemispheres are responsible for certain functions, such as speech and the control of muscles in particular parts of the body. In general, control of the muscles of the right side of the body is in the left hemisphere of the brain, and muscles of the left side of the body are controlled by the right hemisphere of the brain. The linking of higher brain functions with cerebral areas is a very active field of research.

The other major portion of the brain, the cerebellum, is located beneath the cerebral hemispheres. It helps control the coordination. At the core of the brain, atop the brain stem, there are other key areas, including thalamus and hypothalamus. The hypothalamus is an endocrine regulatory center that affects sleep and appetite. The thalamus is a collection of nerve cells whose function is the transmission of many of the sensations. In addition, the centers under the cortex play critical roles in relaying messages between different areas of the brain.

Ex. 11. Translate the following words and word-combinations into English:
Півкуля; ядро; відповідати; середній мозок; кора головного мозку; довгастий мозок; свідомий; зв'язок; поверх, над; передавати, транслювати; склепіння черепа; міст; невелика кількість; мозочок; впливати; головний мозок; центральна нервова система; головні ділянки; набір нервових клітин; передача відчуттів; дослідження; нервова тканина; м’яз; тканина; аналізувати; .



Brain

Ex. 12. Translate the text “Brain” into Ukrainian.

Ex. 13. Insert the missing words:

1. The _ is the part of the CNS located within the cranial vault. 2. The major regions of the brain are the cerebrum, the thalamus and hypothalamus, _, pons, medulla oblongata, and cerebellum. 3. The brain is responsible for control of coordination, learning, memory, _, and thought. 4. The brain is composed of approximately 100 billion _. 5. The brain is connected to the spinal cord by the brain _. 6. Brain stem is composed of the _, the pons, and midbrain. 7. The brain _ controls breathing and circulation of blood. 8. Cranial nerves exit from the brain stem to _muscles of the face, eyes, tongue, ears, and throat.

Ex. 14. Answer the following questions:

1. Where is the brain located? 2. What regions of the brain do you know? 3. What is the function of the brain? 4. What is the brain stem composed of? 5. What parts is the cerebrum divided into? 6. Where is the cerebellum located? 7. Where are thalamus and hypothalamus located?

Ex. 15. Insert the prepositions:

Thalamus and hypothalamus are two important parts _ the brain. Thalamus is a mass of grey matter forming the lateral walls of the diencephalon (the part of the brain between the brainstem and the cerebrum), which is involved _ the transmission of some sensations. It monitors the stimuli we receive _ suppressing some and increasing others. Hypothalamus is the part of the brain that forms the bottom _ the third ventricle and regulates many basic body functions, such as sleep, appetite, temperature, and some emotions.

The received stimuli impulses are recognized, summarized and analyzed _ the central part of the nervous system (brain). Then they sent out _ a form of specific orders _ different parts and organs of the human body. The investigations determined some areas _ the brain, which control vision, hearing, movements, and emotions.

Ex. 16. Match the following words with their definitions:

1. Dura mater.	1. The outer layer over most of the cerebrum, the so-called "grey matter" of the brain.
2. Cerebrum.	2. The upper, main and the largest part of the brain consisting of two equal hemispheres and controlling conscious and voluntary processes.
3. Cerebral cortex.	3. The upper layer, the outmost of the three membranes, which surrounds the brain and spinal cord.
4. Cerebellum.	4. A piece of connecting tissue, the bridge of white matter at the base of the brain, containing neural connections between the cerebrum and cerebellum.
5. Pons.	5. Top of the section of the brain behind and below the cerebrum; it consists of two lateral lobes and a middle lobe and functions as the coordinating center for muscular movements and maintains balance.

Ex. 17. Write out key words of the text "Brain".

Ex. 18. Give a summary of the text "Brain".

Ex. 19. Compose short dialogues using the following model.

MODEL:

Student A: What regions **does** the brain **consist** of?

Student B: The brain **consists** of the cerebrum, the thalamus and hypothalamus, midbrain, pons, medulla oblongata, and cerebellum.

Student A: What **did** I **ask** the student B?

Student C: You **asked** him/her what regions the brain **consisted** of.

Student A: What **did** the student B **answer**?
Student D: He/She **answered** the brain **consisted** of the cerebrum, the thalamus and hypothalamus, midbrain, pons, medulla oblongata, and cerebellum.

- What does the brain stem control?
- What do the cranial nerves convey?

Ex. 20. Read the following abstract and write down all unknown medical terms. Translate them with the aid of dictionary. Tell about the hypothalamic functions:

HYPOTHALAMUS

The hypothalamus is the most inferior portion of the diencephalons and contains several small nuclei and nerve tracts. The hypothalamus is very important in a number of functions, all of which have emotional and mood relationships:

Function	**Description**
Autonomic	Helps control heart rate, urine release from the bladder, movement of food through the digestive tract.
Endocrine	Helps regulate pituitary gland secretions and influences metabolism, ion balance, and sexual development.
Muscle control	Controls muscles involved in swallowing and stimulates shivering in several muscles.
Temperature regulation	Promotes heat loss when the hypothalamic temperature increases by increasing sweat production and promotes heat production when the hypothalamic temperature decreases by promoting shivering.
Regulation of food and water intake	Hunger center promotes eating and satiety center inhibits eating; thirst center promotes water intake.
Emotions	Large range of emotional influences over body functions; directly involved in stress-related and psychosomatic illnesses and with feelings of fear and rage.
Regulation of the sleep-wake cycle	Coordinates responses to the sleep-wake cycle with other areas of the brain.

Ex. 21. Divide the following text into logical parts and entitle them:

HUMAN BRAIN AND ITS FUNCTIONS

Most brains exhibit a substantial distinction between the grey matter and white matter. Grey matter consists primarily of the cell bodies of the neurons, while white matter is comprised mostly of the fibers (axons) which connect neurons. The axons are surrounded by a fatty insulating sheath called myelin, giving the white matter its distinctive color. The outer layer of the brain is gray matter called cerebral cortex. Deep in the brain, compartments of white matter, gray matter and spaces filled with cerebrospinal fluid are found.

The brain innervates the head through cranial nerves, and it communicates with the spinal cord, which innervates the body through spinal nerves. Nervous fibers transmitting signals from the brain are called efferent fibers. The fibers transmitting signals to the brain are called afferent (or sensory) fibers. Nerves can be afferent, efferent or mixed (i.e., containing both types of fibers).

The brain is the site of reason and intelligence, which include such components as cognition, perception, attention, memory and emotion. The brain is also responsible for control of posture and movements. It makes possible cognitive, motor and other forms of learing. The brain can perform a variety of functions automatically, without the need for conscious awareness, such as coordination

of sensory systems, walking, and homeostatic body functions such as heart rate, blood pressure, fluid balance, and body temperature.

Many functions are controlled by coordinated activity of the brain and spinal cord. Moreover, some behaviors such as simple reflexes and basic locomotion, can be executed under spinal cord control alone.

The study of the brain is known as neuroscience, a field of biology aimed at understanding the functions of the brain at every level, from the molecular up to the psychological. There is also a branch of psychology that deals with the anatomy and physiology of the brain, known as biological psychology. This field of study focuses on each individual part of the brain and how it affects behavior.

Ex. 22. Narrate the text "Human Brain and its Functions" and retell it.

Ex. 23. Choose the correct form of each verb:

WHAT IS WONDERFUL ABOUT THE BRAIN?

Inside your head there is a remarkable organ, the brain. You use it to understand and remember things that (1) around you. The brain is soft and spongy. It (2) of billions of tiny parts called cells. Three coats or membranes (3) the brain.

The brain sometimes (4) the busiest communication center in the world. The brain (5) your body functions and keeps all parts of your body working together. Thousands of messages from all parts of the body (6) to and from the brain. Messages (7) to the brain by sensory nerves. Special places, or centers, on the brain receive sensory messages from all parts of the body. When messages (8) by centers, the brain (9) them.

All day long your muscles and your brain (10). By the end of the day they (11). Then your brain and your muscles (12) to relax. Before long, you go to sleep. As you sleep, the big muscles in your body relax.

(1) are happened; are happening.
(2) is made up; made up.
(3) is covered; cover.
(4) is called; calls.
(5) is controlled; controls.
(6) send; are being sent.
(7) are carried; was carried.
(8) are received; will receive.
(9) is interpreted; interprets.
(10) are worked; are working.
(11) have be tired; are tired.
(12) are started; start.

Ex. 24. Translate the following sentences into English:

1. Головний мозок міститься у порожнині черепа. 2. Середня маса головного мозку становить 1100-1800 г. 3. Довгастий мозок і міст є частинами мозкового стовбура. 4. У довгастому мозку біла речовина розташована на поверхні, а в середині міститься сіра речовина. 5. Передня та задня частини мосту утворені сірою і білою речовинами. 6. Довгастий мозок і міст виконують рефлекторну та провідну функції. 7. Мозочок розташований позаду від довгастого мозку та мосту. Він складається із сірої та білої речовини. 8. На поверхні мозочка сіра речовина утворює кору мозочка.

Ex. 25. Speak on the structure and functions of the brain.

OVERVIEW

The brain is that part of the CNS located within the cranial vault. The major regions of the brain are the cerebrum, the thalamus and hypothalamus, midbrain, pons, medulla oblongata, and cerebellum.

The brain is responsible for control of coordination, learning, memory, emotion, and thought. The brain is connected to the spinal cord by the brain stem. Brain stem is composed of the medulla, the pons, and midbrain. The brain stem controls breathing and circulation of blood. Cranial nerves exit from the brain stem to control muscles of the face, eyes, tongue, ears, and throat. Control of the muscles of the right side of the body is in the left hemisphere of the brain, and muscles of the left side of the body are controlled by the right hemisphere of the brain. The linking of higher brain functions with cerebral areas is a very active field of research.

LESSON 51
DISORDERS OF NERVOUS SYSTEM

VOCABULARY

vulnerable [ˈvʌlnərəbl] уразливий

stroke [strouk] інсульт, порушення мозкового кровообігу

seizure [ˈsi:ʒə] напад, епілепсія

neuralgia [njuˈrælʤə] невралгія

consciousness [ˈkɔnʃəsnis] свідомість

impair [imˈpɛə] погіршувати, ослаблювати, знижувати, зменшувати

excitation [ˌeksiˈteiʃən] активізація, збудження

inhibition [ˌinhiˈbiʃ(ə)n] стримання, гальмування

disrupt [disˈrʌpt] порушити

grand mal seizure великий (судорожний) епілептичний напад

rigidity [riˈʤiditi] ригідність, заціпенілість, негнучкість

identify [aiˈdentifai] встановлювати

nevertheless [ˌnevəðəˈles] проте, однак

reduce [riˈdju:s] послаблювати, знижувати, скорочувати, зменшувати

improve [imˈpruv] поліпшувати

avoid [əˈvɔid] уникати, застерігати

lack [læk] брак, відсутність

bracelet [ˈbreislit] браслет

READING AND DEVELOPING SPEAKING SKILLS

Ex. 1. Read the following words:

Vulnerable; supply; degeneration; meningitis; encephalitis; poliomyelitis; viral; variety; neuralgia; seizure; partial; consciousness; impair; amount; excitation; disrupt; rigidity; convulsion; chemical; identify; hemorrhage; nevertheless; adequate.

Ex. 2. Read the following text:

DISORDERS OF NERVOUS SYSTEM

The central nervous system is vulnerable to a wide variety of disorders. They are strokes, Alzheimer's disease, Parkinson's disease, meningitis, encephalitis, poliomyelitis (polio), neuralgias and seizure. The causes of these disorders include interruption of the blood supply to the brain, degeneration of nerve cells, head injury, tumor of the brain, viral infection and others.

Seizure (epilepsy) is actually a whole group of brain disorders. The seizure can be either partial or complete, depending on the amount of brain involved and whether or not consciousness is impaired. Normally there is a balance between excitation and inhibition in the brain. When this balance is disrupted by increased excitation or decreased inhibition, a seizure may result. There are some types of seizure. One of them is grand mal seizure.

A grand mal seizure starts with a loss of consciousness and falling down, followed by a 15- to 20-second period with muscle rigidity and then a 1- to 2-minute period of rhythmic convulsions. The seizure ends with a few minutes of deep, relaxed sleep before consciousness returns.

Grand mal seizures are due to abnormal electric activity throughout the brain. Research has shown that seizure can be produced in normal brain by various chemical and electrical stimulants. Sometimes seizures run in families. Other identified causes for seizures include scar tissue from brain disease or injury; brain infection, tumor, abscess, or hemorrhage; metabolic disturbances from kidney or liver disease. Nevertheless, the cause frequently is unknown when the disorder starts before age 25. Seizures that start after age 25 may be caused by slowly growing brain tumors.

Medication controls or greatly reduces seizures for more than 75 percent of affected persons. Some medicines can improve management of epileptic seizures in 25 percent of people with seizure

disorders. The person must avoid lack of sleep or excess alcohol. Regular and adequate rest is important. The person has to wear a bracelet stating who should be contacted if a seizure occurs.

Ex. 3. Read and translate the following definitions:
Seizure is a sudden attack often including convulsions; this symptom, if recurrent, often is referred to as a seizure disorder or as epilepsy.
Grand mal is generalized convulsion accompanied by loss of consciousness.
Neuralgia is sharp pain along the course of a nerve.
Cognitive: pertaining to the mental process of thought, including perception, reasoning, intuition, and memory.
Convulsion is a sudden attack usually characterized by loss of consciousness and severe, rhythmic contractions of some or all voluntary muscles. It is the most often a manifestation of a seizure disorder.

Ex. 4. Answer the following questions:
1. What causes strokes? 2. What diseases concerning degeneration of nerve cells do you know? 3. What are the causes of meningitis and encephalitis? 4. What is poliomyelitis? 5. What are cognitive disorders? 6. What is neuralgia?

Ex. 5. Speak on the different causes of disorders of nervous system.

Ex. 6. Translate the following sentences into English:
1. Існує величезна кількість захворювань центральної нервової системи. 2. Причинами захворювань можуть бути дегенерація нервових клітин, вірусна інфекція, метаболічне порушення функцій нирок, захворювання печінки, травма або пухлина мозку. 3. Епілепсія є результатом підвищеної активізації або надмірного стримування роботи мозку. 4. Ознаками епілепсії є втрата свідомості, конвульсії і короткочасний глибокий сон. 5. Медичні препарати можуть зменшити ступінь захворювання, але не вилікувати його. 6. Людина, що страждає на епілепсією, повинна вести здоровий спосіб життя.

Ex. 7. Read and translate the following text:

INFECTIONS

Encephalitis is an inflammation of the brain most often caused by a virus and less often by bacteria or other agents. A large variety of symptoms may result, including fever, paralysis, come, or even death.

Myelitis is an inflammation of the spinal cord with causes and symptoms similar to those for encephalitis.

Meningitis is the inflammation of the meninges. It may be viral induced but is more often bacterial. Symptoms include neck stiffness, headache, and fever. In severe cases meningitis may cause paralysis, come, or death.

Rabies is a viral disease transmitted by the bite of an infected mammal. The rabies virus infects the brain, salivary glands, muscles, and connective tissue. The virus also infects the brain and results in abnormal excitability, aggression, and in later stages, paralysis and death.

Ex. 8. Read and memorize the following words:

deterioration [dI"tIqrIq'relSn] погіршення
exposure [Iks'pquZq] вплив
gradual ['grxdjuql] поступовий
disintegration [dIs"IntI'grelSn] роздрібнення, роздвоєння
irritability ["IrItq'bIlItI] роздратованість
modify ['mOdIfaI] зм'якшувати; ослаблювати
behavior [bI'heIvjq] поведінка
psychotic [saI'kOtIk] психотичний
interfere ["Intq'flq] заважати, бути перешкодою
numbness ['nAmnIs] нечутливість, оніміння
sheath [SI:T] оболонка
suspect ['sAspekt] вважати
recur [rIkq:] повторюватися, відбуватися знову
spasticity ["spqs'tIsItI] спастика, спастичність

stiffness ['stɪfnɪs] нерухливість; жорсткість

hallucination [hə"lu:sɪ'neɪʃn] галюцинація

make ['meɪk] змушувати

control [kən'trəul] стримування; контролювання

tremor ['tremə] тремтіння, тремор

Ex. 9. Translate the following words into Ukrainian:

Transmitter; malfunction; feature; cause; interfere; increasing; shake; degree; numbness; walking; disintegration; irritability; sheath; gradual; stiffness; suspect; hallucination; exposure; psychotic; deterioration; recur.

Ex. 10. Read and translate the following text:

DEGENERATIVE DISORDERS

The brain, spinal cord, and peripheral nerves consist of billions of nerve cells. Each of these cells is a complex electrical and chemical transmitter that carries signals to make the muscles move and to relay information throughout the nervous system. If a few cells die or malfunction, the person will notice any change. When there is progressive deterioration in any part of the nervous system, the person gradually will lose some ability to function. This loss can involve mental ability, muscular movement, muscular control, or impaired coordination. Compared with many other diseases, the degenerative disorders are less well understood.

Alzheimer's Disease. This disease is due to a degeneration of brain cells. It gradually produces abnormalities in certain areas of the brain. The brain cells of persons with Alzheimer's disease have characteristic features that were first described in 1907 by Alios Alzheimer. The cause of Alzheimer's disease, however, is unknown. Among the several possible causes are genetic factors, toxic exposures, abnormal protein production, viruses, and neurochemical abnormalities.

The symptoms of Alzheimer's disease are gradual loss of memory and inability to learn new information, growing tendency to repeat oneself, slow disintegration of personality, increasing irritability, and depression. No effective treatment exists. Some medications modify the symptoms of the disease. Occasionally, mild sedatives, antidepressants, or antipsychotic medications may be necessary to control behavior.

Parkinson's disease was first described by Englishman James Parkinson in 1817. It is progressive degeneration of nerve cells in the part of the brain that controls muscle movements. The signs and symptoms of Parkinson's disease are shaking at rest (rest tremor), stiffness or rigidity of limbs, slow, soft, monotone voice, and difficulty in maintaining balance.

The cause of this disease remains unknown. Parkinson's disease ordinarily starts in middle or late life and develops very slowly. Many individuals with Parkinson's disease have depression. Some degree of mental deterioration occurs in about one-third of those persons with Parkinson's disease. In the later stages, auditory and visual hallucinations may develop.

In early stages of the illness, the person may not require therapy. Medication normally is introduced at a time when Parkinson's disease interferes with daily activities. The main goal of treatment is to reverse the problems with walking, movement, and tremors.

Multiple sclerosis is characterized by numbness, weakness, or paralysis in one or more limbs, impaired vision with pain during movement in one eye, tremor, lack of coordination, and rapid, involuntary eye movement. Its cause is unknown, but medical research is very active. The presence of a virus, in either immune cells or sheath-producing cells, is one suspected cause. Attacks ordinarily recur and the symptoms may increase in severity. Many persons with multiple sclerosis are ambulatory, and many are employed even after having multiple sclerosis for 20 years.

There is no cure for multiple sclerosis. Medications vary depending on the symptoms. Baclofen is sometimes useful for suppressing muscle spasticity. For severe attacks, corticosteroid drugs may be prescribed to reduce inflammation and provide temporary relief.

Ex. 11. Translate the following words and word-combinations into English:

Погіршення; нечутливість, оніміння; психотичний; дія; заважати, стояти на заваді; припускати; галюцинація; спастика, спастичність; повторюватися, відбуватися знову; розділення, роздвоєння; поведінка; поступовий; пом'якшувати, послаблювати; дратувати.

Ex. 12. Answer the following questions:
1. What cases can the person lose some ability to function in? 2. What is Alzheimer's disease? 3. What are the causes of Alzheimer's disease? 4. What symptoms of this disease do you know? 5. What is the goal of medications in Alzheimer's disease? 6. When was Parkinson's disease described? 7. What is Parkinson's disease? 8. What are the signs of this disease? 9. What is the cause of Parkinson's disease? 10. When is medication normally introduced? 11. What is multiple sclerosis characterized by? 12. What are the suspected causes of multiple sclerosis?

Ex. 13. Do you agree or disagree with the following statements:
1. The particular behavioral characteristics of Alzheimer's disease depend on which area of the brain is most affected by the disease process. 2. Alzheimer's disease is extremely rare in middle age. 3. Alzheimer's disease is generally an acute condition and often requires emergency treatment. 4. Parkinson's disease ordinarily starts in young people and develops very quickly. 5. Although much research has been done on Parkinson's disease, the cause remains unknown. 6. Multiple sclerosis is a disease of the central nervous system. 7. Multiple sclerosis has a wide variety of symptoms because of the way it affect the central nervous system.

Ex. 14. Translate the following sentences into English:
1. Якщо велика кількість клітин головного мозку або периферичної нервової системи відмирають, то людина може помітити суттєві зміни в стані свого здоров'я. 2. У порівнянні з іншими захворюваннями, дегенеративні захворювання вивчені менше. 3. При захворюванні Альцгеймера виникає дегенерація клітин мозку. 4. Причинами цього захворювання можуть бути генетичні чинники, патологічне продукування протеїнів та інфекційні захворювання. 5. Поступова втрата пам'яті, нездатність запам'ятовувати нову інформацію, депресія і підвищена дратівливість є ознаками цього захворювання. 6. Захворювання Паркінсона – це дегенерація нервових клітин в будь-якій частині головного мозку. 7. Це захворювання, як правило, починається в середньому або літньому віці. 8. Розсіяний склероз характеризується паралічем кінцівок, погіршенням зору і слуху, тремором і частим кліпанням очима.

Ex. 15. Speak on causes, symptoms and signs, and treatment of:
Alzheimer's Disease;
Parkinson's Disease;
Multiple Sclerosis.

Ex. 16. Write the summary of the text "Degenerative Disorders"

OVERVIEW

Seizure is a sudden attack often including convulsions. The seizure ends with a few minutes of deep, relaxed sleep. The causes for seizures can include scar tissue from brain disease or injury; brain infection, tumor, abscess, or hemorrhage; metabolic disturbances from kidney or liver disease. Medication greatly reduces seizures for more than 75 percent of affected persons. Regular and adequate rest is important. There are many degenerative disorders, some of them are Alzheimer's Disease, Parkinson's disease, and Multiple sclerosis. Alzheimer's disease is due to a degeneration of brain cells. Among the possible causes are genetic factors, toxic exposures, abnormal protein production, viruses, and neurochemical abnormalities. The symptoms of Alzheimer's disease are gradual loss of memory, inability to learn new information, increasing irritability, and depression. No effective treatment exists. Some medications modify the symptoms of the disease. Parkinson's disease is progressive degeneration of nerve cells in the part of the brain that controls muscle movements. The signs and symptoms of Parkinson's disease are shaking at rest, rigidity of limbs,

slow, monotone voice, and difficulty in maintaining balance. The cause of this disease remains unknown. The main goal of treatment is to reverse the problems with walking, movement, and tremors.

LESSON 52
EYE

VOCABULARY

sclera ['sklIrq] склера, білкова оболонка ока

cornea ['kO:nIq] рогівка, рогова оболонка ока

pupil ['pju:pl] зіниця

iris ['aIqrIs] райдужка

lens [lenz] кришталик ока

fovea ['fouvIq] поглиблення, ямка

choroid ['kO:rOId] судинна оболонка ока, хоріоід, хоріоідея

retina ['retInq] сітківка, сітчаста оболонка

conjunctiva ["kOnGANk'taIvq] кон'юнктива (слизова оболонка ока)

vitreous humor ['vItrqs 'hju:mq] склиста волога

aqueous humor ['eIkwIqs 'hju:mq] водяниста волога

anterior chamber [xn'tIqrIq 'CeImbq] передня камера (очного яблука)

posterior chamber [pOs'tIqrIq] задня камера (очного яблука)

canal of Schlemm [kq'nxl qv 'Slem] шоломів канал, венозний синус склери

eyelid ['aIlId] віко, повіка

eyeball ['aIbO:l] очне яблуко

tough [tAf] щільний

tear [tFq] сльоза

refract [rI'frxkt] заломлювати

adjust [q'GAst] пристосовуватися

dim [dIm] неяскравий, тьмяний

enclose [In'klquz] містити

suspend [sqs'pend] підвішувати, схилятися; удержуватися, утримуватися

bulk [bAlk] основна маса, більша частина

project [prq'Gekt] проектувати

record [rI'kO:d] реєструвати

perceive [pq'sI:v] сприймати, розуміти

sight [saIt] зір

WORD-BUILDING

Ex. 1. Read and translate the following words and word-combinations:
Heal; healable; healing; health; healthless; healthful; healthy; unhealthy;
grow; growing; growth; ingrowth; regrowth; growth-rate; newgrowth; no-growth; grown;
set; outset; setting; resetting; unset; inset; reset; to inset; to reset; resetting .

GRAMMAR:

Ex. 2. Familiarize yourself with the data of the following table:

ADVERBS

slowly, quickly, badly, easily (з неперехідним дієсловом)	They **walked *quickly*.**
slowly, quickly, badly, easily (з перехідним дієсловом)	He **wrote** case-history ***quickly***. He ***quickly*** **wrote** a case-history.
always, often, never, usually, sometimes	She ***always*** **receive** necessary information. He **is *always* busy**. She **must *always* be** in time.
today, yesterday, tomorrow	They **will come *tomorrow***. ***Tomorrow*** they **will come**.

Ex. 3. Read and analyze the place of the adverbs in the following sentences:
1. The blood was dropping from the wound very slowly. 2. Chronic forms begin more slowly. 3. Acute leukemia progresses quickly. 4. The axon quickly divides into numerous branches. 5. Injured leg hurts very badly. 6. In two or three weeks the same recovery is always complete. 7. I usually go to see my friends in the evening. 8. These patients usually have acute problems. 9. This space is always filled with aqueous humor. 10. The face is usually a mirror of person's condition.

READING AND DEVELOPING SPEAKING SKILLS

Ex. 4. Read the VOCABULARY and memorize new words.

Ex. 5. Insert the missing letters, read the following words and translate them:
C_oroid; ret_na; hum_r; ad_ust; b_lk; s_lera; fove_; pro_ect; tou_h; _ornea; p_pil; re_ord; en_lose; l_ns; ey_lid; suspe_d; sig_t; i_is; con_unctiva.

Ex. 6. Read the following words and word-combinations:
Unique; receive; eye; focus; conjunctiva; retina; iris; aqueous humor; canal of Schlemm; vitreous; choroid; eyelid; nourish; tear; power; pass; allow; delicate; anterior chamber; manufacture; posterior; bloodstream; colorless; capsule; fiber; gelatin-like substance; known as; equivalent; primarily; multilayered; vision; visually; interpret; perceive.

Ex. 7. Read the following text:

EYE

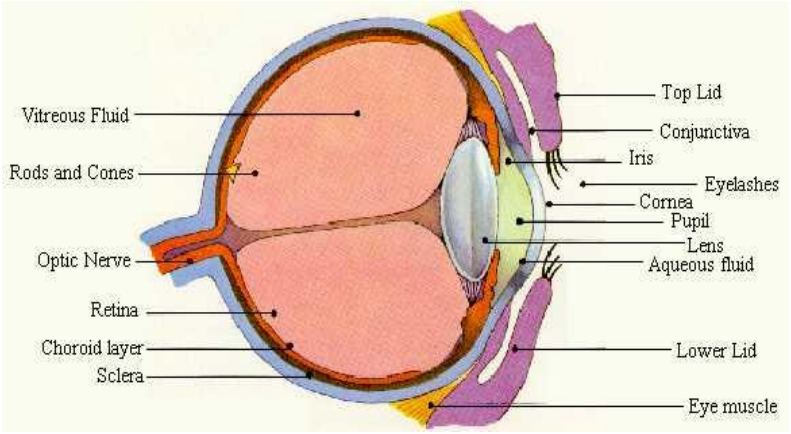
The eyes are unique instruments, able to receive definite information about the world outside our body. Thousands of times a day, the eyes move and focus on images near and far. The structure of the eye is very complex. The eye consists of conjunctiva, sclera, cornea, lens, retina, iris, pupil, anterior chamber (aqueous humor), canal of Schlemn, posterior chamber (vitreous humor), fovea (focal point), choroids, and optic nerve.

The conjunctiva runs along the inside of the eyelid and the outermost portion of the eye. It meets the sclera, the tough white layer that covers most of the eyeball. Both contain tiny blood vessels that nourish the eye.

Inside the conjunctiva at the center of the eye the cornea lies. This layer of clear tissue with its film of tears provides about two-thirds of the focusing power of the eye. The cornea refracts light as it enters the eye.

The pupil and iris lie behind the cornea. The pupil is the opening through which light passes to the back of the eye. Muscles controlling the iris (the colored part of the eye) allow it to change the size of the pupil to adjust to the amount of light. The pupil becomes larger in dim light and smaller in bright light to protect the delicate retina from excessive light.

Between the cornea and the iris the anterior chamber lies. This space is filled with aqueous humor. This fluid is manufactured in the posterior chamber of the eye. The fluid passes into the anterior chamber through the pupil and then is absorbed into the bloodstream through the canal of Schlemm in the angle where the iris meets the cornea.



Eye

Behind the iris and anterior chamber the lens is. This colorless tissue is enclosed in a capsule and suspended in the middle of the eye by a net of fibers. The lens can change shape in order to focus light rays on the retina.

The bulk of the eyeball, which is behind the lens, is formed by the round posterior chamber. It is filled with a colorless, gelatin-like substance known as the vitreous humor.

Retina is located behind the vitreous chamber. The retina of the eye is equivalent to the film of the camera. Composed of 10 layers, the retina processes the light images projected from the cornea and lens.

The retina is nourished primarily by the choroids. This multilayered tissue, which lies between the retina and the sclera, is composed of veins and arteries.

Fovea located in the center of the retina provides the most acute vision. This section is the most visually sensitive part of the eye.

The optic nerve takes the electrical impulses recorded by the retina and transmits them to the brain. The optic nerve interprets these messages into what we perceive as sight.

Ex. 8. Translate the following words and word-combinations into Ukrainian:
The world outside our body; to focus on images near and far; it runs along the inside of the eyelid; tiny; provide; amount of light; dim light; delicate retina; the fluid passes through the pupil; bloodstream; colorless, gelatin-like substance; multilayered tissue; acute vision.

Ex. 9. Translate the following words into English:
Віко; склера, білкова оболонка ока; кон'юнктива; пристосовуватися; рогівка, рогова оболонка ока; очне яблуко; зіниця; сльоза; сітківка, сітчаста оболонка; живити; райдужка; основна маса; кришталик ока; сприймати, розуміти; поглиблення, ямка; задня камера (очного яблука); передня камера (очного яблука); судинна оболонка ока; склиста волога; шоломів канал.

Ex. 10. Translate the text "Eye" into Ukrainian.

Ex. 11. Answer the following questions:
1. What does the eye consist of? 2. Where is the conjunctiva? 3. What vessels does the conjunctiva contain? 4. What is the cornea? 5. What is its function? 6. Where are the pupil and iris located? 7. What is the function of muscles controlling the iris? 8. What is the anterior chamber filled with? 9. Where is the lens? 10. What is its function? 11. What is the bulk of the eyeball formed by? 12. How many layers is the retina composed by? 13. What is the retina nourished by? 14. What are the choroids composed of? 15. What is fovea? 16. What is the major function of the optic nerves?

Ex. 12. Complete the following sentences:
1. The conjunctiva is_. 2. The sclera is _. 3. The cornea is _. 4. The lens is _. 5. The retina is _. 7. The iris is _ . 8. The pupil is _.

Ex. 13. Insert the missing words given below:
The eye is composed of three coats or tunics. The fibrous tunic is the outer _ of the eye. It consists of the _ and cornea. The sclera is the posterior four fifths of the _. It is white connective tissue that maintains the _ of the eye and provides a site for muscle attachment. The _ is the anterior four fifths of the eye. It is transparent and retracts _ that enters the eye. The vascular tunic of the eye is the _ layer. This layer contains most of the blood vessels of the _. The vascular tunic consists of the _, ciliary body, and iris.

sclera; eyeball; eye; layer; light; cornea; shape; choroids; middle.

Ex. 14. Translate the first parts of the sentences into English and complete them:
1. Очі – це_. 2. Око складається з _. 3. Кон'юнктива, розташована на зовнішній стороні ока, складається з _. 4. Функція рогової оболонки ока – це _. 5. Зіниця і райдужка ока розташовані _. 6. Водяниста волога ока виробляється _. 7. Кришталик ока може _. 8. Сітчаста оболонка ока є еквівалентом _. 9. Найбільш візуально чутлива частина ока – це _.

Ex. 15. Compose the plan of the text "Eye".

Ex. 16. Speak on the location of different parts of the eye.

Ex. 17. Speak on the functions of parts of the eye.

Ex. 18. Compose the dialogue on the structure and functions of the eye.

Ex. 19. Read and translate the following text. Write out the key words of it:

ACCESSORY STRUCTURES

Accessory structures protect, lubricate, move, and in other ways aid in the function of the eye. They include eyebrows, eyelids, lacrimal apparatus, and extrinsic eye muscles.

The eyebrows prevent perspiration from entering the eyes and help shade of the eye. The eyelids consist of 5 tissue layers. They protect the eyes from foreign objects and help lubricate the eyes by spreading tears over their surface. During sleep the eyes are protected from drying out by being closed. Lacrimal glands produce tears that flow across the surface of the eye. Excess tears enter the lacrimal canaliculi and reach the nasal cavity through the nasolacrimal canal. Tears lubricate and protect the eye. The extrinsic eye muscles attached to the outside covering (sclera) of the eye move the eyeball. They act on concert to move both eyes up, down, around, and from side to side so that our two eyes will center on exactly the same point.

Ex. 20. Read the following text and write down 2-3 questions that you would like to be asked. Begin some of your questions with the following phrases:

Could you tell me …
Is it true that …
I'd like to know …
Would you explain why (how, where, what…) …

EYE PLACEMENT

Why do we have two eyes, facing forward and not on the sides so that we can see most everything around us like other animals? There are advantages and disadvantages to both types of eye placements. Our two eyes are face forward, what is called stereovision, because they work together to make sense out of an image and with depth perception (seeing in 3D). Other animals with eyes on the sides, like fish, cannot see straight ahead as well as we can. Most of the times they use their peripheral vision to see straight or else they have to turn their heads to the side. Their depth perception is not as good as ours, but their main purpose for sight is to protect them from danger all around. Each component that make up the eye work together so that you enjoy a good sight.

OVERVIEW

The eyes are unique instruments. Thousands of times a day, the eyes move and focus on images near and far. The eye consists of conjunctiva, sclera, cornea, lens, retina, iris, pupil, anterior chamber (aqueous humor), canal of Schlemn, posterior chamber (vitreous humor), fovea (focal point), choroids, and optic nerve. The conjunctiva runs along the inside of the eyelid. It contains tiny blood vessels. The cornea refracts light as it enters the eye. The pupil is the opening through which light passes to the back of the eye. The anterior chamber is filled with aqueous humor. This fluid is manufactured in the posterior chamber of the eye. Behind the iris and anterior chamber the lens is. The lens can change shape in order to focus light rays on the retina. The bulk of the eyeball is formed by the posterior chamber. It is filled with a colorless substance known as the vitreous humor. The retina is located behind the vitreous chamber. It processes the light images. Fovea located in the center of the retina provides the most acute vision. The optic nerve takes the electrical

impulses and transmits them to the brain. The optic nerve interprets these messages into what we perceive as sight.

LESSON 53
EAR

VOCABULARY

ear ['ɪq] вухо

deliver [dɪ'lɪvq] передавати

auricle ['O:rɪkl] вушна раковина

pinna ['pɪnq] вушна раковина

wax [wxks] сіра

process ['prqu"ses] обробляти; переробляти

eardrum ['ɪqdrAm] барабанна перетинка

ossicle ['O:slkl] кісточка

hammer ['hxmq] молоточок

malleus ['mxlɪqs] молоточок (вушна кісточка)

anvil ['xnvll] коваделко

incus ['ɪNkqs] коваделко (у внутрішньому вусі)

stirrup ['stlrqp] стремінце (слухова кісточка середнього вуха)

stapes ['stelpI:z] стремінце

hearing ['hɪqrIN] слух

link [lɪNk] з'єднувати, зв'язувати

Eustachian tube [ju:s'telSjqn] євстахієва труба

yawn ['jO:n] позіхати; позіхання

equalize ['I:kwqlaIz] вирівнювати

labyrinth ['lxblrInT] лабіринт

cochlea ['kOklɪq] равлик (вуха)

tiny ['taInl] дуже маленький, крихітний

curve [kq:v] вигин, закруглення, кривизна

strike [stralk] вдаряти(ся)

disseminate [dɪ'semInelt] розповсюджувати(ся), розсіювати

auditory ['O:dIt(q)rl] слуховий

WORD-BUILDING

Ex. 1. Translate the following words paying attention to prefixes:
Effective, ineffective; stable, unstable; visible; invisible; real, unreal; natural, unnatural.

GRAMMAR:

Ex. 2. Familiarize yourself with the data of the following table:

NOUN AS ATTRIBUTE

Kyiv University	Київський університет
granulation tissue	грануляційна тканина
hospital laboratory (laboratory of the hospital)	лабораторія лікарні
body's organs (organs of the body)	органи тіла

Ex. 3. Read and translate the following word-combinations:
One-cell organism; life cycle; insect infestation; grippe viruses; grippe epidemic; bile acid; bone marrow; fat metabolism; heat production; radiation therapy; stomach juice; lymph system; childhood illness; ear canal; sound vibrations; sound wave.

Ex. 4. Change the following word-combinations moving away particle "of":
MODEL:
formation of the blood – blood formation
Cells of the blood; ability of the body; process of blood clotting; inhalation of droplets; fluid of the body; products of the blood; diseases of the nervous system; cancer of the skin; wall of the chest; bones of the ear.

Ex. 5. Read and translate the following sentences paying attention to the words in bold type:
1. This membrane allows the lungs to move easily within the **chest cavity**. 2. The diaphragm and **rib muscles** relax. 3. Pneumonia is an inflammation of the **lungs' tissues**. 4. The spread of disease generally is limited by **lymph nodes**. 5. The **drug regimen** often includes combined use of definite medicines. 6. The **hair cells** induce **action potentials** in the **cochlea neurons**.

READING AND DEVELOPING SPEAKING SKILLS

Ex. 6. Read VOCABULARY and memorize the following words.

Ex. 7. Compose 2-3- sentences using the words of VOCABULARY.

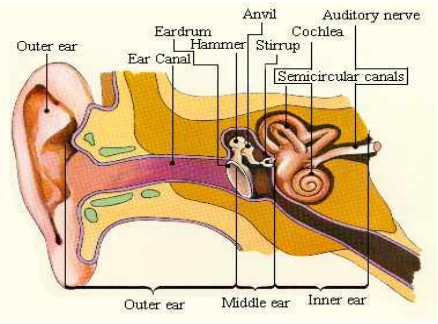
Ex. 8. Insert the missing letters:
Ea_; a_ricle; eardr_m; ossi_le; mall_us; in_us; sta_es; coc_lea; d_liver.

Ex. 9. Translate the following words and word-combinations into Ukrainian:
Disseminate; yawn; wax; pinna; process; tiny; auditory; link; malleus; deliver; curve; auricle; hearing; ossicle.

Ex. 10. Read the following words and word-combinations:
Eustachian tube; equalize; cochlea; labyrinth; malleus; incus; canal; hair; known; lining; channel; throat; vestibular; pass; to convert; impulse.

Ex. 11. Read the following text:

EAR



Ear

Ears are the organs of hearing. The ear has three parts: outer ear, middle ear, and inner ear. The auricle (pinna) and outer ear canal, which delivers sound to the middle ear, make up the outer ear, the part we see. Within the outer ear wax-producing glands and hairs that protect the middle ear are located.

The function of the middle ear is to deliver sound to the inner ear, where it is processed into a signal that the brain recognizes. The middle ear is a small cavity, with the eardrum on one side and the entrance to the inner ear on the other side. Within the ear there are three small bones (the ossicles) known as the malleus (hammer), incus (anvil), and stapes (stirrup). These bones conduct sound vibrations into the inner ear. The malleus is attached to the lining of the eardrum, the incus is attached to the malleus, and the stapes links the incus to the oval window (the opening to the inner ear).

The middle ear is connected by a narrow channel (the Eustachian tube) to the throat. Ordinarily, the Eustachian tube is closed, but when the person swallows or yawns, it opens to allow an exchange of air, thus equalizing the air pressure within the middle ear and the air pressure outside.

The inner ear contains the most important parts of the hearing mechanism. They are two chambers called the vestibular labyrinth and the cochlea. Tiny hairs line the curves of the cochlea. Both the labyrinth and the cochlea are filled with fluid. When sound waves from the world outside strike the eardrum, it vibrates. These vibrations from the eardrum pass through the bones of the middle ear and into the inner ear through the oval window. Then they disseminate into the cochlea, where they are converted into electrical impulses and are transmitted to the brain by the auditory nerve.

Ex. 12. Translate the following words and word-combinations into English:

Вигин, закруглення, кривизна; сполучати, зв'язувати; вушна раковина; стремінце; передавати; вирівнювати; слуховий; барабанна перетинка; обробляти, переробляти; молоточок; кісточка; поширювати(ся), розсіювати; слух; ковадло; сіра; равлик.

Ex. 13. Translate the text "Ear" into Ukrainian:

Ex. 14. Insert the missing words:
1. The organs of hearing can be divided into three portions: external (outer), _, and inner ears. 2. The outer ear includes the _ and outer ear canal. 3. The outer ear canal is lined by _. 4. Sound waves are collected by the auricle and are conducted through the outer _ canal. 5. Sound waves _ the eardrum and cause it to vibrate.

Ex. 15. Match the following words with their definitions:

1. Auricle	1. The bony and membranous labyrinth of the inner ear.
2. Auditory ossicle.	2. Middle of the three ossicles in the middle ear.
3. Eardrum.	3. Cellular membrane that separates the outer from the middle ear; it vibrates in response to sound waves.
4. Malleus.	4. Smallest of the three auditory ossicles.
5. Incus.	5. Bone of the middle ear: includes the malleus, incus, and stapes.
6. Stapes.	6. Largest of the three auditory ossicles.
7. Labyrinth.	7. Part of the outer ear that protrudes from the side of the head.

Ex. 16. Complete the following sentences:
1. The auricle is _. 2. The eardrum is _. 3. The incus is _. 4. The malleus is _. 5. The stapes is _.

Ex. 17. Answer the following questions:
1. What is the ear? 2. What does the ear consist of? 3. What are the portions of the outer ear? 4. What does the middle ear consist of? 5. What is the function of the middle ear? 6. What are the most important parts of the inner ear?

Ex. 18. Insert the prepositions:
1. The function _ the middle ear is to deliver sound to the inner ear. 2. The middle ear is a small cavity, with the eardrum and the entrance _ the inner ear. 3. These bones conduct sound vibrations _ the inner ear. 4. The middle ear is connected _ the Eustachian tube to the throat. 5. The inner ear contains the most important parts _ the hearing mechanism. 6. When sound waves _ the world outside strike the eardrum, it vibrates. 7. These vibrations _ the eardrum pass through the bones of the middle ear and into the inner ear. 8. Then they disseminate into the cochlea, where they are converted into electrical impulses and are transmitted _ the brain.

Ex. 19. Try to organize the obtained information in the form of table:

Outer Ear	
Middle Ear	
Inner Ear	

Ex. 20. Write out key words of the text "Ear".

Ex. 21. Speak on the structure and function of the ear.

Ex. 22. Make up a dialogue on the structure of the ear.

Ex. 23. Read the following text and comment upon it. Try to retell it.

EAR DISORDERS

The ear is a biological marvel. It transfers sound waves from the air through elaborate channels into the inner ear and turns them into signals that the brain can interpret. The ears are connected with the nose and throat through the Eustachian tube. The middle ear is linked to the mastoid. Therefore, an infection in the middle ear can extend into the mastoid. This complexity makes the ear susceptible to infections, congenital disorders, and damage due to accident or occupational exposure. The most common disorders of the ear are perforated eardrum, occupational or age-related hearing loss, ear infections, otosclerosis, wax blockage, otitis media and others.

Otosclerosis is an ear disorder in which spongy bone grows over the oval window and immobilizes the stapes, leading to progressive loss of hearing. Otosclerosis is the most frequent cause of middle ear hearing loss in young adults. It is more common in women than in men. Symptoms usually become apparent between the ages of 15 and 35. They are gradual hearing loss in one or both ears and noise in the ear. This disorder can be corrected surgically. During surgery the oval window is covered by a fat pad or a synthetic membrane, and the stapes is replaced by a small rod connected to the fat or membrane over the oval window at one end and to the incus at the other.

Infections of the middle ear (otitis media) are common in young children. These infections usually result from the spread of infection from the mucous membrane of the pharynx through the auditory tube to the mucous lining of the middle ear. Otitis media occurs in four basic forms: serous otitis media, otitis media with effusion, purulent otitis media, and secondary otitis media. The symptoms of otitis media, consisting of low-grade fever, feeling of fullness in the ear, and irritability, are often not easily recognized by the parent as signs of middle ear infection. The infection can also cause a temporary decrease or loss of hearing because fluid buildup has dampened the tympanic membrane or ossicles. The treatment includes a course of antibiotics to fight the infection, nasal decongestants or antihistamines. In some cases a surgical incision in the eardrum is necessary.

Ex. 24. Read the following text and give a summary of it:

COMMUNICATING WITH A HEARING-IMPAIRED PERSON

Here are a few suggestions for communicating effectively with a hearing-impaired person:

- Speak at a normal conversational level if the person is wearing a hearing aid. If the person is not, speak a little louder than normal but do not shout, it is irritating and unnecessary.
- Speak naturally but more slowly than you usually do. Add more pauses than normal in your speech pattern. Rapid speech is more difficult for a hearing-impaired person to understand.
- Before speaking, make sure you have your listener's attention. If he or she is watching your face, visual clues can help in understanding your words. Also, watch your listener's face for signs of incomprehension. Decrease competing background noise. Turn off the television set or stereo, and close the windows to traffic noises.

Ex. 25. Translate the following sentences into English:

1. Вухо складається із трьох частин: зовнішнього, середнього та внутрішнього вуха. 2. Зовнішнє вухо складається із вушної раковини та зовнішнього слухового ходу. 3. Зовнішній слуховий хід виглядає як трубка завдовжки 2,5 – 3 см. 4. Зовнішня частина слухового ходу утворена еластичним хрящем, а внутрішня – кісткою. 5. На межі з порожниною середнього вуха лежить барабанна перетинка. 6. Середнє вухо складається з барабанної порожнини, слухових кісточок та слухової трубки. 7. У барабанній порожнині містяться три слухові кісточки: молоточок, коваделко і стремінце.

OVERVIEW

Ears are the organs of hearing. The ear has tree parts: outer ear, middle ear, and inner ear. The outer ear consists of the auricle and outer ear canal. Within the outer ear wax-producing glands and hairs are located. The function of the middle ear is to deliver sound to the inner ear. The middle ear is a small cavity, which contains the eardrum. Within the middle ear there are small bones. These bones conduct sound vibrations into the inner ear. The middle ear is connected by the Eustachian tube to the throat. The inner ear contains the most important parts of the hearing mechanism. They are the vestibular labyrinth and the cochlea. When sound waves from the world outside strike the eardrum, it vibrates. These vibrations from the eardrum pass through the bones of the middle ear and into the inner ear. Then they disseminate into the cochlea, where they are converted into electrical impulses and are transmitted to the brain.

LESSON 54
SKIN

VOCABULARY

constitute ['kOnstItju:t] складати

follicle ['fOlIkl] фолікул

oil gland ['OIl 'glxnd] сальна залоза

chill [CIl] охолоджуватися, замерзати

constriction [kqn'strIkS(q)n] скорочення, стягання, звуження

dermis ['dq:mIs] дерма

subcutaneous ['sAbkju:'teInjqs] підшкірний

hazard ['hxzqd] небезпека, джерело небезпеки

epidermis ["epId'q:mIs] епідерма, епідерміс

bottom ['bOtqm] нижня частина

thin [TIn] робитися тонким, тоншати

keratin ['kerqtIn] кератин, рогова речовина

flake off [fleIk] відшаровуватися, лущитися

replenish [rI'plenIS] поповнювати(ся), оновлювати

bulk [bAlk] основна маса, більша частина

collagen ['kOlqGqn] колаген

elastin [I'lxstIn] еластин

distribute [dIs'trIbju:t] розподіляти

unevenly [An'I:v(q)nlI] нерівно, нерівномірно

WORD-BUILDING

Ex. 1. Translate the following words:
Decrease (v), increase (v); trouble (n), (v); care (n), careful (adj.); significant (adj.), significance (n); aid (n), (v); decide (v), decision (n); reveal (v); weak (adj.); weakness (n); occur (v), occurrence (n); ingest (v), ingestion (n).

READING AND DEVELOPING SPEAKING SKILLS

Ex. 2. Read VOCABULARY and memorize the following words.

Ex. 3. Compose 2-3- sentences using the words of VOCABULARY.

Ex. 4. Insert the missing letters:
Folli_le; subc_taneous; t_in; de_mis; distri_ute; epi_ermis; el_stin; colla_en; constric_ion; fla_e; kera_in.

Ex. 5. Read the following words and word-combinations:
Subcutaneous; constitute; bulk; dermis; distribute; hazard; epidermis; elastin; collagen; keratin; cover; decrease; unevenly; replenish; approximately; unique; disappear; beneath; through; manufacturing; blood vessels; nerve fibers; once; dead cells; sweat; heat; become; texture; squamous; lie.

Ex. 6. Read the following text:

SKIN

The skin is a unique organ. Approximately the 2 square meters of the skin, that cover the average adult, constitute 15 percent of the body's total weight. Approximately 2.5 square cm of the

skin contain millions of cells and many specialized nerve endings for sensing heat, cold, and pain. In addition, each square centimeter contains numerous oil glands, hair follicles, and sweat glands. A complex network of blood vessels nourishes this structure.

The skin protects the internal organs. It serves as heat regulator. Capillaries and blood vessels in the skin dilate or constrict according to the body's temperature. When the person is hot, the sweat on the skin lowers the body's temperature. When the body is chilled, these blood vessels become narrowed, and the skin becomes pale and cold. This constriction decreases the flow of blood through the skin, reducing the heat loss and conserving heat for the main part of the body.

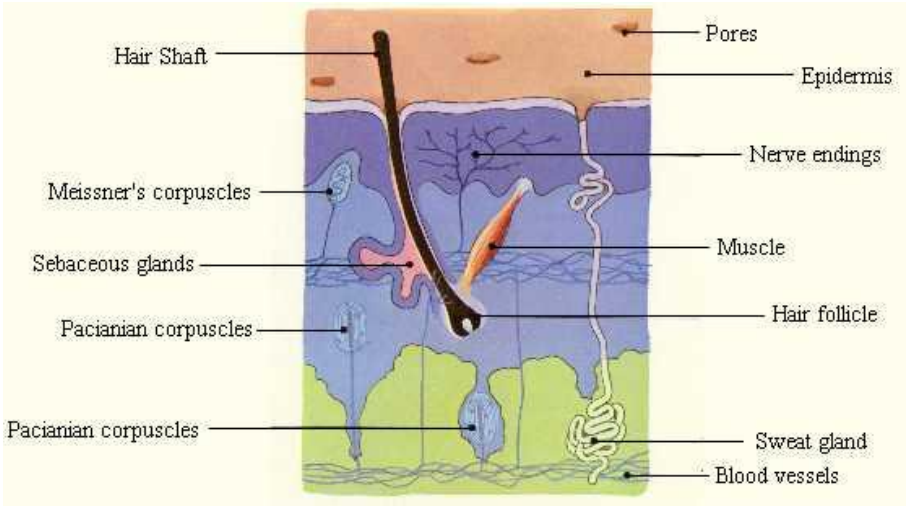
By its texture, temperature, and color the skin gives information about the general health. Sensory nerves send signals to the brain about hazards.

The skin is composed of three layers – the epidermis, the dermis, and the subcutaneous tissue.

The epidermis is the top layer of the skin the person sees. The outermost surface of the epidermis is made up of dead skin cells. Squamous cells lie just below the outer surface. Basal cells are at the bottom of the epidermis. The production of new cells, manufactured in the epidermis, takes approximately 1 month, to move upward to the outer surface. As the cells move away from their source of nourishment, they become smaller and flatter, changing into a lifeless protein called keratin. Once on the surface, they remain as a protective cover and then flake off as a result of washing and friction. Thus, the skin is a dynamic organ, constantly being replenished.

The dermis, found beneath the epidermis, makes up 90 percent of the bulk of the skin. It is a dense layer of strong, white fibers (collagen) and yellow, elastic fibers (elastin) in which blood vessels, muscle cells, nerve fibers, lymph channels, hair follicles, and glands are located. The dermis gives strength and elasticity to the skin.

Beneath the dermis the subcutaneous tissue lies. It is composed largely of fat and through which blood vessels and nerves run. This layer, which specializes in manufacturing fat, is unevenly distributed over the body. The roots of oil and sweat glands are located here. Subcutaneous tissue thins and disappears with aging.



Structure of Skin

Ex. 7. Translate the following words and word-combinations into Ukrainian:

Unique organ; for sensing heat and cold; in addition; hair follicles; according to the temperature; the body is chilled; subcutaneous tissue; the top layer; to move upward; the bulk of the skin; over the body; to distribute.

Ex. 8. Translate the following words and word-combinations into English:

Підшкірний; нижня частина; складати; охолоджувати(ся), замерзати; відшаровуватися, лущитися; сальна залоза; поповнювати(ся), оновлюватися; скорочення, стягання, звуження; основна маса, велика частина; небезпека, джерело небезпеки; розподіляти; робитися тонким;

загальна вага тіла; спеціалізуватися у виробленні жирів; що знаходиться нижче за епідерміс; верхній шар; регулятор тепла; на поверхні.

Ex. 9. Translate the text "Skin" into Ukrainian.

Ex. 10. Insert the missing words and word-combinations:

1. The skin _ many specialized nerve endings for sensing heat, cold, and pain. 2. The skin contains numerous _ , hair follicles, and sweat glands. 3. It _ as heat regulator. 4. Capillaries and blood vessels in the skin dilate or _ according to the body's temperature. 5. The epidermis is the _ layer. 6. The outermost _ of the epidermis is made up of dead skin cells. 7. Squamous cells lie just _ the outer surface. 8. The dermis, found beneath the epidermis, makes up 90 percent of the _ of the skin. 9. It is a dense _ of strong, white fibers and yellow, elastic fibers. 10. This layer includes blood vessels, muscle cells, nerve fibers, lymph channels, _ , and glands. 11. The _ gives strength and elasticity to the skin. 12. Beneath the dermis the _ lies. 13. It is composed largely of fat and _ which blood vessels and nerves run.

Ex. 11. Answer the following questions:

1. What is the skin composed of? 2. What is the function of the skin? 3. What is the mechanism reducing the heat loss? 4. What signal do sensory nerves send to the brain? 5. What substances compose the epidermis? 6. What is the structure of the dermis? 7. What is the function of dermis? 8. Where is the subcutaneous tissue? 9. What does it consist of?

Ex. 12. Make up the sentences using the following words and word-combinations:

1. capillaries / blood vessels / dilate / or / constrict / and / according to / the body's temperature / in / the skin. 2. dead skin cells / the outermost surface / the epidermis / of / is made up / of . 3. beneath / makes up / the dermis / found / 90 percent / of / the epidermis / the bulk / of the skin. 4. to / gives / strength / elasticity / the dermis / and / the skin. 5. collagen / the / connective / is / tissue / fibers. 6. is not / as thick / as the dermis / the epidermis. 7. is divided / layer / and / the dermis / into / reticular / papillary / one.

Ex. 13. Match the term and its definition:

1. gland	a. the layer of skin beneath the epidermis.
2. dermis	b. beneath the skin.
3. epidermis	c. outermost layer of the skin.
4. subcutaneous	d. protein of the extracellular matrix.
5. elastin	e. secretory organ from which secretions may be released into the blood, a cavity, or onto a surface.
6. collagen	f. major connective tissue protein of elastic tissue.

Ex. 14. Insert the missing words given bellow:

Cells that manufacture skin constitute about 95 percent of the _ . The remaining cells produce a black _, called melanin. Melanin provides the coloring of the skin and helps _ it from ultraviolet light. People of all races are born with the same _ of pigment cells. However, the rate at which melanin granules are formed in these cells and their degree of _ in the epidermis are inherited characteristics and major factors in skin color differences.

protect; pigment; epidermis; number; concentration.

Ex. 15. Insert the correct tense-forms for verbs in brackets:

1. The skin (to compose of) a layer of dense, irregular connective tissue called the dermis and (to cover) by a layer of epithelial tissue called the epidermis. 2. The dermis (to be) responsible for the most of the structural strength of the skin. 3. Nerve endings, hair follicles, smooth muscles, glands, and lymph channels (to extend) into the dermis. 4. The papillary layer (to derive) its name from

projections called papillae that (to extend) toward the epidermis. 5. The papillary layer (to contain) a large number of blood vessels that (to supply) the overlying avascular epidermis with nutrients, (to remove) waste products, and (to aid) in regulating body temperature. 6. The epidermis (to separate) from the dermis by a basement membrane. 7. The epidermis (to contain) no blood vessels and (to derive) nourishment by diffusion from capillaries of the papillary layer. 8. Cells (to produce) in the deepest layer of the epidermis. 9. During the movement from the deeper epidermal layers to the surface, the cells (to undergo) keratinization, a process that (to involve) change in shape, structure, and chemical composition. 10. Skin color (to determine) by pigments in the skin and by blood circulating through the skin.

Ex. 16. Translate the following sentences into English:
1. Шкіра захищає внутрішні органи людини і регулює температуру тіла. 2. Кровоносні судини, що знаходяться в шкірі, скорочуються і розширюються відповідно до температури тіла, довколишнього середовища та відповідно до впливу деяких інших факторів. 3. Скорочення кровоносних судин і капілярів зменшує потік крові в шкірі. 4. Епідерміс – це верхній шар шкіри. 5. Дерма знаходиться під шаром епідермісу. 5. Підшкірна тканина складається здебільшого з жиру.

Ex. 17. Do you agree or disagree with the following statements:
1. Excretion is the removal of waste products from the body. 2. If you take care of the skin, you can prevent many skin disorders. 3. The intact skin does not form a physical barrier that prevents the entry of microorganisms and other foreign substances into the body. 4. The blood vessels in the dermis dilate and allow more blood to flow through the skin, thus transferring heat from deeper tissues to the skin. 5. As we age, skin doesn't lose elasticity and wrinkles don't form.

Ex. 18. Write out key words of the text.

Ex. 19. Give a summary of the text "Skin".

Ex. 20. Speak on:
structure of the skin;
function of the skin.

Ex. 21. Read the following abstract and determine your skin type:

WHAT IS YOUR SKIN TYPE

The skin of your face is generally the best guide in classifying skin type. Examine your skin closely, especially the pores.

Oily Skin. Oily skin is caused by overactivity of the sebaceous glands. Oily skin is thick and has large pores. Oily skin has a greater tendency to develop acne (прищ) but not wrinkles. Most people with oily skin also have oily hair.

Dry Skin. Dry skin can be caused by underactivity of the sebaceous glands, environmental conditions, or normal aging. Dry skin is usually thinner and most easily irritated. It often is associated with dry hair and small pores. There is a greater tendency to develop wrinkles but not acne. Your skin tends to become drier as you age.

Balanced Skin. Balanced skin is neither oily nor dry. It is smooth and has a fine texture and few problems. However, it has a tendency to become dry as a result of environmental factors and aging.

Combination Skin. Combination skin consists of oily regions (often on the forehead and around the nose) and regions that are balanced or dry.

Ex. 22. Read and translate the following text:

SKIN DISORDERS

Because it is a complex organ constantly exposed to the elements, the skin is susceptible to various problems. The skin protects the body from the environment. It is surprisingly resistant to a wide variety of insults.

However, it may become irritated and inflamed, a condition called **dermatitis**. Its capillaries may become enlarged as a result on sunburn. So the term dermatitis simply means an inflammation of the skin. It has many causes. It may appear as contact dermatitis, prickly heat rash, atopic dermatitis, stasis dermatitis and some others.

Direct contact with one of a number of substances can cause a skin inflammation called contact dermatitis. The signs of it are redness and itching, blisters and weeping from the sores in severe cases, and skin changes limited to the area of contact with the causative agent. If the person is sensitive to material in a watchband or ring, his/her skin beneath the object can become inflamed. Red, sore eyelids can result from the use of certain cosmetic products or from touching the eyelids with other material on the fingers. In allergic dermatitis, the allergen may be something that the person has used for years with no problem. Mild chemicals such as hexachlorophene in soap and acetone n nail-polish remover can produce contact dermatitis. Treatment consists primarily of identifying the offending agent and avoiding it. Sometimes, some medicines or ointments are necessary.

The cause of **psoriasis** is unknown, although there may be a genetic predisposition that affects the life cycle of skin cells. Normally, it takes about a month for new cells to move from the lowest skin layer, where they are produced, to the outermost layer, where they die and scale off in tiny flakes. With psoriasis, however, the entire cycle takes only 3 or 4 days. As a result, dead cells accumulate rapidly, forming thick, silvery scales. If the scales scraped away, bleeding occurs from the blood vessels at the top of the dermal papillae. Psoriasis is a chronic disease that can be controlled but as yet has no cure.

Eczema describes an inflammatory condition of the skin. There are some forms of eczema. Cause of inflammation may be allergy, infection, poor circulation, or exposure to physical factors such as chemicals, heat, cold, or sunlight. The signs of this disorder are extreme, persistent itching and thickening of the skin in patches. Coal-tar ointments are often used when the condition has been present for months or years and the skin has become thickened. Corticosteroid creams and ointments are very useful in reducing the inflammation and itching.

OVERVIEW

The skin is a unique organ. It contains many specialized nerve endings for sensing heat, cold, and pain. In addition, skin contains numerous oil glands, hair follicles, and sweat glands. The skin protects the internal organs and serves as heat regulator. Capillaries and blood vessels in the skin dilate or constrict according to the body's temperature. The skin is composed of the epidermis, the dermis, and the subcutaneous tissue. The epidermis is the top layer. The outermost surface of the epidermis is made up of dead skin cells. Squamous cells lie just below the outer surface. Basal cells are at the bottom of the epidermis. The dermis, found beneath the epidermis, makes up 90 percent of the bulk of the skin. It is a dense layer of strong, white fibers and yellow, elastic fibers. This layer includes blood vessels, muscle cells, nerve fibers, lymph channels, hair follicles, and glands. The dermis gives strength and elasticity to the skin. Beneath the dermis the subcutaneous tissue lies. It is composed largely of fat through which blood vessels and nerves run.

LESSON 55
REVISION

Read and translate one of the following texts:

Text A

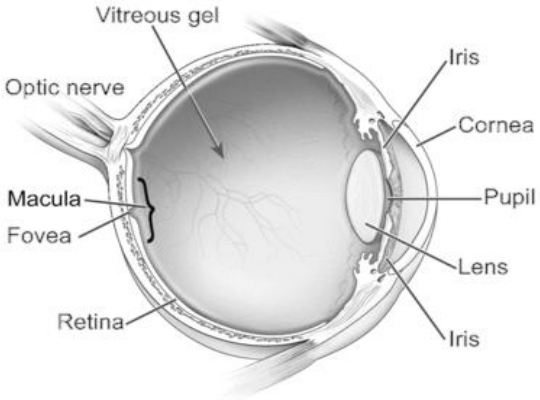
DISORDERS OF VISION

Disorders of vision affect various parts of the eye. Some disorders are the result of aging, a genetic tendency, or both. Such disorders include glaucoma (increased fluid pressure within the eye), cataract (clouding of the lens), and various retinal problems.

New techniques and medications for detecting and treating glaucoma and cataract have made these two leading causes of blindness very treatable. Today's modern surgical procedures make the treatment of cataracts among the most successful of all operations.

Cataract is a major cause of vision loss worldwide. Almost 20 million people are blind because of this condition. A cataract is a clouding of the normally clear lens of the eye. The clouding of the lens blocks the passage of light needed for sigh. Although a cataract often starts in only one eye, usually both become involved. Cataracts are accompanied by changes in the chemical composition of the lens, but the cause of these alterations is unknown. The signs of cataract are blurred vision, impaired vision at night or in very bright light, and halos around lights. A certain amount of lens clouding occurs in 65% of patient over the age of 50 and 95% of patients over the age of 65. The most effective treatment for cataract is surgical removal.

Glaucoma is a group of diseases that can damage the eye's optic nerve and result in vision loss and blindness. However, the group has a single feature in common: progressive damage to the optic nerve due to increased pressure within the eyeball. The risk is much greater for people over 60. The symptoms of glaucoma are blurred vision, usually in one eye, halos appearing around lights, pain in the eye, and loss of peripheral vision. There are several different forms of glaucoma. In general the group of disease is divided into two ones, acute and chronic. Most of these involve the drainage system within the eye. At the front of the eye there is a small space called the the anterior chamber. A clear fluid flows through this chamber and bathes and nourishes the nearby tissues. In glaucoma, for still unknown reasons, the fluid drains too slowly out of the eye. As the fluid builds up, the pressure inside the eye rises. Unless this pressure is controlled, it may cause damage to the optic nerve and other parts of the eye and result in loss of vision. There is no cure for glaucoma. Vision lost from the disease cannot be restored. However, there are treatments (medications and surgery) that may save remaining vision. That is why early diagnosis is important.



Structure of Eye

Text C

BRONCHITIS

Just when you thought you were finally over a cold, your chest starts to feel sore and you develop a cough. Later, you might get the chill or a slight fever.

If these signs and symptoms sound familiar, you might have acute bronchitis, a condition that occurs when the inner walls that line the main air passageways of your lungs become infected and inflamed. Bronchitis often follows a respiratory infection such as a cold. Smoking and exposure to smoke are also risk factors for bronchitis.

Most cases of acute bronchitis disappear within a few days without lasting effects, although coughs may linger for weeks. If you have repeated bouts of bronchitis, see your doctor. You may have a more serious health problem – such as asthma or chronic bronchitis – that needs medical attention.

A cough that brings up yellowish-gray or green mucus (sputum) is one of the main signs of bronchitis. Mucus itself isn't abnormal – your airways normally produce up to several tablespoons of mucus secretions every day. But these secretions usually don't accumulate, because they're continuously cleared into your throat and swallowed with your saliva.

When the main air passageways in your lungs (bronchial tubes) are inflamed, they often produce large amounts of discolored mucus that comes up when you cough. If this persists for more than three months, it is referred to as chronic bronchitis. Mucus that isn't white or clear usually means there's a secondary infection.

Still, bronchitis symptoms can be deceptive. You don't always produce sputum when you have bronchitis, and children often swallow coughed-up material, so parents may not know there's a secondary infection. Many smokers have to clear their throat every morning when they get up. While they may think this is normal for everyone, it's not. If it continues for more than three months, it may be chronic bronchitis.

Acute bronchitis also may be accompanied by common signs and symptoms of an upper respiratory infection, including: soreness and a feeling of constriction or burning in your chest, sore throat, chest congestion, sinus fullness, breathlessness, wheezing, slight fever and chill, and overall malaise

Antibiotics don't effectively treat most cases of bronchitis because the condition usually results from a viral infection. Instead, the following are the cornerstones of acute bronchitis treatment: get plenty of rest, drink extra liquids, take a nonprescription cough medicine.

It's best not to suppress a cough that brings up mucus, however, because coughing helps remove irritants from your lungs and air passages. If your cough is keeping you awake at night, use just enough cough medicine so that you can rest, but not enough to suppress your cough completely. There are several kinds of over-the-counter (OTC) cough medicines. Read their labels to figure out which is most likely to relieve the type of cough you have. If your cough is preventing you from sleeping, your doctor may recommend a prescription cough suppressant.

Your doctor may prescribe an antibiotic if he or she suspects that you have a bacterial infection. If you have a chronic lung disorder or if you smoke, your doctor may also prescribe antibiotics to reduce your risk of a serious, secondary infection.

II. Speak on the following topics:
1. Nervous System.
2. Brain.
3. Eye.
4. Ear.
5. Skin.

UNIT 5
LESSON 56
URINARY SYSTEM

VOCABULARY

bladder [ˈblxdq] сечовий міхур
ureter [juqˈrltq] сечовід
carry [ˈkxrl] переносити, нести
urethra [juqˈrl:Trq] уретра, сечівник
excretion [eksˈkrl:S(q)n] виділення
bean [bl:n] біб
fist [fst] кулак
renal [ˈrl:n(q)l] нирковий
urine [ˈjuqrln] сеча
capsule [ˈkxpsju:l] капсула, оболонка
fat pad [pxd] жирове тіло
fascia [ˈfelSq] фасція
cortex [ˈkO:teks] кора
medulla [me'dAlq] мозок
hilum [ˈhalIqm], **hilus** хілус, ворота
calyx (pl. calyces) [ˈkelIlks] ниркова чашка
narrow [ˈnxrqu] звужуватись
urination [ˌjuqrlˈnelS(q)n] сечовипускання

WORD-BUILDING

Ex. 1. Form new words adding the term-element “vaso” – судина:
Constriction; depressor; dilatation; thrombin; stimulant; hypertonic; puncture.

GRAMMAR:

Ex. 2. Familiarize yourself with the following grammar material:

OBJECTIVE PARTICIPLE CONSTRUCTION

Цей дієприкметниковий комплекс вживається після групи “підмет-присудок”, де присудок виражений дієсловом, що означає сприймання за допомогою органів чуттів: to feel

– відчувати; to hear – слухати; to see – бачити; to watch – спостерігати, бачити; to want – хотіти:

NOUN (Common Case)	**or**	**PRONOUN (Objective Case)**		**PARTICIPLE**
Doctor(s) Student(s)		me him her it us you them		Participle I (Active): $\mathbf{V_{ing}}$ (working, writing) Participle I (Passive): **being + $\mathbf{V_3}$** (being worked, being written) Participle II (Passive): $\mathbf{V_3}$ (worked, written)

The Objective Participle Construction перекладається підрядним реченням зі сполучником "як": **I saw them walking along the street. Я бачив, як вони йшли по вулиці.**

Ex. 3. Read and translate the following sentences into Ukrainian:
1. He saw the patient going up the stairs. 2. We saw the patient being carried to the operating theatre. 3. He feels the operation being successful. 3. They watched him approaching the hospital. 4. The students watched the patients being examined. 5. He heard the air passing the trachea.

READING AND DEVELOPING SPEAKING SKILLS

Ex. 4. Read VOCABULARY and memorize new words.

Ex. 5. Compose 2-3- sentences using the words of VOCABULARY.

Ex. 6. Insert the missing letters:
Urin_tion; ex_retion; ur_ter; urethr_; blad_er; caly_; r_nal; me_ulla; fas_ia.

Ex. 7. Translate the following words and word-combinations into Ukrainian:
Narrow; fat pad; urethra; bladder; cortex; carry; hilum; capsule; fist; medulla; ureter.

Ex. 8. Read the following words and word-combinations:
Kidney; urine; excess; pressure; either; slightly; renal fascia; relatively; nerves; exit; hilum; sinus; channel; minor; muscular.

Ex. 9. Read the following text:

URINARY SYSTEM

The urinary system consists of two kidneys, urinary bladder, two ureters, which carry urine from the kidneys to the urinary bladder, and urethra, which carries urine from the bladder to the outside of the body. The primary function of the urinary system is to remove the excess fluid and waste material from the blood. In addition, the kidneys function as glands producing hormones that are important in the production of red blood cells, in the regulation of blood pressure, and in the formation of bone.

The kidneys are the most important organs for fluid excretion. The kidneys, a pair of bean-shaped organs, are located against the back of the abdominal wall on either side of the spine at the level of the lowest ribs. Each kidney is generally about the size of the person's fist. The right kidney is slightly lower than the left. The kidney is surrounded by a renal capsule and a renal fat pad and is held in place by the renal fascia. The two layers of the kidney are the cortex and the medulla.

On the medial side of each kidney there is a relatively small area called the hilum where the renal artery and the nerves enter and the renal vein and ureter exit.

The hilum opens into a cavity called the renal sinus, which is filled with fat and connective tissue. In the center of the renal sinus the urinary channel is enlarged to form the renal pelvis.

Urinary System (models)

Several large urinary tubes (called calyces) extend to the renal pelvis from the kidney tissue. The calyces that open directly into the renal pelvis are called major calyces, and the smaller calyces that open into major calyces are called minor calyces. There are 8 to 20 minor calyces and 2 or 3 major calyces per kidney. At the hilum the renal pelvis narrows to form the ureter.

Ureters are muscular tubes, one from each kidney, that propel the urine to the bladder.

The bladder is a muscular bag that stores the urine. The urethra is the narrow tube through which the urine leaves the bladder during urination.

Ex. 10. Translate the following words and word-combinations into English:

Ниркова чашка; переносити, нести; капсула, оболонка; медула; фасція; виділення; уретра, сечовивідний канал; ворота; сечовий міхур; звужуватися; сечовипускання; сечовід; нирковий.

Ex. 11. Translate the text "Urinary System" into Ukrainian.

Ex. 12. Insert the missing words:

1. The main function of the _ system is removal of excess fluid and waste material from the blood. 2. The urinary system consists of two _, urinary bladder, ureters, and _. 3. The kidneys are _ against the back of the abdominal wall. 4. Each kidney is generally about the size of the person's _. 5. Kidneys are the most important organs for fluid _. 6. Ureters are _ tubes. 7. They propel the urine to the _. 8. The bladder is a muscular bag that stores the _. 9. The _ is the narrow tube through which the urine leaves the bladder during urination.

Ex. 13. Answer the following questions:

1. What does the urinary system consist of? 2. What is the major function of the urinary system? 3. What are the layers of kidneys? 4. What is hilum? 5. What are ureters? 6. What are their functions? 7. What is the function of the urethra?

Ex. 14. Match the following words with their definitions:

1. Kidney	A. Tube conducting urine from the kidney to the urinary bladder.
2. Urethra	B. One of the two organs that excrete urine. They are bean-shaped organs approximately 11 cm long, 5 cm wide, and 3 cm thick.
3. Ureter	C. Urogenital canal; canal leading from the bladder, discharging the urine externally.

Ex. 15. Insert the prepositions:

1. The urinary system regulates the volume and composition _ the intestinal fluid. 2. The urinary system consists _ the kidneys, ureters, bladder, and urethra. 3. The key elements _ the urinary system are the kidneys, a pair of purplish-brown organs located below the ribs toward the middle of the back. 4. The kidneys remove excess liquid and wastes _ the blood in the form of urine, keep a stable balance of salts and other substances in the blood, and produce a hormone that aids the formation _ red blood cells. 5. Narrow tubes called ureters carry urine _ the kidneys to the bladder,

a sack-like organ in the lower abdomen. 6. Urine is stored _ the bladder and emptied through the urethra.

Ex. 16. Write out key words of the text "Urinary System".

Ex. 17. Compose detailed plan of the text "Urinary System"

Ex. 18. Speak on:
the structure of the organs of the urinary system;
the location of the organs of the urinary system;
the functions of the organs of the urinary system.

Ex. 19. Put the questions to the following sentences:
1. Urea is formed in the liver from ammonia. 2. The layers of kidneys consist of cortex and medulla. 3. The kidneys can be compared with the filters because they perform the filtration of waste products from the blood. 4. The process of filtration and formation of urine takes place within the tiny tubules of the kidney. 5. The urethra is a tube through which urine is discharged from the urinary bladder and passed out of the body.

Ex. 20. Make up a dialogue on the urinary system.

Ex. 21. Read the following text and retell it:

FUNCTIONS OF URINARY SYSTEM

The urinary system participates with other organs to regulate the volume and composition of the intestinal fluid. Exchange across the walls of capillaries provides nutrients and removes waste products from the interstitial spaces. Exchange of gas in the lungs removes carbon dioxide from the blood and provides a supply of oxygen. The digestive system supplies nutrients to the blood, and the liver removes certain waste products. These organ systems function together to regulate the level of gases, nutrients, and some waste products in the blood. The kidneys remove waste products, many of which are toxic, from the blood and play a major role in controlling blood volume, the concentration of ions in the blood, and the pH of the blood. The kidneys are also involved in the control of red blood cell production and vitamin D metabolism. Although the kidneys are the major excretory organs in the body; the skin, liver, lungs, and intestines also eliminate wastes. However, if the kidneys fail to function, other structures cannot adequately compensate to maintain a normal environment for the body cells.

Ex. 22. Give a summary of the following text:

FLUID EXCRETION

Blood enters each kidney from its renal artery, a major branch of the aorta, the body's main artery.

Once inside the kidney, the blood passes through a set of filtering systems called nephrons. These are the main functioning units of the kidney. Each kidney contains more than 1 million such units, each consisting of a tuft of small blood vessels, called a glomerulus, and some tubules. Although most nephrons measure 50 to 55 mm in length, the nephrons with renal corpuscles located within the cortex near the medulla are longer than the nephrons with renal corpuscles in the cortex nearer to the exterior of the kidney.

First, the blood passes through the glomerulus. The blood cells, proteins, large particles, and some of the water remain in the bloodstream. Everything else, including a large volume of water, filters out and passes into the tubule.

In the tubule, an important process occurs to control what will be excreted in the urine and what will be reabsorbed into the blood. Waste products (urea, creatinine, and uric acid) and excess salts, water, and calcium remain within the tubule. The other substances are absorbed. These

absorbed substances are then returned to the bloodstream. Thus, the composition of the urine is determined by both the need to get rid of unwanted substances and the need to retain other substances.

The urine that has remained in the tubule emerges from its lower end, enters the ureter, and goes to the bladder, where it is stored. When the nerves of the bladder signal a feeling of fullness, the urine is avoided through the urethra.

Ex. 23. Read and translate the following words:

Adjacent; maintain; urea; erythropoiesis; cushion; cardiac output; interlobar; papillae; arcuate artery; radial artery; arteriole; peritubular; glomerule; link.

Ex. 24. Read the following text:

KIDNEYS

The kidneys are complex organs that have numerous biological roles. Their primary role is to maintain the homeostatic balances of bodily fluids and secreting metabolites (such as urea) and minerals from the blood and excreting them, along with water, as urine. The kidneys are important regulators of blood pressure, glucose metabolism, and erythropoeisis (the process by which red blood cells (erythrocytes) are produced). The medical field that studies the kidneys and diseases of the kidney is called nephrology. The prefix *nephro-* meaning kidney is from the Ancient Greek word *nephros*; the adjective *renal* meaning related to the kidney is from Latin *rēnēs*, meaning kidneys.

In humans, the kidneys are located in the posterior part of the abdomen. There is one on each side of the spine. The right kidney sits just below the liver, the left one is located below the diaphragm and adjacent to the spleen. Above each kidney an adrenal gland is. The asymmetry within the abdominal cavity caused by the liver results in the right kidney being slightly lower than the left one, while the left kidney is located slightly more medial.

The kidneys are approximately at the vertebral level T12 to L3. The upper parts of the kidneys are partially protected by the eleventh and twelfth ribs, and each whole kidney is surrounded by two layers of fat, which help to cushion it.

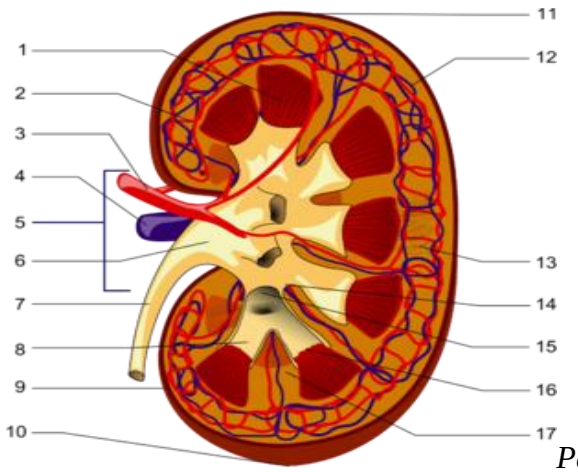
In a normal human adult, each kidney is about 10 cm long, 5.5 cm in width and about 3 cm thick, weighting 150 grams. Together, the kidneys weight about 0.5% of a person's body weight.

The two kidneys together receive between 20% and 25% of the total cardiac output. Each kidney receives its blood supply from the renal artery, two of wich branch from the abdominal aorta. Upon entering the hilum of the kidney, the renal artery divides into smaller interlobar arteries situated between the renal papillae. At the outer medulla, the interlobar arteries branch into arcuate arteries, which course along the border between the renal medulla and cortex, giving off still smaller branches, the cortical radial arteries. Branching of these cortical arteries are the afferent arterioles supplying the glomerular capillaries, which drain into efferent arterioles. Efferent arterioles divide into peritubular cappilaries that provide an extensive blood supply to the cortex. Blood from these capillaries collects in renal venules and leaves the kidney via the renal vein. Efferent arterioles of glomeruli closest to the medulla send branches into the medulla, forming the vasa recta (intestinal artery). Blood supply is intimately linked to blood pressure.

Ex. 25. Answer the following questions:

1. What is the major role of the kidneys? 2. Are the kidneys important regulators of blood pressure, glucose metabolism, and erythropoeisis? 3. Why is the right kidney slightly lower than the left one? 4. How do the kidneys receive blood supply?

Ex. 26. Describe the structure of kidney using the following figure:



Parts of Kidney

Parts of the kidney:

1. Renal pyramid; 2. Efferent vessel; 3. Renal artery; 4. Renal vein; 5. Renal hilum; 6. Renal pelvis; 7. Ureter; 8. Minor calyx; 9. Renal capsule; 10. Inferior renal capsule; 11. Superior renal capsule; 12. Afferent vessel; 13. Nephron; 14. Minor calyx; 15. Major calyx; 16. Renal papilla; 17. Renal column.

Ex. 27 Describe kidneys' functions. The following expressions may be helpful:

1. The function of kidneys is to maintain the homeostatic balances. *Or:* Kidneys maintain the homeostatic balances. 2. The kidneys remove waste products. *Or:* The function of kidneys is to remove waste products. *Or:* The primary role of kidneys is removal of waste products. *Or:* Kidneys function to remove waste products.

Ex. 28. Write the summary of the text "Kidneys".

Ex. 29. Translate the following sentences into English:

1. Органи сечової системи складаються з двох нирок та органів, які слугують для накопичення і виведення сечі (сечоводи, сечовий міхур, сечівник). 2. Нирка – парний, бобоподібної форми орган, масою 120-200 г. 3. Знаходиться нирка в поперековій ділянці, з боків від хребтового стовпа. 4. Права нирка знаходиться на 1 – 1,5 см нижче від лівої. 5. Сечовід має форму трубки, завдовжки 30-35 см, діаметром 4-7 см. 6. Функція сечоводу – проведення сечі. 7. Сечовий міхур – непарний порожнистий орган. 8. Функція сечового міхура – накопичення та виведення сечі. 9. Сечівник – непарний орган у формі трубки. 10. Сечівник має два отвори – внутрішній та зовнішній. 11. Функція сечівника – виведення сечі.

OVERVIEW

The main function of the urinary system is removal of excess fluid and waste material from the blood. The urinary system consists of two kidneys, urinary bladder, ureters, and urethra. The kidneys are located against the back of the abdominal wall. Each kidney is generally about the size of the person's fist. Kidneys are the most important organs for fluid excretion. Ureters are muscular tubes. They propel the urine to the bladder. The bladder is a muscular bag that stores the urine. The urethra is the narrow tube through which the urine leaves the bladder during urination.

LESSON 57
KIDNEYS DISORDERS

VOCABULARY

glomerular [glO'merulq] клубочковий, гломерулярний

glomerulonephritis [glO'merulqnl'fraltls] гломерулонефрит

corpuscle ['kO:pAsl] тільце

renal corpuscle ['rl:nql] мальпігієве тільце, ниркове тільце

permeability ["pq:mjq'blllt] проникність

filtrate ['fIltrlt] фільтрат; ['fIltrelt] фільтрувати

osmolality ["OzmO'lxllt] осмотичний тиск

blurred [blq:d] нерізкий

nephron ['nefrOn] нефрон (структурно-функціональна одиниця нирки)

flank [flxNk] бік

recur [rl'kq:] рецидивувати

eradicate [l'rxdlkelt] усувати, звільняти

failure ['feIljq] недостатність

urea ['juqrlq] сечовина

acidosis ["xsl'dousls] ацидоз, кислотна інтоксикація

pyelonephritis [ˌpaɪɛlɒnɪˈfraɪtɪs] пієлонефрит

renal pelvis [ˈpiːvɪs] ниркова лоханка

renal tubule [ˈtjuːbjuːl] нирковий каналець

ischemia [ɪsˈkɪːmɪə] ішемія

vasoconstriction [ˌvɛɪsəʊkɒnˈstrɪkʃn] ангіоспазм, вазоконстрикція, вазоспазм, звуження кровоносних судин

WORD-BUILDING

Ex. 1. Analyze the structure of the following terms and translate them into Ukrainian:
Irregular; relaxation; subcutaneous; eyeball; surgical; vomiting; respiration; paralysis; overdosage.

GRAMMAR:

Ex. 2. Familiarize yourself with the data of the following table:

FUNCTIONS OF THE VERB "TO HAVE"

USING	FUNCTION	EXAMPLES
to have + noun	Main Verb	The heart **has** four chambers.
to have + V_3 (Perfect Tenses, Active Voice) **to have** + been + V_3 (Perfect Tenses, Passive Voice)	Auxiliary Verb	The heart **has** pumped oxygenated blood.
to have + V (with particle "to")	Modal Meaning	The doctor **has** to examine her.

Ex. 3. Read the following sentences and translate them into Ukrainian:
1. Many of the abnormalities have no symptoms. 2. Instruments that pulverize kidney stones with ultrasound have replaced most traditional surgical procedures. 3. They had adverse reactions, including death. 4. As a rule the person has flank pain, high fever, vomiting, and burning sensation during urination. 5. In persons who have had chickenpox, the virus can cause shingles later in life. 6. He has estimated that mitosis is the division of the nucleus into two nuclei. 7. The arteries have to be strong as well as flexible. 8. The students of many countries have to pay for their training.

READING AND DEVELOPING SPEAKING SKILLS

Ex. 4. Read VOCABULARY and memorize the following words.

Ex. 5. Compose 2-3- sentences using the words of VOCABULARY.

Ex. 6. Insert the missing letters:
Renal tub_le; nep_ritis; ur_a; corpus_le; fail_re; ne_hron; renal pel_is.

Ex. 7. Translate the following words and word-combinations into Ukrainian:
Recur; permeability; acidosis; glomerulonephritis; vasoconstriction; filtrate; eradicate; osmolality; ischemia; renal corpuscle; renal pelvis; increase; tea-colored urine; blurred vision; ache; flank pain.

Ex. 8. Read the following words and word-combinations:
Abnormality; initially; nephritis; corpuscle; permeability; osmolality; urine; generalized; pyelonephritis; medulla; high fever; although; immediate threat; recur; interfere; lead; mercuric ion; carbon tetrachloride; epithelium.

Ex. 9. Read the following text:

KIDNEYS DISORDERS

There are many forms of kidneys diseases. Many of the following abnormalities have no symptoms and may often go undetected, at least initially, or are detected when tests are done.

Glomerulonephritis results from inflammation of the filtration membrane within the renal corpuscle. It is characterized by an increased permeability of the filtration membrane and the accumulation of numerous white blood cells in the area of the filtration membrane. As a

consequence, a high concentration of plasma proteins enters the urine along with numerous white blood cells. Plasma proteins in the filtrate increase the osmolality of the filtrate, causing a greater-than-normal urine volume. The signs and symptoms are the following: cola- or tea-colored urine, hypertension, fluid retention, headaches, blurred vision, and generalized aches.

Pyelonephritis is inflammation of the renal pelvis, medulla, and cortex. It often begins as a bacterial infection of the renal pelvis and then extends into the kidney itself. It can result from several types of bacteria. Pyelonephritis may cause the destruction of nephrons and renal corpuscles, but because the infection starts in the pelvis of the kidney, it affects the medulla more than the cortex. As a consequence, the ability of the kidney to concentrate urine is dramatically affected. As a rule the person has flank pain, high fever, vomiting, and burning sensation during urination. When properly treated, acute pyelonephritis rarely progresses to chronic renal disease, although it can be an immediate threat to life in an elderly or weakened persons. It can also recur if the infection is not totally eradicated.

Renal failure may result from any condition that interferes with kidney function. Acute renal failure occurs when damage to the kidney is extensive and leads to the accumulation of the urea in the blood and to acidosis. In complete renal failure death may occur in 1 to 2 weeks. Acute renal failure may result from acute glomerulonephritis, or it may be caused by damage to or blockage of renal tubules. Some poisons such as mercuric ions or carbon tetrachloride that are the common to certain industrial processes cause necrosis of the nephron epithelium. If the damage does not interrupt the basement membrane surrounding the nephrons, extensive regeneration can occur within 2 or 3 weeks. Severe ischemia associated with circulatory shock caused by sympathetic vasoconstriction of the renal blood vessels can cause necrosis of the epithelial cells of the nephron.

Ex. 10. Translate the following words and word-combinations into English:
Гломерулонефрит; нирковий каналець; усувати, викорінювати; мальпігієве тільце, ниркове тільце; ацидоз, кислотна інтоксикація; осмотичний тиск; ниркова лоханка; сечовина; недостатність; пієлонефрит; рецидивувати; проникність; ангіоспазм, звуження кровоносних судин; викликати деструкцію; хронічне захворювання; виникати; покривати, оточувати.

Ex. 11. Translate the text “Kidneys Disorders” into Ukrainian.

Ex. 12. Insert the missing words:
1. Glomerulonephritis results from inflammation of the filtration membrane within the renal _. 2. It is characterized by an increased _ of the filtration membrane. 3. The signs and symptoms of glomerulonephritis are the following: tea-colored urine, hypertension, fluid retention, _, and generalized aches. 4. Pyelonephritis is inflammation of the renal _, medulla, and cortex. 5. It often begins as a bacterial _ of the renal pelvis. 6. Then it extends into the _ itself. 7. Pyelonephritis may cause the destruction of _ and renal corpuscles. 8. The person with pyelonephritis has _ pain, high fever, vomiting, and burning sensation during urination. 9. When properly treated, acute _ rarely progresses to chronic renal disease. 10. Renal failure may result from any _ that interferes with kidney function. 11. Acute renal failure occurs when damage to the kidney leads to the accumulation of the _ in the blood. 12. In renal failure death may _ in 1 to 2 weeks. 13. Acute renal failure may result from acute _. 14. In some cases it may be caused by damage to or blockage of renal _. 15. Circulatory shock caused by sympathetic _ of the renal blood vessels can cause necrosis of the epithelial cells of the nephron.

Ex. 13. Answer the following questions:
1. What kidneys disorders do you know? 2. What does glomerulonephritis result from? 3. What is glomerulonephritis characterized by? 4. What are the symptoms of glomerulonephritis? 5. What is pyelonephritis? 6. What can pyelonephritis result from? 7. What are the signs of pyelonephritis? 8. What is renal failure? 9. What are the causes of renal failure? 10. Is it dangerous disease?

Ex. 14. Insert the prepositions and translate the following sentences:
1. Acute infections practically always precede the onset _ acute nephritis. 2. Acute glomerular nephritis is not merely a disease of the kidney, but may involve various systems _ the body. 3. The chief changes occurring _ acute glomerular nephritis are swelling and disintegration of the endothelial cells which line the capillaries of the tufts (tuft пучок). 4. The patient may develop the clinical picture of acute nephritis _ a period of from two to eight days. 5. Disturbances of urination characterized _ a scanty (недостатній, обмежений) outflow of urine or even complete anuria may be present. 6. The severity or mildness of the kidney disease cannot always be measured _ the examination of the urine or any other tests.

Ex. 15. Write out key words of the text "Kidney Disorders".

Ex. 16. Make up a plan of the text "Kidney Disorders".

Ex. 17. Speak on the kidney disorders. The following expressions may be helpful:
… is one of the kidneys disorders.
The cause of … is … .
The signs and symptoms of … are … .
… may progresses to/can cause … .

Ex. 18. Make up a dialogue on glomerulonephritis, pyelonephritis, or renal failure. **Use the following expressions:**
What is the definition of …?
What is the cause of …?
What are the signs of … ?

Ex. 19. Pronounce and memorize the words to the theme studied:

Smooth surface гладка, рівна поверхня; **stone** камінь; **referred** [rI'fq:d] **pain** гетеротопічний біль, відбитий (рефлекторний) біль; **groin** [grOIn] пах; **ulceration** укривання виразками; **obscure** [qb'skjuq] неясний; **gout** [gaut] подагра; **pulverize** ['pAlveralz] дрібнити, дробити.

Ex. 20. Read and translate the following text:

KIDNEY STONES

Kidney stones are hard objects found in the pelvis of the kidney. They are normally small (2 to 3 mm in diameter) with a smooth surface. Approximately 1% of all autopsies reveal the presence of kidney stones, and many of the stones occur without causing symptoms. The symptoms associated with kidney stones occur when a stone passes into the ureter, resulting in referred pain down the back, side, and groin area. The ureter contracts around the stone, causing the stone to irritate the epithelium and produce bleeding, which appears as blood in the urine. In addition to causing intense pain, kidney stones can block the ureter, cause ulceration in the ureter, and increase the probability of bacterial infections.

Approximately 65% of all kidney stones are composed of calcium oxylate mixed with calcium phosphate, 15% are magnesium ammonium phosphate, and 10% are uric acid or cystine. In all cases approximately 2.5% of the kidney stone is composed of mucoprotein.

The cause of kidney stones is usually obscure. Predisposing conditions include a concentrated urine and an abnormally high calcium concentration in the urine, although the cause of the high calcium concentration is usually unknown. Magnesium ammonium phosphate stones are often found in people with recurrent kidney infections, and uric acid stones often occur in people suffering from gout. Severe kidney stones must be removed surgically. However, instruments that pulverize kidney stones with ultrasound have replaced most traditional surgical procedures.

Ex. 21. Say to what conclusion you have come after having read the text "Kidney Stones".

Ex. 22. Match the following terms with their definitions:

1. Glomerulonephritis.	A. The inflammation of a kidney pelvis.
2. Hypernephroma.	B. The enlargement and swelling of the kidney due to block of urine flow, caused by renal calculi, tumors, or narrowing of the ureters.
3. Hydronephrosis	C. A disease resulting from a disturbance of uric acid metabolism, characterized by an excess of uric acid in the blood and deposits
4. Pyelitis.	of uric acid salts in various tissues.
5. Polycystic kidney.	D. The inflammation of the kidneys, primarily involving the glomerula; this disease causes destruction of the glomerular capillary walls.
6. Gout.	E. Renal malignant tumor of the kidneys, which occurs in adults. It usually metastasizes to the bones, blood and lungs.
	F. The formation of numerous fluid-filled sacs upon and within the kidney.

Ex. 23. Pronounce and memorize the words to the theme studied:

Rejection відторгнення; **compatibility** сумісність; **cadaver** [kq'delvq] труп; **acceptable** прийнятний, задовільний; **locate** виявляти; **offer** виражати готовність; **accept** приймати, сприймати; **hurdle** бар'єр, перешкода; **prone** схильний (до), підвладний; **follow-up** наступний; спостереження, нагляд, віддалений результат; **enhance** [ln'ha:ns] збільшувати, підсилювати, поліпшувати; **ensure** [ln'Suq] гарантувати, забезпечувати.

Ex. 24. Give a summary of the following text:

KIDNEY TRANSPLANTATION

Transplantation and dialysis are the only two treatment options for persons with end-stage kidney disease. Not everyone with end-stage kidney disease is a suitable candidate for kidney transplantation. Those with infection, acute glomerulonephritis, unstable coronary artery disease, or other severe medical problems generally are considered not to be in good enough condition to undergo a major operation. They can have adverse reactions, including death, after transplantation than are healthier individuals. However, when successful, transplantation provides a healthier and better-quality life.

The operation itself is not a complicated procedure. What can be complicated is finding the right donor, which is important to lessen the chance of rejection of the new kidney.

Compatibility is determined by blood tests that provide information about both the donor and the recipient, such as blood type and the nature of the antibodies present in each. A brother or sister of the recipient generally has compatible tissue. Unfortunately, it is not always possible.

When a living donor is not available, hospitals and clinics throughout the country are called on the help locate acceptable donors from among accident victims and others who offered to donate their kidneys after their death. A kidney from a cadaver must be transplanted within 48 hours after the death of the donor. Thus, some people have to undergo long periods on dialysis until a compatible cadaver donor is available.

After the transplantation operation, the person receives immonusuppressant drugs to keep his/her body from rejecting the foreign kidney. If the donor is a blood relative of the recipient, the chances are 85 to 95 percent that by 1 year after the transplantation, the kidney will still be functioning. With a cadaver donor, the chances are about 80 percent that the kidney will still be working quite well by 1 year after the transplant operation. In cases in which the transplanted kidney is rejected, a second or even third transplantation can be done.

Improvements in preparing patients for transplantation and in monitoring their recovery have decreased mortality to as low as 5 percent in some medical centers.

Transplant recipients usually are hospitalized for 5 days to 6 weeks, depending on how well their body accepts the new kidney. The major hurdles are rejection and infection. Immonusuppressant drugs have greatly decreased rejection, but they make it harder for the body's immune system to fight infection. For this reason, the physician will often give antibiotics to prevent viral and fungal infection for the first few months after transplantation. This is the most likely period in which infection may develop. Because transplant recipients must take an immonusuppressant medication for the rest of their lives, they are prone to have infections.

Kidney transplant recipients need careful medical follow-up to enhance the success of the operation and to ensure good general health.

OVERVIEW

There are many forms of kidneys diseases. **Glomerulonephritis** results from inflammation of the filtration membrane within the renal corpuscle. It is characterized by an increased permeability of the filtration membrane. The signs and symptoms of glomerulonephritis are the following: tea-colored urine, hypertension, fluid retention, headaches, and generalized aches and pains. **Pyelonephritis** is inflammation of the renal pelvis, medulla, and cortex. It often begins as a bacterial infection of the renal pelvis. Then it extends into the kidney itself. Pyelonephritis may cause the destruction of nephrons and renal corpuscles. The ability of the kidney to concentrate urine is dramatically affected. As a rule the person has flank pain, high fever, vomiting, and burning sensation during urination. When properly treated, acute pyelonephritis rarely progresses to chronic renal disease. **Renal failure** may result from any condition that interferes with kidney function. Acute renal failure occurs when damage to the kidney leads to the accumulation of the urea in the blood. In renal failure death may occur in 1 to 2 weeks. Acute renal failure may result from acute glomerulonephritis. In some cases it may be caused by damage to or blockage of renal tubules. Circulatory shock caused by sympathetic vasoconstriction of the renal blood vessels can cause necrosis of the epithelial cells of the nephron.

LESSON 58
CANCER

VOCABULARY

cancer [ˈkxnsq] рак

excretion [eksˈkrl:S(q)n] виведення (речовини з організму), екскреція

differentiation [“dlfqrenSlˈelS(q)n] модифікація, пристосування, видозмінення

pattern [ˈpxtqn] зразок, модель

orderly [ˈO:dqll] систематичний, упорядкований, організований; правильний

lack [lxk] не мати; відчувати нестачу, потребувати, мати потребу

crowd out [kraud] витискати; замінювати; скупчуватися

restraint [rlsˈtrelnt] обмеження

compete [kqmˈpl:t] конкурувати

tumor [ˈtjumq] неоплазма, новоутворення; пухлина

nearby [ˈnlqbal] близький, суміжний

via [valq] за допомогою чого-небудь.

benign [blˈnaln] доброякісний

attempt [q'tempt] намагатись, прагнути

confine [kqnˈfaln] обмежувати

malignant [mqˈllgnqnt] злоякісний

accomplish [q'kOmplIS] досягати

adjacent [q'Gels(q)nt] розташований поряд; близький, суміжний

WORD-BUILDING

Ex. 1. Write the derivatives of the following words and translate them:

Bacteria; number; count; produce; harm; grow; culture; appear; differ; examine; toxic.

GRAMMAR:

Ex. 2. Familiarize yourself with the data of the following table:

FUNCTIONS OF THE VERB "TO BE"

USING	FUNCTION	EXAMPLES
to be + noun (with a preposition)	Main Verb	The heart **is** in the chest.
To be + noun (without preposition)	Link-Verb	The heart **is** a muscular organ.
To be + V_{ing} (Continuous Tenses, Active Voice) **to be** + **being** + V_3 (Continuous Tenses, Passive Voice) **To be** + V_3 (Simple Tenses, Passive Voice) to have + **been** + V_3 (Perfect Tenses, Passive voice)	Auxiliary Verb	The heart **is** making 120 beats per minute. He **was being** examined by the surgeon. The heart **is** located in the chest. A case-history has **been** filled in.
to be + V (with particle "to")	Modal Meaning	The heart **is** to pump blood throughout the vessels.
It + **to be**	Impersonal Sentences	It **is** hot. It **was** painful.
It **is** + V_3 (Passive Voice)	Indefinite Personal Sentences	It **is** known that she works here.

Ex. 3. Read the following sentences and translate them into Ukrainian:
1. Cancer is characterized by abnormal growth of cells. 2. The human body is a living, growing system that contains billions of individual cells. 3. New cells are created through the process of cell division. 4. Cancer therapy is concentrated primarily on trying to confine and then kill the malignant cells. 5. This goal is accomplished by killing the tissue with X-rays. 6. It is important to remember that cancer is very serious disease. 7. Why cancer develops in some people is not fully known. 8. Chemotherapy is the use of medications to treat cancer. 9. The illnesses are associated with a cancer. 10. The major groups of malignant tumors are carcinomas, sarcomas, and mixed-tissue tumors. 11. Students are carrying out very important experiment. 12. Was he preparing Anatomy at 5 o'clock yesterday? 13. The oncologist is to examine this female.

Ex. 4. Translate the following sentences into English:
Кров'яний тиск цього пацієнта був визначений вчора. 2. На яких конгресах були прийняті всі анатомічні терміни? 3. Напрям м'язового скорочення буде встановлений експериментально. 4. Його здоров'я було відновлене після належного лікування. 5. Вважається, що глибокий сон необхідний, щоб відновити функцію нервової системи. 6. Відомо, що гістологічна будова тканини легень і печінки різна. 7. Без даних аналізів буває складно встановити правильний діагноз. 8. Вважають, що хворий повністю відновить своє здоров'я до кінця лікування. 9. Хворому необхідно визначити групу крові до операції. 10. Вважали, що йому необхідна операція на нирках.

READING AND DEVELOPING SPEAKING SKILLS

Ex. 5. Read VOCABULARY and memorize new words.

Ex. 6. Insert the missing letters and translate the following words:
Ac_omplish; confi_e; beni_n; ne_rby; compet_, restra_nt; mali_nant; tum_r; cro_d out; pat_ern; la_k; different_iation; _ancer.

Ex. 7. Translate the following words into English:

Пухлина; рак; доброякісний; злоякісний; обмеження; близький, розташований поряд, сусідній; намагатися, прагнути; заміщати, замінювати; організований, впорядкований; модель, зразок; екскреція; розвиватися; рости; вторгатися; знищувати; тканина; визначати; кістковий мозок.

Ex. 8. Read and memorize the following terms:

Tumor is any abnormal swelling, lump or mass. In current English, however, the word tumor has become synonymous with neoplasm, specifically solid neoplasm. Note that some neoplasms, such as leukemia, do not form tumors. Neoplasm: the scientific term to describe an abnormal proliferation of genetically altered cells. Neoplasms can be benign or malignant. Malignant neoplasm or malignant tumor: synonymous with cancer. Benign neoplasm or benign tumor: a tumor (solid neoplasm) that stops growing by itself, does not invade other tissues and does not form metastases. Invasive tumor is another synonym of cancer. The name refers to invasion of surrounding tissues. Pre-malignancy, pre-cancer or non-invasive tumor: a neoplasm that is not invasive but has the potential to progress to cancer (become invasive) if left untreated. These lesions are, in order of increasing potential for cancer, atypia, dysplasia and carcinoma in situ. Metastasis: new tumors that appear far from the original tumor. Chemotherapy: treatment with drugs. Radiation therapy: treatment with radiations. Carcinoma: Malignant tumors derived from epithelial cells. This group represents the most common cancers, including the common forms of breast, prostate, lung and colon cancer. Sarcoma: Malignant tumors derived from connective tissue.

Ex. 9. Read the following words and word-combinations:

Characterize; generalize; cause; excretion; accompanying process; acquire; pattern; orderly; divide; neighboring; nutrient; tumor; metastasis; via the blood system; benign tumor; procedure available today; identify; primarily; remove; adjacent; nausea.

Ex. 10. Read the following text:

CANCER

Cancer is general term for various illnesses characterized by abnormal growth of cells, forming tumors that can develop in various parts of the body. Some cancers can affect one organ, and others are more generalized. Cancer is very serious disease. Annually, cancer is diagnosed in approximately 1.4 million persons. Cancer causes more than 500.000 deaths every year.

As we know, the human body is a living, growing system that contains billions of individual cells. These cells carry out all of the body's functions, such as metabolism, transportation, excretion, reproduction, and locomotion. The body grows and develops as a result of increases in numbers of new cells and their changes into different types of tissue. New cells are created through the process of cell division. Different types of cells are created by an accompanying process called cell differentiation (differentiation is the process by which cell acquires a specialized function). Cell division results in the normal pattern of human growth; cell differentiation makes possible the normal, orderly pattern of growth and development.

Unlike normal cells, cancer cells lack the controls that stop growth. They divide without restraint, displacing neighboring normal cells by crowding them out and affecting their normal function and growth by competing with them. These uncontrolled cells can grow into a mass called a tumor (or a neoplasm) and invade and destroy nearby normal tissue. They also can migrate in a process called "metastasis", spreading via the blood or lymph system to other parts of the body. It is important to note all cells that have rapid or uncontrolled growth are cancer cells. Cells may accumulate as benign tumors, which do not invade or destroy surrounding tissues.

Why cancer develops in some people is not fully known. The earlier the cancer detected, the greater the chances it can be treated before it spreads to other tissues or organs in the body. With the cancer screening procedures available today, many cancers can now be detected early enough to be cured. Every diagnosis of cancer attempts to identify the type and location of the cancer. Each type

of cancer has its own characteristic rate of growth, tendency to spread, and particular set of target tissues or organs to which it spreads.

Cancer therapy is concentrated primarily on trying to confine and then kill the malignant cells. This goal is accomplished by killing the tissue with X-rays, by removing the tumor surgically, or by treating the patient with drugs that kill rapidly dividing cells (chemotherapy). The major problem is that some cancers cannot be removed completely by surgery or killed by X-rays. In addition, X-rays may also kill normal tissue adjacent to the tumor. Drugs used in cancer therapy do not kill only cancer tissue, but they kill any other rapidly growing tissue as well such as bone marrow (in which new blood cells are produced) and the lining of the intestinal tract. Loss of these tissues can result in anemia (caused by a lack of red blood cells) and nausea (caused by loss of the intestinal lining).

Ex. 11. Translate the following words and word-combinations into Ukrainian:
Abnormal growth of cells; annually; to increase in numbers of new cells; cells are created through the process of cell division; acquire; orderly pattern; unlike normal cells; cancer cells lack the controls that stop growth; without restraint; to invade and to destroy nearby tissue; via the blood or lymph system; benign tumors; early diagnosis; procedures available today; to kill the malignant cells; goal; rapidly growing tissue; nausea.

Ex. 12. Translate the text "Cancer" into Ukrainian.

Ex. 13. Complete the following sentences:
Cancer is characterized by _. 2. Cancer can develop in various _. 3. Individual cells carry out all of the body's functions, such as _. 4. New cells are created through the process of _. 5. Cancer cells divide without _. 6. Cancer cells crowd normal cells out and affect _. 7. They can spread via the blood system to _. 8. Cells of benign tumors do not invade or destroy _.

Ex. 14. Give the English equivalents of the words in brackets. Translate the sentences into Ukrainian:
The mechanism of cancer (розвиток) is not fully known. 2. The best diagnosis of (раку) is an early one. 3. Cancer can be treated before it (розповсюдиться) to other organs or tissues. 4. The cancer diagnosis identifies the type and (розташування) of the cancer. 5. The type of cancer has particular (набір) of target tissues or organs to which it spreads. 6. Cancer therapy (обмежує) and kills the malignant cells. 7. Cancer therapy (включає) using X-rays, surgical treatment, and chemotherapy. 8. X-rays may kill normal tissue (розташований поряд) to the tumor.

Ex. 15. Answer the following questions:
1. What is cancer characterized by? 2. Where can cancer develop? 3. What do the cancer cells lack? 4. What is a tumor? 5. What is the difference between the cells of benign and malignant tumors? 6. What is the goal of early diagnosis? 7. What does each type of cancer have? 8. What is the goal of cancer therapy?

Ex. 16. Insert the missing prepositions:
1. Cancer is a disease, characterized _ excessive division of body cells. 2. Malignant tumors can penetrate and destroy the normal tissue _ which they are a part. 3. The cancerous cells can invade adjacent tissues and spread throughout the body _ way of the blood and lymph systems. 4. The transformation of a normal cell _ a cancerous one is only partially understood at present.

Ex. 17. Put all possible questions to the following sentences:
1. Most of the widely used screening tests are designed to discover common forms of cancer in persons of highest risk. 2. Lung tumors occur at a much greater frequency in asbestos-exposed persons who also smoke. 3. Oncology is the study of cancer and its associated problems. 4. Cancer

cells can spread from a tumor site to other areas of the body through the lymphatic system. 5. During cancer surgery malignant lymph nodes are often removed.

Ex. 18. Skim through the text "Cancer" once more, divide it into logical parts, and entitle them.

Ex. 19. Write out the key sentences of the text "Cancer".

Ex. 20. Be ready to discuss the following topics:
Mechanisms of cancer occurring;
Cancer therapy.

Ex. 21. Write the summary of the text "Cancer".

Ex. 22. Read the following text and discuss it with your fellow-students:

WARNING SIGNS AND CANCER RISK FACTORS

Breast Cancer
Warning signs: any lump or thickening in the breast or bleeding or discharge from the nipple.
Cancer risk factors: breast cancer most often occurs in women older than 50: in women who have never had children; had their first child after age 30, have never breastfed, and in women from families in which there is a history of breast cancer in mother or sister.

Colorectal Cancer
Warning signs: any rectal bleeding or long change in the bowel habits.
Cancer risk factors: history of colorectal polyps or colorectal cancer in a family member or chronic ulcerative colitis.

Lung Cancer
Warning signs: nagging cough, coughing up blood, persistent attacks of pneumonia or bronchitis, chest pain.
Cancer risk factors: heavy smoking and exposure to environmental pollutants.

Oral Cancer
Warning signs: any change of color in the mouth or sore in the mouth that fails to heal.
Cancer risk factors: most common in men older than 45, heavy smokers, and users of chewing tobacco, especially when coupled with heavy use of alcohol.

Prostate Cancer
Warning signs: difficulty in urination, persistent pain in the lower back, pelvis, or upper thighs, blood in the urine.
Cancer risk factors: most common among men older than 70.

Skin Cancer
Warning signs: a small lesion with irregular border and red, white, blue, or blue-black spots on the trunk or limbs, shiny, firm bump or lesions from pearl to black anywhere on the skin, dark lesions on palms, soles, tips of fingers and toes, large brownish spot with darker speckles on skin exposed to sun, red-purple spots anywhere on the skin, purple-brown or dark blue nodules on toes or leg, pearly or wax bump on face, ear, or neck, flat, flesh-colored or brown scar-like lesion on the chest or back, change in a mole or any sore that fails to heal.
Cancer risk factors: fair skin, blue eyes, or red hair, severe sunburn in childhood, family history of birthmarks or moles.

Urinary Tract and Bladder Cancer
Warning signs: blood in the urine, back pain, loss of weight and appetite, persistent fever, anemia.
Cancer risk factors: most common in men older 50, heavy smokers, and history of chronic urinary tract infections.

Ex. 23. Translate the following sentences into English:

1. Рентген-терапія не призвела до сприятливих результатів при лікуванні раки шлунку. 2. Хворі зі злоякісними пухлинами особливо схильні до різноманітних ускладнень і захворювань. 3. Найнадійніше лікування пухлини – це її хірургічне видалення. 4. Пневмонія – найчастіше ускладнення у хворих на рак. 5. Така операція повинна запобігти проникненню ракових кліток в мозок. 6. Виявивши пухлину, лікар зробив рентгенологічні і лабораторні досліджування.

Ex. 24. Pronounce and memorize the meaning of the following terms:

Life-threatening [ˈTretnlN] що загрожує життю; **capable** [ˈkelpqbl] здатний (на); **exhibit** виявляти(ся); **resemble** [rl'zembl] походити, мати схожість; **cessation** [se'selS(q)n] припинення; **machinery** [mq'Sl:nqrl] механізм; **induce** викликати, стимулювати.

Ex. 25. Read and translate the following text:

TUMORS

Tumors are masses or growths, which arise from surrounding normal tissue. They may be either malignant (progressive and life-threatening) or benign (non-progressive and not life-threatening). Benign tumors display slow growth and are encapsulated. So that tumor cells cannot invade the surrounding tissue. Malignant tumor growth is invasive. It extends beyond the tissue of origin into adjacent organs. The major groups of malignant tumors are carcinomas, sarcomas, and mixed-tissue tumors.

A carcinoma is a malignant tumor derived from epithelial tissue (glandular, skin, linings of internal organs). A sarcoma is a malignant tumor derived from connective tissue (blood, bone, muscle, fat, or cartilage). Mixed-tissue tumors are derived from tissue, which is capable of differentiating into epithelial as well as connective tissue.

Malignant neoplasms lack the normal growth control that is exhibited by most other adult tissues, and in many ways they resemble embryonic tissue. Rapid growth is one characteristic of embryonic tissue, but as the tissue begins to reach its adult size and function, it slows or stops growing completely. This cessation of growth is controlled at the individual cell level, cancer results when a cell or group of cells for some reasons breaks away from that control. This breaking loose involves the genetic machinery and can be induced by viruses, environmental toxins, and other causes. The illness associated with cancer usually occurs as the tumor invades and destroys the healthy surrounding tissue, eliminating its function. Malignant tumor can spread by local growth and expansion or by metastasis, which results from tumor cell's separating from the main mass and being carried by the lymphatic or circulatory system to a new site where a second tumor is created.

There is no medicine to cure anybody from cancer. Scientists are trying to find the cure but they cannot find it. Very many sick people are waiting for this miraculous cure. It will help thousands of people that have cancer.

Ex. 26. Answer the following questions:

1. What is a tumor? 2. What types of tumors do you know? 3. What is the difference between benign and malignant tumors? 4. What groups of malignant tumors do you know? 5. What is a carcinoma? 6. What is sarcoma? 7. What does the malignant tumor lack? 8. How can malignant tumors spread?

Ex. 27. Match the term and its definition:

1. carcinoma	a. term meaning essentially harmless; not progressive or recurrent.
2. benign	b. cancerous tumor derived from epithelial tissues in the body.
3. malignant	c. abnormal growth of tissue. It may be malignant (cancerous) or benign (noncancerous).
4. neoplasm	d. new and abnormal growth.
5. sarcoma	e. term used to describe cancerous tumors that can grow uncontrollably and spread (metastasize).

6. tumor	f. cancerous tumor derived from connective tissue in the body.

Ex. 28. Read the following text, entitle it, and write new terms out. Retell the text:

Surgery has long been the foundation of cancer treatment. The goals of surgery can vary. It can be done to remove a cancerous growth from the body, or to learn if malignant cells have spread to other parts of the body. Surgery is most successful if the cancer has not spread.

Radiation therapy (X-ray therapy, radiotherapy, or irradiation) can be used to destroy cancer cells. Radiation therapy is either part of the treatment or the only treatment for about half of the patients. This form is effective only for the cancer cells within the area receiving the radiation. Radiation may be used before surgery to shrink a cancerous tumor, after surgery to stop growth of any remaining cancer cells, or alone or with anticancer drugs to destroy a malignant tumor. It is particularly effective when used to treat certain types of localized cancers such as malignant tumors of the lymph nodes or vocal cords. But radiology may produce troublesome side effects. They are swallowing difficulties, dry mouth, nausea, diarrhea, hair loss, and loss of energy.

Chemotherapy is the use of medications to treat cancer. For some types of malignancy chemotherapy may produce a cure, in other cases (when the cancer is not curable), it can relieve symptoms and enhance the quality of life for a patient. Cancer chemotherapy does not always mean the use of only a single drug. Combination chemotherapy consists of giving a group of drugs that work together to kill cancer cells. Anticancer drugs can affect normal tissue cells as well. Depending on the specific drugs used, chemotherapy can produce various side effects similar to those of radiation therapy. These toxic reactions include hair loss, sores in the mouth, difficulty swallowing, nausea, vomiting, diarrhea, bleeding, and infection. In general, these effects of chemotherapy and radiation are reversible.

Immunotherapy might involve the use of biological agents, known as lymphokines, that normally are produced by immunologically oriented cells. The best documented immunotherapeutic agents are interferon and interleukin-2.

Ex. 29. Having read the following text, compose short dialogues on it:

NEW METHODS TO FIGHT CANCER

Cancer treatment is constantly evolving. Some of these methods are now accepted therapy, and others are under investigation and are experimental. Physicians often combine these approaches with chemotherapy and radiation.

T Cells. T cells recognize and attack cancer cells. Researchers hope to remove T cells from the body, stimulate growth, and return them in large numbers to fight cancer. Someday, vaccines may be available to promote growth of T cells.

Gene therapy. Many tumors grow because normal genes go awry, changing healthy cells into cancerous cells. Genes that help fight cancer can also fail to work properly. With gene therapy, physicians hope to replace defective genes and encourage the growth of healthy genes.

Laser. High-intensity light shows potential for treatment cancers of skin, trachea, lungs, esophagus, stomach, colon, rectum, and anus.

Hyperthermia. Since the early 1800s, physicians have known that heat can harm some tumors. Researchers now are evaluating hyperthermia to treat cancer of the breast, lymph nodes, skin, eyes, and cervix.

OVERVIEW

Cancer is characterized by abnormal growth of cells, which form tumors. It can develop in various tissues and organs of the human body. Cancer cells divide without restraint. They crowd normal cells out and affect their normal function and growth. Cancer cells can spread via the blood or lymph system to other parts of the body. Tumors are masses or growths, which arise from surrounding normal tissue. They may be either malignant or benign. Cells of benign tumors do not invade or destroy surrounding tissues. But the mechanism of cancer developing is not fully known. It is very dangerous disease. An early diagnosis identifies the type and location of the cancer.

Cancer can be treated before it spreads to other organs or tissues. Cancer therapy confines and kills the malignant cells. This therapy includes using X-rays, surgical treatment, and chemotherapy.

LESSON 59
CANCEROUS DISEASES

VOCABULARY

immediate [ɪ'mɪdjət] близький (про родичів)

bloat [bləut] роздувати(ся), надувати(ся)

confine [kən'faɪn] обмежувати

offer ['ɔfə] пропонувати

likelihood ['laɪklɪhud] вірогідність

alleviate [ə'li:vɪeɪt] полегшувати

exclusively [ɪks'klu:sɪvlɪ] винятково, виключно

recovery [rɪ'kʌvərɪ] видужання, одужання; виліковування

choose [tʃu:z] обирати

analgesic ["ænæl'dʒesɪk] анальгезуючий, анальгетичний, болезаспокійливий

WORD-BUILDING

Ex. 1. Analyze the structure of the following terms and translate them into Ukrainian:
Histopathological; cytoplastic; neoplastic; hydrocarbon; laryngectomy; cytoplasm.

GRAMMAR:

Ex. 2. Familiarize yourself with the data of the following table:

INTERROGATIVE FORM
(Revision)

Tense	**(1) Questioning word**	**(2) Auxiliary verb**	**(3) Subject**	**(4) Predicate**	**Example**
Present Simple Tense, Active Voice	What	**do** **does**	I, you, we they he, she, it	**V** (study, write)	**Do** you **study**? Where **does** he **study**?
Past Simple Tense, Active Voice	Where	**did**	I, he, she, it, you, we, they	**V** (study, write)	When **did** you **go** to the Academy?
Future Simple Tense, Active Voice	When	**shall** **will**	I, we he, she, it, you, they	**V** (study, write)	Where **will** they **go** tomorrow?
Present Simple Tense, Passive Voice	Why	**am** **is** **are**	I he, she, it you, we, they	**V_3** (studied, written)	Where **is** this hospital **built**?
Past Simple Tense, Passive Voice	How	**was** **were**	I, he, she, it you, we they	**V_3** (studied, written)	What medicine **was** your doctor **prescribed**? **Were** the patients **examined**?
Future Simple Tense, Passive Voice	How many	**shall** **will**	I, we he, she, it, you, they	**be + V_3** (be studied, be written)	When **will** the polyclinic **be closed**?
Present Continuous Tense, Active Voice	How much	**am** **is** **are**	I he, she, it you, we, they	**V_{ing}** (study**ing**, writ**ing**)	What **is** he **writing** now? What **are** you **doing** ?
Past Continuous Tense, Active Voice		**was** **were**	I, he, she, it you, we they	**V_{ing}** (study**ing**, writ**ing**)	Where **was** a doctor **performing** on the operation?
Future Continuous Tense, Active Voice		**shall** **will**	I, we he, she, it, you, they	**be + V_{ing}** (be studying, be writing)	What **will** you **be doing** at 3 p.m.?

Present Continuous Tense, Passive Voice	**am** **is** **are**	I he, she, it you, we, they	**being + V_3** (being studied, being written)	What hospital **is** your friend **being operated** on?
Past Continuous Tense, Passive Voice	**was** **were**	I, he, she, it you, we they	**being + V_3** (being studied, being written)	When **was** the work **being fulfilled**?
Present Perfect Tense, Active Voice	**have** **has**	I, you, we they he, she, it	**V_3** (studied, written)	What **has** he **received** this week?
Past Perfect Tense, Active Voice	**had**	I, he, she, it, you, we, they	**V_3** (studied, written)	How many articles **had** the student **read** by 5 o'clock?
Future Perfect Tense, Active Voice	**shall** **will**	I, we he, she, it, you, they	**have + V_3** (have studied, have written)	What text **will** Helen **have translated** by 3 o'clock?
Present Perfect Tense, Passive Voice	**have** **has**	I, you, we they he, she, it	**been + V_3** (been studied, been written)	**Has** the text **been translated** today?
Past Perfect Tense, Passive Voice	**had**	I, he, she, it, you, we, they	**been + V_3** (been studied, been written)	Where **had** the patient **been examined**?
Future Perfect Tense, Passive Voice	**shall** **will**	I, we he, she, it, you, they	**have + been + V_3** (have been studied, have been written)	When **will** the hospital **have been modernized**?

Ex. 3. Ask 5-6 questions concerning the theme "Cancer".

Ex. 4. Turn the following sentences into interrogative:

1. The pancreas functions as both exocrine and endocrine organ. 2. These gases are removed from the body by exhalation through the lungs. 3. Each renal artery branches into many small arteries. 4. The kidney has filtered out of the blood the waste products. 5. The gums are made of fleshy tissue and surround the sockets in which the teeth are found. 6. The cause of malignant gastric tumor is unknown. 7. The gastrointestinal tract begins with the oral cavity. 8. More than 20 types of malignant and benign tumors have been identified as originating in the lungs. 9. The lungs extend from the collarbone to the diaphragm.

READING AND DEVELOPING SPEAKING SKILLS

Ex. 5. Read VOCABULARY and memorize new words.

Ex. 6. Insert the missing letters:

Rec_very; allev_ate; confi_e; choo_e; of_er; blo_t; tumo_; stoma_h; can_er; chemot_erapy.

Ex. 7. Translate the following words and word-combinations into Ukrainian:

1. Alleviate; gastric tumor; immediate; benign; choose; malignant; suggest; confine; bleeding; influence; vomiting of blood; recovery; exclusively; spread; offer; bloat; likelihood; however; catch; relieve; analgesic.

B. Tumors affect twice as many women as men; the most common early symptom; they are 2 to 4 times more common; there is no one symptom; weight loss; bloated feeling after meals; surgical removal offers the only chance to cure; the likelihood of success depends on; in addition to surgery.

Ex. 8. Translate the following words into English:

Одужання, виліковування; болезаспокійливий; пропонувати; обирати, вибирати; роздувати, надувати; обмежувати; вірогідність; бути причиною, спричиняти; рак; злоякісна пухлина шлунку; після їжі; видалити всі уражені ділянки.

Ex. 9. Read the following words and word-combinations:
Tumor; approximately; benign; microscopic; peptic ulcer; region of the abdomen; cure; offer; chance; exclusively; metastasize; the cancer is caught; recovery; relieve; advanced.

Ex. 10. Read the following text:

STOMACH TUMOR

Most gastric tumors are malignant. They affect twice as many women as men, usually between the ages of 50 and 70. Approximately 1 of 10 stomach tumors is benign. Like the malignant tumors, the most common early symptom of a benign tumor may be microscopic bleeding that can be detected only by laboratory examination of the stool.

The cause of malignant gastric tumor is unknown. Genetic factors may have some influence. They are 2 to 4 times more common in members of the immediate family of people with the disease.

There is no one symptom that will suggest that the person has a malignant gastric tumor. One of every four persons with a malignant tumor has the same symptoms as someone with a peptic ulcer. They are discomfort in the upper or middle region of the abdomen, black stools, and vomiting after meals. But other symptoms are more serious: vomiting of blood, weight loss, anemia, and bloated feeling after meals.

Malignant tumor is difficult to treat. If the cancer is confined to the stomach, the chance of cure is good. However, the disease often has spread, and the chance of cure is then significantly decreased.

If the tumor is malignant, surgical removal offers the only chance to cure. The likelihood of success depends almost exclusively on whether the cancer has spread (metastasized) to other areas of the body. If the cancer is caught early and it is determined that surgery can remove all of the affected areas, full recovery is possible. Sometimes surgery may be recommended to alleviate pain, bleeding, or obstruction.

In addition to surgery for malignant tumors, the physician may choose chemotherapy as an additional treatment, using a number of anticancer medications. Radiation is sometimes used, but both radiation and chemotherapy can only relieve the symptoms, they do not cure the cancer. If the cancer is too far advanced for chemotherapy or surgery to be effective, analgesic drugs may be used to reduce pain.

Ex. 11. Translate the text "Stomach Tumor" into Ukrainian.

Ex. 12. Complete the following sentences:
1. The most common early symptom of a benign tumor is _. 2. Some persons with a malignant tumor may have the same symptoms as persons with _. 3. The most serious symptoms of a malignant tumor are _. 4. Surgical removal offers the only chance to cure in patients with _. 5. Full recovery is possible if the cancer is caught _.

Ex. 13. Insert the missing prepositions:
1. Approximately 5 percent _ stomach cancers are lymphomas. 2. The symptoms of lymphoma are very similar _ those of stomach cancer. 3. If persistent indigestion develops _ the first time in the persons' life along with unexplained weight loss and nausea, the physician may want to obtain a barium X-ray or an endoscopic examination. 4. In most cases, these procedures will determine whether the symptoms are due _ a malignant tumor or to some other abnormalities.

Ex. 14. Answer the following questions:

1. Are the most gastric tumors benign? 2. What is the cause of malignant gastric tumor? 3. What are the symptoms of gastric tumor? 4. In what cases is the chance of cure good? 5. In what cases does the surgical removal offer the only chance to cure? 6. What does the likelihood of success depend on? 7. When may the physician choose chemotherapy as an additional treatment?

Ex. 15. Skim through the text "Stomach Tumor", divide it into logical parts, and entitle them.

Ex. 16. Write out the key sentences of the text "Stomach Tumor".

Ex. 17. Speak on the stomach tumor.

Ex. 18. Give a summary of the text "Stomach Tumor".

Ex. 19. Read the following text and discuss it with your fellow-students:

LUNG CANCER

Lung cancer is the leading cause of cancer death. More than 20 types of malignant and benign tumors have been identified as originating in the lungs. A benign tumor is a mass of abnormal tissue that does not spread and can be completely removed surgically. It is not life-threatening and is not likely to recur. A malignant tumor, however, is an abnormal growth of cells that can invade and destroy nearby tissue or organs and can spread to other parts of the body.

Cigarette smoking accounts for 85 percent of all lung cancers. Other risk factors for lung cancer include exposure to asbestos and other industrial carcinogens, second-hand smoke, and high concentrations of radon. Primary lung cancer is uncommon in nonsmokers, but cancer of the breast, colon, prostate, kidney, thyroid, bone, or other organs may spread to the lungs. The symptoms of lung cancer are cough that produce sputum, containing pus and sometimes blood, shortness of breath, fever, chest pain, hoarness, loss of appetite and weight.

Lung cancer is a very serious disease and has a very poor outlook. However, the outcome depends on the extent of the disease when it is covered, the general health and age, the cell type of cancer, how rapidly it growths, and what type of therapy is given. Only 20 to 25 percent of all lung cancers can be removed surgically at the time of initial diagnosis. Once symptoms of lung cancer appear, the disease may be fairly well advanced and not treatable by operation.

Basically, there are three treatment options for lung cancer: surgery, chemotherapy, and radiation therapy. Laser surgery can be used to restore breathing when tumors obstruct central air passageways. Usually, this is done only when surgical removal of cancer is not possible.

Ex. 20. Read the text in paragraphs. Define the main subject of each paragraph:

TUMORS OF THE SMALL INTESTINE

Tumors of the small intestine are relatively uncommon. They represent only 3 to 6 percent of all abnormal growths in the gastrointestinal tract. Intestinal tumors can be benign or malignant.

Most tumors of the small bowel are benign and usually are discovered between ages 40 and 60. The most frequent symptoms are pain, nausea and vomiting, and bleeding. There are several types of benign tumors, including lipomas, leiomyomas, angiomas, and adenomas. These tumors do not spread. They often are an incidental finding on an X-ray made because of another problem, although some benign tumors can cause bleeding.

A small percentage of tumors of the small intestine are malignant. The most common malignant types are adenocarcinoma, leiomyocarcoma, carcinoid tumor, and lymphoma.

Bleeding, perforation, and obstruction are common manifestations of a leiomyocarcoma, whereas a carcinoid tumor may cause no symptoms before it spreads.

The diagnosis of a tumor in the small intestine is often made with a barium X-ray.

Benign tumors are not life-threatening, but they can cause dangerous symptoms such as bleeding and obstruction. Like any malignancy, cancer of the small intestine is dangerous and life-threatening illness and requires prompt treatment.

Surgery is usually recommended for all benign tumors that cause symptoms and for malignancies that have not become too widespread for surgical treatment. At times, the X-ray examination of the intestine cannot distinguish a benign from a malignant tumor, and surgical exploration of the abdomen and removal of the tumor are necessary before the diagnosis can be made. When a tumor has metastasized to such an extent that surgery will not be effective, steroid medications, chemotherapy, and radiation may be used.

Ex. 21. Pronounce and memorize the words to the theme studied:
Hereditary спадковий; **von Hippel-Lindau disease** ангіофакоматоз; **outcome** наслідок; **advocate** рекомендувати; **infancy** початкова стадія розвитку.

Ex. 22. Read and translate the following text:

CANCER OF THE KIDNEY

Renal cell carcinoma is the most common cancer of the kidneys. It also is called renal adenocarcinoma. It begins in one of the cells that form the lining of a renal tubule. Renal cell carcinoma occurs twice as often in men as in women. The most common age at diagnosis is between 55 and 60. Smokers, particularly those who smoke pipes or cigars, are at greater risk of renal cell carcinoma than are nonsmokers. In some instances, the disease appears to be hereditary. A large number of persons with von Hippel-Lindau disease, an inherited condition affecting the capillaries of a part of the brain, also have renal cell carcinoma.

The outcome with renal cell carcinoma depends on the extent to which the tumor has spread. If the tumor is in its earliest stage, 60 to 75 percent of affected people will survive for at least 5 years. If the lymph nodes around the kidney have been infiltrated, the 5-year survival rate drops to 5 to 15 percent. When the cancer has spread to other organs, fewer than 5 percent survive for 5 years.

When it appears that a renal cell carcinoma has not spread beyond the kidney, the best treatment is removal of the entire kidney. Some surgeons advocate also removing the surrounding lymph nodes. Sometimes, radiation therapy may be used to prevent spread of the cancer. If the disease has spread, there is no universally agreed on method of treatment.

Ex. 23. Ask 5-7 questions on the text "Cancer of Kidney" and be ready to answer them.

OVERVIEW

The cause of malignant gastric tumor is unknown. Genetic factors may have some influence. The signs and symptoms of gastric tumor are discomfort in the upper or middle region of the abdomen, black stools, vomiting after meals, vomiting of blood, weight loss, and anemia. If the tumor is malignant, surgical removal is the only chance to cure. If the cancer is diagnosed early full recovery is possible. Sometimes surgery may be recommended to alleviate pain, bleeding, or obstruction. In addition to surgery for malignant tumors, chemotherapy is used as an additional treatment. Radiation is sometimes used, but both radiation and chemotherapy can only relieve the symptoms, they do not cure the cancer. If the cancer is too far advanced for chemotherapy or surgery to be effective, analgesic drugs may be used to reduce pain.

LESSON 60
PREGNANCY

VOCABULARY

pregnancy [ˈpregnqnsl] вагітність
fetus [ˈfl:tqs] (утробний) плід
female [ˈfl:mell] жінка
gravida [ˈgrxvldq] вагітна
embryo [ˈembrlqu] зародок, ембріон
trimester [traI'mestq] триместр, тримісячний термін
sensitive [ˈsensltlv] чутливий
assault [q'sO:lt] *mym:* негативне явище
rudiment [ˈru:dlmqnt] рудимент, зачаток
evident [ˈevld(q)nt] явний, очевидний
mammal [ˈmxm(q)l] ссавець
noticeable [ˈnqutlsqbl] помітний
bud [bAd] брунька, зачаток
gestation [Ges'telS(q)n] вагітність; період вагітності
albeit [O:l'bl:t] хоча (б)
mature [mq'tjuq] дозрівати, розвиватися

inch [ɪnC] дюйм (= 2.5 см)

ounce [aʊns] унція (= 28.3 г)

fertilization [“fɋ:tIlaI’zeIS(ɋ)n] запліднення

burrow [‘bɋ:rɋʊ] ховатися, зариватися

placenta [plɋ’sentɋ] плацента, послід

kick [kIk] штовхати ногою

transparent [trxns’pFqr(ɋ)nt] прозорий

vernix [‘vɋ:nIks] сироподібна змазка, першородна змазка

WORD-BUILDING

Ex. 1. Analyze the structure of the following terms and translate them into Ukrainian:
Medical; development; typically; subdivide; outside; addition; noticeable; eyebrow; deficiency; toxic.

GRAMMAR:

Ex. 2. Familiarize yourself with the following grammar material:

ING- FORM OF THE VERB:

The **covering** coat consists of different types of cells.	Покривна оболонка складається з різних видів клітин.
The physician **examining** the patient is a skilled specialist.	Лікар, що оглядає пацієнта, – досвідчений фахівець.
Examining the patient the cardiologist listened to his heart.	Оглядаючи хворого, кардіолог прослухав його серце.
The physician **was standing** near the patient **examining** him attentively.	Лікар стояв біля пацієнта, уважно оглядаючи його.
Running is useful.	Біг корисний (бігати – це корисно).

Ex. 3. Read and translate the sentences paying attention to –ing forms:
1. Hemoglobin containing iron is an important protein in erythrocytes. 2. Platelets (thrombocytes) formed in the bone marrow are necessary for blood clotting. 3. The human body needs energy for its functioning. 4. The upper opening of the stomach is called the cardiac sphincter. 5. The remaining part of food from the small intestine passes into the large intestine. 6. Diabetes is connected with the malfunctioning of the so-called beta-cells of the pancreas. 7. Breathing is of vital importance for the preservation of life. 8. The size and form of neuron depends upon the length and a number of its receptive branching fibers, which are called dendrites. 9. Scientists consider that there are up to 12 billion nerve cells, which are performing their function of coordination of the human activities all over the body. 10. Good nursing care is essential. 11. Thyroid-stimulating hormone is produced by adenohypophysis. 12. Adenohypophysis is responsible for producing adrenocorticotropic hormones. 13. For a women athlete, taking the anabolic steroids could lead to increased muscle development. 14. Pregnancy is the term used to describe when a woman has a growing fetus inside of her. 15. The term embryo is used to describe the developing human during the initial weeks. 16. After burrowing deep within the uterus, the egg begins to grow, doubling in size every day. 17. The baby’s face and features are forming in the eight gestational week. 18. By the seventh week, the chest and abdomen are fully formed and the lungs are beginning to develop. 19. The baby is covered with a thick white protective coating. 20. Being at the sanatorium the patient began to feel much better.

Ex. 4. Translate the following sentences into English:
1. Віддаючи кисень всім тканинам організму, червоні кров’яні клітини живлять їх. 2. Частота дихання може збільшуватися завдяки швидкому бігу. 3. Ми спостерігали, як хірург оперував цього хворого. 4. Хворий страждав на абдомінальну кровотечу, яка, до того ж, була сильною. 5. Основним симптомом хронічного бронхіту є хронічний кашель, що продукує велику кількість слизу. 6. Куріння є першопричиною хронічного захворювання легенів. 7. Пальці на руках і ногах плоду зараз починають розвиватися. 8. Я пішов поговорити з кардіологом, що лікує мого батька. 9. Фіброзні пучки, створюючі м’язову структуру серця, діляться на дві групи. 10. Переносячи кров до і від легенів, судини малого кола кровообігу розширюються і

скорочуються одночасно з роботою серця. 11. Він працює над визначенням стану білих кров'яних клітин. 12. Мікроорганізми, які потрапляють в організм людини, можуть спричинити розвиток інфекції. 13. Процес росту відбувається в результаті збільшення кількості клітин. 14. Піти з лікарні без вказівки лікаря неможливо. 15. Лікувати пацієнтів з інфарктом необхідно в стаціонарі.

READING AND DEVELOPING SPEAKING SKILLS

Ex. 5. Read VOCABULARY and memorize new words.

Ex. 6. Compose 2-3 sentences using the words of the VOCABULARY.

Ex. 7. Insert the missing letters:
Ma_ure; *estation; fertiliation; embro; femle; fets; pregnany; pacenta; sensit*ve.

Ex. 8. Translate the following words and word-combinations into Ukrainian:
Pregnancy; a growing fetus; pregnant female; embryo; the embryo is sensitive to assaults; burrow; rudiments of a spinal cord; arm and leg buds; gestational week; it can kick; less transparent; beyond the fingers.

Ex. 9. Read the following words and word-combinations:
Initial; para; similarly; particularly; doubling; miniature; previous; beyond vertebrae; more noticeable; trimester; heart.


Embryo at 4 weeks after fertilization


Fetus at 8 weeks after fertilization


Fetus at 18 weeks after fertilization


Fetus at 38 weeks after fertilization

Development of Fetus

Ex. 10. Read and memorize the following medical terms and their definitions:
embryo – conceptus between time of fertilization to 10 weeks of gestation
fetus – from 10 weeks of gestation to time of birth
gravidity (G) – number of times the woman has been pregnant
infant – time of birth to 1 year of age
preterm infant – delivered between 24-37 weeks
previable infant – delivered prior to 24 weeks
term infant – delivered between 37-42 weeks
first trimester – up to 14 weeks of gestation
second trimester – 14 to 28 weeks of gestation
third trimester – 28th week to delivery (пологи)
full term refers to the end of 36 weeks (nine months) from the first day of the woman's last menstrual period – the end of gestation. If a woman gives birth earlier than this, it is classed as a **premature birth**.

Ex. 11. Read the following text:

PREGNANCY

Pregnancy is the term used to describe when a woman has a growing fetus inside of her. Human pregnancy lasts about 40 weeks, or just more than 9 months. The medical term for a pregnant female is gravida, which is a word rarely used in common speech. The term embryo is used to describe the developing human during the initial weeks, and the term fetus is used from

about two months of development until birth. A woman who is pregnant for the first time is known medically as a primigravida or "gravida 1", while a woman who has never been pregnant is known as "gravida 0". Similarly, the terms "para 0", "para 1" and so on are used for the number of times a woman has given birth.

Pregnancy is typically divided into three periods, or trimesters. Trimester means about three months.

First Trimester

The first 3 months of fetal development are in many ways the most important. During this time, all the major organs in the body are formed. The embryo is particularly sensitive to assaults from the outside. By the end of this period the baby is not more than 3 inches long and weighs little more than 1 ounce. The time from fertilization to implantation in the uterus is about 5 to 7 days. After burrowing deep within the uterus, the egg begins to grow, doubling in size every day. The placenta has begun to form. In another week, the rudiments of a spinal cord are evident and, within days, five to eight vertebrae are in place. In addition, the eyes and heart have begun to form. Over the next few weeks the components of a human being develop, although at first the human baby is similar in appearance to the developing babies of some other mammals. The heart begins to form, as does the intestinal tract. At the end of the sixth week the brain becomes more noticeable, and arm and leg buds begin to appear. By the seventh week, the chest and abdomen are fully formed and the lungs are beginning to develop. The baby's face and features are forming in the eight gestational week. Fingers and toes are beginning to develop. At the end of the second month of pregnancy, the baby looks like a human infant, albeit in miniature. By the tenth week, the baby's face is well developed. The heart has four chambers and beats 120 to 160 beats per minute. At this point, the embryo is considered a fetus.

Second Trimester.

During the second trimester the fetus grows and the organs formed during the previous weeks mature. At 13 weeks the fetus can kick and move its toes. The mouth can open and close, and the fetus is capable of bending its arms and a fist. The fetus's skin is slightly pink and less transparent than it was previously. Fine hair covers the entire body. The first eyelashes and eyebrows begin to appear. Once month later, the fetus may have hair in its head. It is now 12 inches long and weighs about 1 pound.

Third Trimester.

The fetus takes on most of its weight during its last 13 weeks of development. The baby is covered with a thick white protective coating called vernix. The infant's eyes are open, and a baby born at this time can cry weakly and move its limbs. The infant now weighs 3 pounds 12 ounces. The skin may or may not still be covered with vernix. Most of the body hair is gone, although the shoulders and arms may still have a light covering. The fingernails and toenails may extend beyond the fingers and toes.

Ex. 12. Translate the following words and word-combinations into English:

Прозорий; триместр, тримісячний термін; дозрівати, розвиватися; плід; вагітність; зародок, ембріон; сироподібна змазка, першородна змазка; вагітна; помітний; з'являтися; чутливий; брунька, зачаток; запліднення; грудна клітка; черевна порожнина; ділитися, підрозділятися; закривати(ся); покривати.

Ex. 13. Translate the text "Pregnancy" into Ukrainian.

Ex. 14. Insert the missing words:

1. Human _ lasts about 40 weeks, or just more than 9 months. 2. Pregnancy is typically _ into three periods, or _, each of about three months. 3. The first 3 months of _ development are the most important. 4. During this time, all the major organs in the body are _. 5. The eyes and _ have begun to form. 6. At the end of the sixth week the brain becomes more _, and arm and leg _begin to appear. 7. By the seventh week, the _ and abdomen are fully formed and the lungs are beginning to

develop. 8. During the second trimester the fetus grows and the organs formed during the previous weeks _. 9. At 13 weeks the fetus can _ and move its toes. 10. The mouth can open and _. 11. The fetus is capable of bending its _ and a fist. 12. Fine hair _ the entire body. 13. The first eyelashes and eyebrows begin to _. 14. During the third _ the infant's eyes are open.

Ex. 15. Answer the following questions:
1. What does a term "pregnancy" mean? 2. How many periods is pregnancy divided into? 3. When are all the major organs in the body formed? 4. What organs and parts of the body are formed during the first trimester? 5. How can you characterize the fetus growth during the second trimester? 6. What is the weight of infant during the third trimester?

Ex. 16. Write out key words of the text "Pregnancy".

Ex. 17. Make up a plan of the text "Pregnancy".

Ex. 18. Speak on the pregnancy.

Ex. 19. Make up a dialogue on pregnancy.

Ex. 20. Pronounce and memorize the words to the theme studied:

Contribute [kqn'trɪbju:t] сприяти; **spina bifida** розщеплений хребет, розщеплення хребта; **abundant** багатий, такий, що є удосталь; **intolerant** [ɪn'tɔlqr(q)nt] що не переносить; **lactose** ['lxktqus] лактоза, молочний цукор; **salmon** ['sxmqn] лосось; сьомга; **trout** [traut] форель; **tuna** ['tu:nq] тунець; **herring** оселедець; **mackerel** ['mxkr(q)l] скумбрія; **intake** ['ɪnteɪk] поглинання, споживання; **swordfish** меч-риба; **mercury** ['mq:kjurɪ] ртуть.

Ex. 21. Read the following text and find some facts to explain the importance of rational feeding for pregnant woman.

FOOD AND NUTRITION DURING PREGNANCY

It is important for a pregnant woman to eat a healthy diet. She has to eat a variety of foods, including dairy products and several fruits and vegetables which contribute to a healthy pregnancy. Some specific nutritional needs for pregnancy include:

Folic acid (also called folate or Vitamin B_9) is strongly needed at the start of pregnancy. Folic acid is needed for the closing of fetus neural tube. It thus helps prevent spina bifida, a very serious birth defect. Folates (from folia, leaf) are abundant in spinach (fresh, frozen or canned), and are also found in green vegetables, salads, melon, and eggs. In the United States and Canada, most wheat products (flour, noodles) are supplemented with folic acid.

Calcium and iron are particularly needed by the rapidly growing fetus. Pregnant women should eat enough dairy products (for calcium) and red meat (for iron) if they are not lactose intolerant. Women who do not eat dairy or meat can obtain calcium and iron from soy milk and juice**,** soybeans, and certain leafy greens. Care providers may prescribe iron pills if pregnant women develop iron deficiency anemia. Calcium is effective only if women also obtain enough vitamin D. The best way to get vitamin D is to sunbathe each day for 10-15 minutes. Salmon and fatty fishes are also good sources of vitamin D.

Fluoride helps to build strong teeth by changing the nature of calcium crystals: if water or salt does not contain fluoride, it is wise to take fluoride mini-pills at the end of pregnancy and during breast-feeding (but high doses are toxic). Some pregnant women suffer edema, and are told not to eat (too much) salt.

Fat (from salmon, trout, tuna, herring, sardine, mackerel, and some chicken eggs) is needed to build neuron membranes. Thus fatty fish intake during pregnancy may provide nutrition for proper brain and retina development of the fetus. However, large fish such as tuna and swordfish

may contain too much toxic mercury. Fish two or three times a week seems to bring enough good fat, but not too much mercury.

Ex. 22. Pronounce and memorize the words to the theme studied:
Derive походити; **proceed** продовжувати; **evagination** евагінація, випинання; **eventually** зрештою; **foregut** передня кишка; **elongate** пролонгувати, подовжувати; **conjunction** з'єднання, об'єднання.

Ex. 23. Read the following text and put 10-11 questions on it. Get ready to inform your fellow-students what text deals with.

DEVELOPMENT OF THE ORGAN SYSTEMS

The major organ systems appear and begin to develop during the embryonic period.

Skin

The epidermis of the skin is derived from ectoderm, and the dermis is derived from the mesoderm. Nails, hair, and glands develop from the epidermis.

Skeletal system

The skeleton develops by intramembranous bone formation or endochondrial bone formation.

Muscular system

Myoblasts are multinucleated cells that produce skeletal muscle fibers. The growth of the muscle occurs by an increase in the number of muscle fibers. The total number of muscle fibers is established before birth. Muscle enlargement after birth is due to an increase in the size of individual fibers.

Nervous system

The nervous system is derived from the neural tube and neural crest cells. Closure of the neural tube begins in the upper-cervical region and proceeds into the head and down the spinal cord. The central cavity of the neural tube becomes the ventricles of the brain and the central canal of the spinal cord. The nerve cells that form the peripheral nervous system are located either within the neural tube or are derived from neural crest cells.

Endocrine system

The thyroid gland originates as an evagination from the floor of the pharynx in the region of the developing tongue and moves into the lower neck, eventually losing its connection with the pharynx. The parathyroid glands migrate inferiorly and become associated with the thyroid gland. The pancreas originates as two evaginations from the duodenum, which come together to form a single gland. The adrenal medulla arises from neural crest cells, and the adrenal cortex is derived from mesoderm.

Cardiovascular system

The heart develops from two endothelial tubes, which fuse into a single heart tube. Blood vessels form from small masses of mesoderm that become blood vessels on the outside and blood cells on the inside. These masses fuse to form the cardiovascular system.

Respiratory system

The lungs begin to develop as a single evagination from the foregut in the region of the future esophagus. This evagination branches to form two lung buds. The lung buds elongate and branch, first forming the bronchi that project to the lobes of the lungs and then the bronchi that project to the lobules of the lungs. This branching continues until approximately 17 generations of branching have occurred.

Urinary system

The kidneys develop from mesoderm located between the somites and the lateral portion of the embryo. The urinary system develops in three stages from the head to the tail of the embryo. The ducts join the digestive tract.

Reproductive system

Reproductive system develops in conjunction with the urinary system. Hormones are very important to sexual development of the human.

Ex. 24. Having read the text "Development of the Organ System", point out the facts that turn out to be new for you.

Ex. 25. Read the beginning of the text "Prenatal Care". Combine remaining corresponding parts into sentences, paying attention to the meaning of the sentences:

PRENATAL CARE

Prenatal care is the care woman gets during a pregnancy. Getting early and regular prenatal care is important for the health of both mother and the developing baby. In addition, health care providers are now recommending a woman see a health care provider before she is even trying to get pregnant.

Health care providers recommend women take the following steps to ensure the best health outcome for mother and baby:

Getting at least 400 micrograms of folic acid every day to help prevent many types of neural tube defects. Health care providers recommend taking folic acid both before and during pregnancy.

1. Being properly vaccinated for certain diseases (such as chickenpox and rubella) that could harm a developing fetus – _. **2**. Maintaining a healthy weight and diet and _. **3.** _ before, during, and after pregnancy.

A. getting regular physical activity before, during, and after pregnancy **B.** it is important to have the vaccinations before becoming pregnant; **C.** avoiding smoking, alcohol, or drug use.

Ex. 26. Read the following text and list the signs of pregnancy:

SIGNS OF PREGNANCY

Physical symptoms of pregnancy vary. Of the symptoms listed, not all will occur for every woman, and individuals may well experience different symptoms during different pregnancies. The following is a list of the most common symptoms.

First trimester

Breasts may feel swollen, sore, or tender.

Pregnancy sickness may cause nausea and vomiting. It is also known as morning sickness, although it may occur at any time of the day or night.

The sense of smell may be heightened.

Fatigue is a common symptom in early pregnancy. It results from increased progesterone and may be compounded by increased blood volume, which can result in lower blood pressure and lower blood sugar.

Dizziness and fainting may be experienced, particularly after standing up quickly. These symptoms are caused by lower blood pressure and lower blood sugar.

Frequent mild headaches may occur, caused by increased blood circulation

Constipation is a common symptom caused by increased progesterone, which slows the activity of the large intestine.

Increased urination is caused by pressure of the growing uterus against the urinary bladder.

Emotional lability, including dysphoria, crying spells, and mood swings, may be experienced. These mood changes are triggered by the effect of pregnancy hormones on mood regulation in the brain.

Other symptoms may be experienced specifically during the later stages, such as:

Lower backache. Balance and ease of walking may be affected.

Some women report hair loss, others have more body or "facial" hair.

Sensitivity in teeth, higher risk for gum disease may occur.

Some women during pregnancy experience mental disturbances more severe than typical mood swings. Psychological stress during pregnancy is associated with an increase in other pregnancy symptoms.

OVERVIEW

Pregnancy is the term used to describe when a woman has a growing fetus inside of her. Human pregnancy lasts about 40 weeks, or just more than 9 months. Pregnancy is typically divided into three periods, or trimesters, each of about three months. The first 3 months of fetal development are the most important. During this time, all the major organs in the body are formed. The eyes and heart have begun to form. At the end of the sixth week the brain becomes more noticeable, and arm and leg buds begin to appear. By the seventh week, the chest and abdomen are fully formed and the lungs are beginning to develop. During the second trimester the fetus grows and the organs formed during the previous weeks mature. At 13 weeks the fetus can kick and move its toes. The mouth can open and close. The fetus is capable of bending its arms and a fist. Fine hair covers the entire body. The first eyelashes and eyebrows begin to appear. During the third trimester the infant's eyes are open. Most of the body hair is gone, although the shoulders and arms may still have a light covering.

LESSON 61
CHILD'S DEVELOPMENT

VOCABULARY

fertilization ["fq:tIlaI'zeIS(q)n] запліднення

germinal ['Gq:mIn(q)l] зародковий, гермінальний

embryo ['embrIqu] зародок, ембріон

fetus ['fItqs] плід

neonate [nIo'neIt] дитина у віці до одного місяця, новонароджений

adolescent ["xdqu'lesnt] підлітковий

puberty ['pjubqtI] статева зрілість

accomplish [qk'OmplIS] вчиняти, досягати

subsequent ['sAbsIkwqnt] наступний

maturation ["mqtjuq'reIS(q)n] розвиток

myelin sheath ['maIqlIn'SIT] мієлінова оболонка

prone [prqun] що лежить ниць

exercise ['eksqsaIz] вправляти

aimlessly ['eImlIslI] без мети, безглуздо

voluntary ['vOlqnt(q)rI] довільний

thumb [TAm] великий палець (руки)

suck [sAk] смоктання

push-up ['puS 'Ap] віджимання

raise [reIz] піднімати

grasp [gra:sp] хапати, затискати; захоплювати

erect [I'rekt] прямо, вертикально, прямовисно

reach for [rI:C] діставати, тягнутися

roll over [rqul] перекочувати(ся); перевертати(ся)

pick up [pIk] піднімати, підбирати

WORD-BUILDING

Ex. 1. Form nouns from the verbs adding the suffix -ion and translate them:

Prevent; direct; conduct; connect; reflect; inject; radiate; instruct.

GRAMMAR:
SIMPLE TENSES
(REVISION)

Ex. 2. Read the following sentences, translate them, and determine their tenses:

1. Serious changes occur in the life of the newborn from the time of birth. 2. The subsequent growth and maturation of the brain involve the addition of new neurological cells. 3. By 6 weeks the infant holds up its head and begins to smile in response to people or object. 4. At 3 months of age the infant's limbs are exercised aimlessly. 5. The infant followed a moving person with eyes. 6. At 8 months the infant will recognize familiar people.

Ex. 3. Insert the correct tense-form of the verbs in brackets:

1. The infant (to grasp) things placed in its hand. 2. In 5 months the infant (to laugh out) loud and (to sit) with support. 3. Yesterday the infant (to pull) itself to a standing position. 4. The kidneys (to function) as glands producing hormones. 5. The kidney (to surround) by a renal capsule. 6. The bladder (to store) the urine.

Ex. 4. Make the following sentences interrogative:
1. The infant listens quietly when hearing a person's voice or music. 2. They walk without support. 3. The infant examined this object carefully. 3. The average 18-month-olds use only about 10 words. 4. The liver removes certain waste products. 5. The kidneys are involved in the control of red blood cell production. 6. These absorbed substances are retuned to the bloodstream. 7. Immunization is recommended for people with impaired immune system or with serious illness.

READING AND DEVELOPING SKILLS

Ex. 5. Read VOCABULARY and memorize the following words.

Ex. 6. Compose 2-3- sentences using the words of VOCABULARY.

Ex. 7. Insert the missing letters:
Su_k; accompli_h; neon_te; ra_se; vol_ntary; embr_o; subse_uent; adoles_ent; thum_; fet_s; pi_k; m_turation; re_ch; aiml_ssly.

Ex. 8. Translate the following words and word-combinations into Ukrainian:
Roll over; reach for; grasp; pick up; suck; erect; accomplish; germinal period; voluntary; fertilization; fetus; embryo; puberty; adolescent; maturation; subsequent.

Ex. 9. Read the following words and word-combinations:
Death; embryo; adolescent; occur; amount; achieve; subsequent; myelin sheath; push; raise; grasp; listen; quietly; laugh; loud.

Ex. 10. Read the following text:

FIRST YEAR AFTER BIRTH

The stages of life from fertilization to death are as following: 1) the germinal period – fertilization to 14 days; 2) the embryo – 14 to 60 days after fertilization; 3) the fetus – 60 days after fertilization to birth; 4) neonate – birth to 1 month after birth; 5) infant – 1 month to 1 or 2 years; 6) child – 1 or 2 years to puberty; 7) adolescent – puberty (age 11 to 14) to 20 years; 8) adult – age 20 to death.

A great number of changes occur in the life of the newborn from the time of birth until 1 year of age. The time when these changes occur may vary from child to child. The brain is still developing at this time, and much of what the neonate can accomplish depends on the amount of brain development achieved. It is estimated that the total adult number of neurons is present in the central nervous system at birth, but subsequent growth and maturation of the brain involve the addition of new neurological cells, some of which form new myelin sheaths, and addition of new connections between neurons, which may continue throughout life.

By 6 weeks the infant is usually able to hold up its head when placed in a prone position and begins to smile in response to people or object. At 3 months of age the infant's limbs are exercised aimlessly. However, the arms and hands are in enough control that voluntary thumb sucking can occur. The infant can follow a moving person with eyes. At 4 months the infant begins to do push-ups (i.e., raises itself by its arms). It can begin to grasp things placed in its hand, roll from its back to its side, listen quietly when hearing a person's voice or music, hold its head erect, and play with its hands. At 5 months the infant can usually laugh out loud, reach for objects, turn its head to follow an object, lift its head and shoulders, sit with support, and roll over. At 8 months the infant

can recognize familiar people, sit up without support, and reach for specific objects that it sees. At 12 months the infant may pull itself to a standing position and may be able to walk without support. The infant can pick up objects in its hands and examine them carefully. It can understand much of what is said to it and may say several words of its own.

Ex. 11. Translate the following words and word-combinations into English:
Піднімати, підбирати; зародок, ембріон; мієлінова оболонка; діставати, тягнутися до чогось; розвиток; плід; здійснювати, досягати; перекочувати(ся), перевертати(ся); вправляти; довільний; подальший, наступний; новонароджений; смоктання; великий палець (руки); статева зрілість; народження; кінцівка; визнавати; запліднення.

Ex. 12. Translate the text "First Year After Birth" into Ukrainian:

Ex. 13. Insert the missing words:
1. The stages of life are as following: the germinal period; the _; the fetus; neonate; infant; child; _; and adult. 2. A great number of changes _ in the life of the newborn until 1 year of age. 3. The _ is still developing at this time. 4. By 6 weeks the infant is usually able to _ up its head and begins to smile in response to people. 5. At 3 months of age the infant's limbs are _ aimlessly. 6. The infant can follow a moving person with _. 7. At 4 months the infant begins to do _. 8. It can begin to _ things placed in its hand, _ from its back to its side, hold its head erect, and play with its hands. 9. At 5 months the infant can usually laugh out loud, _ for objects, turn its head to follow an object, lift its head and shoulders, sit with support, and _ over. 10. At 8 months the infant can recognize _ people, sit up without support, and reach for specific objects. 11. At 12 months the infant may _ itself to a standing position and may be able to walk without support. 12. The infant can understand much of what is _ to it and may say several words of its own.

Ex. 14. Answer the following questions:
1. What stages of life do you know? 2. Do a great number of changes occur in the life of the newborn during the first year? 3. What changes occur in the brain? 4. What does the infant do by 6 weeks? 5. What changes can occur at 3 months? 6. What does the infant begin to do at 4 months? 7. What can the infant do at 5 months? 8. What can the infant recognize at 8 months? 9. What does the infant do at 12 months?

Ex. 15. Match the following words with their definitions:

1. Embryo	A. Developing human from the ninth week of development until birth.
2. Fetus	B. Process that begins with the penetration of the secondary oocyte by the spermatozoon and is completed with the fusion of the male and female pronuclei.
3. Fertilization	C. Developing human from the second to the eight week of development.
4. Puberty	D. Series of events that transform a child into a mature adult.

Ex. 16. Combine corresponding parts into sentences, paying attention to the meaning of the sentences:
1. The newborn baby, or neonate, experiences _. 2. The ductus arteriosus, which connects the pulmonary trunk to the aorta and allows blood to flow from the pulmonary trunk to the systemic circulation, _. 3. The fetal blood supply passes to the placenta through umbilical arteries from the internal iliac arteries and _. 4. When a baby is born, _. 5. Within the first 8 hours of life, a striking increase in gastric acid secretion occurs, _.

A. returns through the liver and joins the inferior vena cava; B. it is suddenly separated from its source of nutrients provided by the maternal circulation; C. closes off within 1 or 2 days after birth; D. causing the stomach pH to decrease; E. dramatic changes at the time of birth.

Ex. 17. Make up a plan of the text "First Year After Birth".

Ex. 18. Give a summary of the text "First Year After Birth".

Ex. 19. Speak on the infant's development during the first year of life.

Ex. 20. Make up a dialogue on the infant's development during the first year of life.

Ex. 21. Pronounce and memorize the words to the theme studied:
Plumpness повнота; **babyhood** дитинство; **toddler** мала дитина, що починає ходити; **will** воля; бажання; **explorer** дослідник; **exciting** збуджуючий, такий, що хвилює; **explosion** спалах, бурхливе зростання; **brief** короткий, недовгий; **temper tantrum** напад гніву; **rake** граблі (садовий інструмент); згрібати; підчищати граблями; **alternate** почерговий, (по)змінний, такий, що чергується; **descend** спускатися, сходити; **imagination** уява; фантазія, уявний образ, уявлення; **vivid** яскравий; **invariably** незмінно.

Ex. 22. Read and translate the following text:

DEVELOPMENT DURING THE PRESCHOOL YEARS

ONE YEAR

The child's physical changes involve a transition from the plumpness of babyhood to the learner and more muscular body of a toddler. This is exciting time for a baby. 1-year-old begins to walk and talk. These skills, combined with a will of his or her own and a sense of independence, produce a determined explorer. Even though 1-year-old does not have a large vocabulary, he/she develops an increasing ability to understand language. This so-called passive language lays the groundwork for virtual explosion of language that occurs between ages 2 and 3. The average 18-month-old probably uses only about 10 words, but within a year he or she has a significant vocabulary and can speak in simple sentences. A child of this age is constantly exploring, by touching, holding, climbing, and mouthing.

TWO YEARS

At 2 years most children begin to communicate verbally. At some point after reaching 2 years, most children can tell you their name and the names of common objects. They can speak in three- to four-word sentences and even carry on brief conversations. Two-year-olds are most famous for negative behavior. Temper tantrums are common. Most 2-year-olds do not actively play with other children. Rather, they enjoy playing side by side with children their age. Two-year-old child is a great imitator. If you rake the lawn, 2-year-old may want to follow behind with a toy rake.

THREE YEARS

Three-year-old is more coordinated than he/she was at age 2. By age 3, most children can climb stairs with alternating feet, although most cannot descend in the same manner until age 4. A 3-year-old also can stand on one foot. Three-year-old's vocabulary and pronunciation continue to expand. He/She can tell you his/her age and sex, and imitate simple drawings.

FOUR YEARS

A child of 4 speaks well enough for strangers to understand him/her, and sentences become increasingly complex. The imagination of a child this age is vivid, and the line between what is real and what is imaginary often becomes indistinct. Some children at this age develop fears. Common fears of the 4-year-old include the fear of death, animals, and the dark.

FIVE YEARS

A child of 5 is generally able to hop on one foot and even skip, can accurately copy figures, and continues to develop language skills. Children this age have the coordination required to write, and many have learned to do so. A 5-year-old is a social person. Unlike the younger child, when given a choice between spending time with his or her parents or friend, a 5-year-old child will almost invariably choose the friend.

Ex. 23. Say to what conclusion you have come after having read the text "Development During Preschool Years".

Ex. 24. Give a summary of the following text in Ukrainian:

SCHOOL YEARS

Growth and development are slow and steady in the early school-age years, in sharp contrast with the rapid changes that occurred during the preschool years and those to follow during adolescence. A school-age child will gain about 7 pounds a year, and his/her height will increase by approximately 2.5 inches a year. The growth of a child's head also will slow down. This is a time when a child's brain has almost reached its adult size.

A child's motor skills also will be refined between the ages of 6 and 12. During this period, running, jumping, and throwing show steady improvement.

During the period of rapid growth toward the end of the school-age years, children suddenly grow at dramatically different rates. School-age girls and boys have distinctly different growth patterns. There is a period during the late school-age years when girls are taller and heavier than boys. By the age of 13.5 years, most boys have grown taller than girls. Girls tend to weight less than boys until almost age 9 and after age 14, but they are heavier than boys between those two ages. Early puberty generally begins at about age 10 in girls and age 12 in boys.

In teenagers the external changes are obvious: body growth taller and heavier, and its shape changes. The bones grow too, even facial bones change. Fat collects on the buttocks and around the abdomen in boys and girls. Boys accumulate mostly lean tissue (muscle and bone), and girls add more fat. The result is that fat makes up 25 percent of the total body weight in girls and between 15 and 20 percent in boys.

OVERVIEW

The stages of life are as following: the germinal period; the embryo; the fetus; neonate; infant; child; adolescent; and adult. A great number of changes occur in the life of the newborn until 1 year of age. The brain is still developing at this time. By 6 weeks the infant is usually able to hold up its head and begins to smile in response to people. At 3 months of age the infant's limbs are exercised aimlessly. The infant can follow a moving person with eyes. At 4 months the infant begins to do push-ups. It can begin to grasp things placed in its hand, roll from its back to its side, hold its head erect, and play with its hands. At 5 months the infant can usually laugh out loud, reach for objects, turn its head to follow an object, lift its head and shoulders, sit with support, and roll over. At 8 months the infant can recognize familiar people, sit up without support, and reach for specific objects. At 12 months the infant may pull itself to a standing position and may be able to walk without support. The infant can understand much of what is said to it and may say several words of its own.

LESSON 62

CHILD'S NUTRITION

VOCABULARY

nutrition [nju'trIS(q)n] харчування, живлення; їжа

feeding ['fi:dIN] харчування, годування

enhance [In'ha:ns] посилювати, поліпшувати

bottle-feeding ['bOtl"fi:dIN] штучне вигодовування

formula ['fO:mjulq] молочна суміш

offer ['Ofq] пропонувати

nourishment ['nArlSmqnt] годування, харчування; їжа

carbohydrate ["ka:bqu'haIdreIt] карбогідрат, вуглевод

diet ['daIqt] харчування, їжа, стіл; режим харчування

gain [geIn] рост, збільшення

insulation ["Insju'leiS(q)n] ізоляція

vehicle ['vI:kl] зв'язуюча речовина, зв'язуючий матеріал

intake ['Inteik] поглинення, вбирання

virtually ['vq:tjuqlI] фактично, практично, по суті

advantage [qd'va:ntIG] перевага; користь

benefit ['benIfIt] перевага; користь

goal [gqul] завдання, ціль

WORD-BUILDING

Ex. 1. Translate the following words paying attention to the parts of speech:

Differ (v), difference (n), different (adj.); treat (v), treatment (n), treatable (adj.); complain (v), complaint (n); change (v), change (n), changeability (n), changeable (adj.).

GRAMMAR:
PERFECT TENSES
(REVISION)

Ex. 2. Familiarize yourself with the data of the following table:

AFFIRMATIVE FORM

to have + Participle II (V_3)

Present Perfect Tense (Active Voice)	**have** / **has** + **V_3**	You have written a book. She has written a book.
Past Perfect Tense (Active Voice)	**had** + **V_3**	They had written a book.
Future Perfect Tense (Active Voice)	**shall have** / **will have** + **V_3**	I shall have written a book. This doctor will have written a book.
Present Perfect Tense (Passive Voice)	**have been** / **has been** + **V_3**	The books have been written. The book has been written.
Past Perfect Tense (Passive Voice)	**had been** + **V_3**	The books had been written. The book had been written.
Future Perfect Tense (Passive Voice)	**shall have been** / **will have been** + **V_3**	The book will have been written. The books will have been written.

Ex. 3. Read and translate the following sentences:

1. Ginseng root (корені женьшеню) has been used as an effective tonic for men and women since ancient times. 2. Research work of many scientists has helped to estimate that the rate of heart beat increases depending on the different emotions. 3. It has been estimated that during the past 30 years there has been as much progress in clinical medicine as in all the previous history of medicine combined. 4. Almost everyone has had an X-ray, either to visualize a broken bone or to check for a cavity in a tooth. 5. A few studies have suggested that drug is slightly more effective than other drugs in the treatment of kidney disorders. 6. The cardiac disorders have produced heart rate problems. 7. His nutrition has included breast milk and formula.

Ex. 4. Put the verbs into correct tense forms:

1. Anatomical imaging (to revolutionize) medical science. 2. Anatomical imaging (to make) a major contribution to that progress. 3. Once the computer (to analyze) the pattern of sounds waves, the information is transferred to a motion in which the result is visualized as an ultrasound image. 4. Excellent reviews on algorithms for the standard management of asthma and emergency management of asthma (publish). 5. Inhaled corticosteroids (to become) first-line therapy for the treatment of moderate to severe asthma.

Ex. 5. Translate the following sentences into English:

1. Вчені визначили, що загальна маса крові, котра нагнітається серцем щодня, складає близько 10 тонн. 2. Наукове дослідження дало фізіологам можливість установити, що

серцевий м'яз скорочується біля однієї третини життя людини. 3. Тиск у правому передсерді збільшився. 4. Він установив, що під час фізичних вправ потік крові (blood flow) по судинах сильно змінюється. 5. Останні дослідження продемонстрували, що ці препарати можуть скоротити кількість летальних результатів (deaths), що виникають унаслідок захворювань коронарних судин.

Ex. 6. Familiarize yourself with the data of the following table:

INTERROGATIVE FORM

Tense	**(1) Questioning word**	**(2) Auxiliary verb**	**(3) Subject**	**(4) Predicate**	**Example**
Present Perfect Tense, Active Voice	What	**have** **has**	I, you, we they he, she, it	**V_3**	What **has** he **received** this week?
Past Perfect Tense, Active Voice	Why	**had**	I, he, she, it, you, we, they	**V_3**	How many articles **had** the student **read** by 5 o'clock?
Future Perfect Tense, Active Voice	Where	**shall** **will**	I, we he, she, it, you, they	**have + V_3**	What text **will** Helen **have translated** by 3 o'clock?
Present Perfect Tense, Passive Voice	How many	**have** **has**	I, you, we they he, she, it	**been + V_3**	**Has** the text **been translated** today?
Past Perfect Tense, Passive Voice	How much	**had**	I, he, she, it, you, we, they	**been + V_3**	Where **had** the patient **been examined**?
Future Perfect Tense, Passive Voice		**shall** **will**	I, we he, she, it, you, they	**have + been + V_3**	When **will** the hospital **have been modernized**?

Ex. 7. Translate the following interrogative sentences into Ukrainian:

1. How has the amount of radiation used for routine X-ray examinations been reduced over year? 2. Why has the heart transplantation become a routine procedure in many medical centers? 3. What inventions in medicine has V.P. Filatov made? 4. What hospitals have the Romans established? 5. What countries has the child mortality declined during the last decade? 6. Why have these methods of treatment used?

Ex. 8. Make the following sentences interrogative:

1. Physiologists have determined that in the adult the heart makes from 60 to 72 beats per minute. 2. Physiologists have called the first phase of short contraction of both atria – the atrial systole. 3. The oxygenated blood has passed the four pulmonary veins. 4. Pharmacological treatment for nocturnal asthma has been directed at the underlying mechanisms for the disease. 5. The scientists have discussed the mechanisms and physiological changes occurring during laparoscopy. 6. The movement of skeletal muscles and contraction of veins have increased the venous return to the heart. 7. Bronchodilator drug has been administered to patient to open narrowed passages in the lungs. 8. By 2020, the number of people over 60 will have grown to one billion.

READING AND DEVELOPING READING SKILLS

Ex. 9. Read VOCABULARY and memorize the following words.

Ex. 10. Compose 2-3- sentences using the words of VOCABULARY.

Ex. 11. Insert the missing letters:
Advant_ge; nutriti_n; in_ulation; no_rishment; bo_tle-feeding; enha_ce; fo_mula; b_by; weigh_.

Ex. 12. Translate the following words and word-combinations into Ukrainian:

Vehicle; feeding; virtually; goal; carbohydrate; offer; weight gain; benefit; varied diet ['dalqt]; processed milk; essential; repair of cells; store; fat intake; low-fat diet.

Ex. 13. Read the following words and word-combinations:

Goal; diet; breast milk; average; major; adequate; muscle; enzyme ['enzalm]; source; vehicle; absorption; absolutely; require; iron; balance; nowadays; hourly.

Ex. 14. Read the following text:

NEWBORN'S NUTRITION

The goal of feeding newborn is to help the baby grow and to include nutrients that will enhance the baby's health.

Unlike the older baby, the newborn does not have a varied diet. If the mother is breastfeeding, the baby will be nourished by breast milk. If the newborn has bottle-feeding, he/she will be given formula, usually a combination of specially processed cow's milk, vitamins, and minerals mixed with water.

As a rule, the baby knows how much food is needed. The baby eats as much as is needed, regardless of how much is left. When it is time to eat again, the baby will usually let the parents know. If a baby doesn't get enough to eat, you will soon know it. He or she cries until you offer more food.

The best indication that the baby is receiving the necessary nourishment is weight gain. Some babies gain weight slowly, and others gain rapidly. As a rule, the average baby gains 2 pounds a month during the first 3 months of life. Regardless of whether the source is mother's milk or formula, the following are the components of the basic diet of the newborn:

Protein is essential for growth and for the repair of cells. Most of the major body organs are composed mainly of protein. If the body doesn't receive an adequate amount of protein, it begins to break down its muscles to supply protein to the brain and to make enzymes.

Carbohydrates supply most of the body's energy needs. Carbohydrates are necessary for infant's health. Carbohydrates are stored in the liver and muscles.

Fats are a concentrated source of energy. They help protect body organs, vessels, and nerves, provide insulation against changes in temperature, and act as a vehicle for absorption of some vitamins. Although it is important for adults to limit their fat intake, infants and young children should not be on a fat-restricted or low-fat diet.

Water is absolutely essential for human life. Water accounts for 70 to 75 percent of the newborn's weight, compared with only 60 to 65 percent of an adult's body weight. To remain healthy, an infant must take in larger amounts of water per unit of the body weight that an adult. The daily amount of water required is between 10 to 15 percent of the infant's body weight.

Minerals are important to the structure of virtually every part of the body. For example, calcium and fluoride are necessary for the formation of strong bones and teeth, copper and iron are required for the production of red blood cells, and sodium is needed to maintain the water balance in the body.

Vitamins are substances required by the body in minute amounts. Some of the necessary vitamins include vitamin A, which is needed for eyes and to keep the linings of the bronchial,

urinary, and intestinal tracts healthy; vitamin C is needed for the development of bones, blood vessels, and other tissues; and vitamin D, which is also needed for the development of bones and teeth.

Nowadays it is proved that the ideal feeding method is breastfeeding. Breastfeeding has nutritional and immunological advantages and emotional benefits. Many newborns are fed every 4 hours. Most babies need 8 to 10 feedings daily in the first couple of months. Some babies may want to feed hourly.

Ex. 15. Translate the following words and word-combinations into English:
Штучне вигодовування; грудне вигодовування; молочна суміш; грудне молоко; вигода, користь; пропонувати; збільшення ваги; речовина, що пов'язує; живлення, годування; вуглевод; завдання, мета; підсилювати, покращувати; їжа; фактично, практично, по суті; основне живлення; концентроване джерело енергії; необхідна кількість води.

Ex. 16. Translate the text "Newborn's Nutrition" into Ukrainian:

Ex. 17. Insert the missing words:
1. The _ of feeding newborn is to help the baby grow. 2. The newborn does not have a varied _. 3. If the mother is _, the baby will be nourished by breast milk. 4. If the newborn has bottle-feeding, he/she will be given _. 5. The baby _ as much as is needed. 6. The best indication that the baby is receiving the necessary nourishment is weight _. 7. The basic diet of the newborn and child must include proteins, _, fats, water, minerals, and vitamins. 8. Proteins are essential for growth and for the _ of cells. 9. Carbohydrates _ most of the body's energy needs. 10. Fats are a concentrated _ of energy. 11. Water is absolutely essential for human _. 12. Minerals are important to the structure of every part of the _. 13. Vitamin A is needed for eyes and to keep the _ of the bronchial, urinary, and intestinal tracts healthy. 14. Vitamin C is needed for the development of bones, blood _, and other tissues. 15. Vitamin D is needed for the _ of bones and teeth. 16. Nowadays it is proved that the ideal _ method is breastfeeding.

Ex. 18. Answer the following questions:
1. What is the goal of the newborn's feeding? 2. What types of newborn's feeding are there? 3. How much and how often does the newborn eat? 4. What is the indication that the baby is receiving the necessary nourishment? 5. What are the components of the basic diet of newborn? 6. Why are proteins essential? 7. What is the role of carbohydrates? 8. What do the fats provide? 9. Why is water essential for newborn? 10. Why are the minerals important? 11. Why are the vitamins required by the body of newborn?

Ex. 19. Insert the prepositions:

BREAST FEEDING

In most cases, breast milk is the most perfect food _ the baby. Breast milk contains easily digestible proteins, many factors that support new baby's immature immune system, and other factors that aid _ digestion. Breast fed babies are also less likely to have colic, upper respiratory infections, ear infections, constipation, asthma or allergies. And breast feeding will burn up almost 500 of mom's calories each day. Despite all of these advantages _ breast feeding, you should not feel guilty if you decide that you would rather feed your baby formula. There are many formulas available that will provide your baby _ good nutrition to promote its growth and development.

Ex. 20. Write out key words of the text "Newborn's Nutrition".

Ex. 21. Make up a plan of the text "Newborn's Nutrition".

Ex. 22. Give a summary of the text "Newborn's Nutrition".

Ex. 23. Speak on the newborn's nutrition.

Ex. 24. Make up a dialogue on newborn's nutrition.

Ex. 25. Pronounce and memorize the words to the theme studied:

Triple потроювати(ся); **stretch** період, проміжок часу; **reduce** [rl'djus] скорочувати; **distinct** [dls'tlNkt] особливий, відмінний (від інших); **rice** рис; **cereal** ['slqrlql] крупа, круп'яний продукт; **solid** тверда їжа; **acquaint** [q'kwelnt] знайомити; **puree** ['pjuqrel] суп-пюре, пюре; **ample** достатній; **supplement** додавати, доповнювати, поповнювати.

Ex. 26. Read and translate the following text:

INFANT'S NUTRITION

During the infant's first year of life, his or her birth-weight may triple. Feeding is important part of the baby's day.

In the first few months of life, the baby's nutrition consists of breast milk or formula. The frequency of feeding depends on the baby's needs and the method of feeding. A baby between 1 and 3 months old probably wants between 5 to 6 feedings a day, eventually every 3 hours, except for a longer stretch at night. As the baby grows, the number of feedings is reduced. Typically, a 5-month-old is down to 4 or 5 feedings, and by 9 months the child has only 3 milk feedings. But each infant is a distinct individual.

Before 4 to 6 months, the baby gastrointestinal system may be unable to absorb solids efficiently. Precooked rice cereal is often used as baby's first solid food because it is easy to digest. Initially, babies generally respond better to solids if the solid foods are thin rather than thick. After the baby is acquainted with cereal, the next step might be a fruit or a vegetable. At 8 months, most infants are ready to try pureed meats, but breast milk or formula continues to provide ample amounts of proteins.

By the time the infant is between 6 and 8 months old, he or she should be eating 3 to 4 ounces of solids at each of three meals, or between 5 and 8 tablespoons of food per meal. Sometimes a baby's diet needs to be supplemented with vitamins and minerals. Once the child reaches his or her first birthday, the infant eats table food exclusively.

Ex. 27. Define the main subject of each paragraph of the text "Infant's Nutrition".

Ex. 28. Give a summary of the text:

NUTRITION OF PRESCHOOL CHILD

Unlike an infant, who triples his/her weight during the first year and eats well, the 1-year-old child's rate of growth slows considerably. By the time the child enters the second year of life, he/she should be eating a variety of foods. It includes milk products, meat, poultry, fish, beans, eggs, bread, cereal, rice, and pasta, and fruits and vegetables. A balanced diet may also include desserts and fats such as butter, margarine, mayonnaise, and oils. Until age 2, fat should not be limited in the child's diet. Dietary fat and cholesterol are important for the infant's growth.

The following foods should form the foundation of the child's diet:

Milk products. Milk, cheese, cottage cheese, butter, and yogurt are excellent sources of calcium, which is necessary for building strong bones and teeth. Four servings (доза, порція) a day are recommended. For the 1-year-old child, a serving is ½ cup, and for older preschoolers the serving size may be as larger as ¾ cup.

Meat and Eggs. This group includes beef, poultry, fish, pork, liver, and eggs. These foods are excellent sources of protein, which is necessary for the growth and repair of tissue cells. The preschooler needs three or more servings a day.

Fruits and Vegetables. The child should have at least four servings a day from this food group. To obtain an adequate amount of vitamin C, one or more servings should be citrus fruit, berries, tomato, and cabbage. The child needs at least one serving of a green or yellow fruit or vegetable, which are excellent source of vitamin A.

Grains. This food group includes whole-grain cereals, breads, rice, and pasta. Four or more daily servings are recommended. The serving for the 1-year-old is one-half slice of bread, one-half ounce of ready-to-eat cereal, or one-fourth cup of pasta. For the 5-year-old, one and one-half cup of pasta constitutes a serving.

These are the food groups necessary for a nutritionally balanced diet.

Ex. 29. Make up a dialogue on obtained information.

OVERVIEW

The goal of feeding newborn is to help the baby grow. The newborn does not have a varied diet. If the mother is breastfeeding, the baby will be nourished by breast milk. If the newborn has bottle-feeding, he/she will be given formula. The baby eats as much as is needed. The best indication that the baby is receiving the necessary nourishment is weight gain. The basic diet of the newborn and child must include proteins, carbohydrates, fats, water, minerals, and vitamins. Protein is essential for growth and for the repair of cells. Carbohydrates supply most of the body's energy needs. Fats are a concentrated source of energy. Water is absolutely essential for human life. Minerals are important to the structure of every part of the body. Vitamin A is needed for eyes and to keep the linings of the bronchial, urinary, and intestinal tracts healthy. Vitamin C is needed for the development of bones, blood vessels, and other tissues. Vitamin D is needed for the development of bones and teeth. Nowadays it is proved that the ideal feeding method is breastfeeding. During the infant's first year of life, the feeding is important part of the baby's day. The frequency of feeding depends on the baby's needs and the method of feeding. Before 4 to 6 months, the baby gastrointestinal system may be unable to absorb solids efficiently. Precooked rice cereal is often used as baby's first solid food. At 8 months, most infants are ready to try pureed meats. By the time the infant is between 6 and 8 months old, he or she should be eating 3 to 4 ounces of solids at each of three meals. By the time the child enters the second year of life, he/she should be eating a variety of foods. It includes milk products, meat, poultry, fish, beans, eggs, bread, cereal, rice, and pasta, and fruits and vegetables. A nutritionally balanced diet is very important for child.

LESSON 63
CHILDHOOD DISEASES

VOCABULARY

diphtheria [dIf'TIqrIq] дифтерит, дифтерія

scarlet fever ['ska:lIt'fI:vq] скарлатина

inhalation [Inhq'leIS(q)n] вдих; інгаляція

contagious [kqn'teIGqs] інфекційний

congestion [kqn'GeS(q)n] застій, закладання

contract [kqn'trxkt] заразитися

rupture ['rApCq] розриватися

shingles ['SINglz] оперізуючий лишай

parotitis [pxrO'taItIs] паротит

fatigue [fq'tIg] втома, втомлюваність

illness ['InIs] хвороба, захворювання

tear [tFq] сльоза

testicle ['testIkl] яєчко

ovary ['ouvqrI] яєчник

exhale [eks'heIl] видихати

hoarseness ['hO:snIs] хрипота

discharge [dIs'Ca:G] виділення

malaise [mq'leIz] відчуття загального дискомфорту

chill [CIl] озноб, гарячка, пропасниця; застуда

uneventful [AnI'ventful] неускладнений

Corynebacterium diphthriae [kA'raInbxk"tIrIqm dIf'TIrIq] паличка Клебса-Леффлера (збудник дифтерії)

rash [rxS] висип

GRAMMAR:
MODAL VERBS
(REVISION)

Ex. 1. Read and translate the sentences containing modal verbs and their equivalents:
1. Many of the most known diseases of childhood are highly infectious diseases that can be passed easily from person to person. 2. Until the rash disappears, you still can pass disease to others. 3. The tongue may be swollen for somewhat longer, but recovery usually is uneventful. 4. There is an incubation period of twelve to twenty days after infection, and then the child becomes feverish or has a slight shivering, or may feel more severely ill with vomiting and pains in the back and legs. 5. These vesicles during the second day may show a change of the contents. 6. He must be isolated from other children until the last crust has disappeared. 7. If the rash appears on the face, care must be taken to prevent scratching. 8. The arteries have to be strong as well as flexible. 9. Capillaries are so tiny that often the cells of the blood have to pass through them single file. 10. The person has to wear a bracelet stating who should be contacted if a seizure occurs.

Ex. 2. Make up some sentences (ex. 1) interrogative.

READING AND DEVELOPING SPEAKING SKILLS

Ex. 3. Read VOCABULARY and memorize new words.

Ex. 4. Insert the missing letters and translate the names of the diseases:
Me_sles; w_ooping cough; chi_kenpox; m_mps; dip_theria; scarlet f_ver; parrot_tis.

Ex. 5. Translate the following words:
Fatigue; inhalation; rupture; shingles; contagious; hoarseness; testicle; discharge; malaise; chill; ovary; congestion; contract; exhale.

Ex. 6. Read the following words:
Childhood; highly; pass; ordinarily; cough; tiny; although; susceptible; disappear; mild; itchy; rupture; virus; pancreas; airborne; malaise; wound; swollen; recovery.

Ex. 7. Read the following text:

CHILDHOOD INFECTIOUS DISEASES

Many of the most known diseases of childhood – chickenpox, measles, and mumps – are highly infectious diseases that can be passed easily from person to person. Some of these diseases are very serious indeed.

The diagnosis of these diseases is made on the basis of their characteristic symptoms and signs.

Measles. Its signs and symptoms are: fever, cough, sneezing, inflamed eyes, sore throat, tiny white spots on the lining of the cheek, and rash. Measles, also known as rubeola, is a common childhood illness, although adults also are susceptible. The virus that causes the disorder is transmitted by inhalation of infecting droplets such as from a sneeze. Measles is most contagious before the rash appears, making it difficult to avoid the disease. Until the rash disappears, you still can pass it to others. Once you have had measles, you are permanently immune and will not contract the disease again.

Whooping cough. Whooping cough primarily occurs in infants younger than 2 years. It is contracted by inhaling infected airborne droplets, often from an adult with mild case of the disease. The disease is most contagious early, but can be transmitted until the infection is completely cleared. The symptoms of this disease are: sneezing and nasal congestion, tearing, loss appetite, and cough.

Fever, weakness, and red, itchy rash are the signs of **chickenpox**. Chickenpox, also known as varicella, occurs primarily in children, although adults who are not immune can contract it. It is contagious and is spread by breathing in infected respiratory droplets or by unprotected direct contact with the rash when it has ruptured. In persons who have had chickenpox, the virus can cause shingles later in life.

Mumps is a childhood disease, but it can occur in adults. Its clinical name is epidemic parotitis. Its symptoms are the following: swollen, painful salivary glands, fever, weakness and fatigue, inflammation of the pancreas, testicles, ovaries, or brain. Mumps is caused by a virus and spread by inhalation of infected droplets. The affected person becomes contagious 1 day before the symptoms appear, is most contagious for another 3 days, and then becomes less contagious as the swelling goes down.

Diphtheria is an acute infection caused by the bacterium *Corynebacterium diphthriae*. It usually attacks the respiratory tract. Infection occurs by inhalation of airborne droplets exhaled by a person with the disease or by a carrier who has no symptoms – sore throat and hoarseness, nasal discharge, malaise and fever, thick gray membrane covering the throat and tonsils, and rapid pulse. The organism also can infect skin wounds or any mucous membrane.

Scarlet fever was once a common, serious childhood illness but now is quite rare. Caused by a specific type of streptococcal bacteria, scarlet fever usually begins suddenly with sore throat, fever, and chill. The bacteria produce a specific type of toxin that causes a rash. It usually disappears after 3 days, and the fever disappears. The tongue may be swollen for somewhat longer, but recovery usually is uneventful.

Ex. 8. Translate the following words and word-combinations into English:
Найбільш відомі захворювання; вдих; інфекційний; доки не зникне висип; простуда; уникнути захворювання; бути викликаним вірусом; відчуття загального дискомфорту; заразитися; вражати дихальний тракт; досить рідкісний; розриватися; видихати; оперізуючий лишай; втома, втомлюваність; хрипота; зазвичай починається несподівано.

Ex. 9. Translate the text "Childhood Infectious Diseases" into Ukrainian.

Ex. 10. Insert the missing words:
1. The most common diseases of childhood are highly infectious _. 2. The virus of measles is transmitted by _ of infecting droplets. 3. Whooping cough is contracted by inhaling infected _. 4. Chickenpox is spread by unprotected direct contact with _. 5. The clinical name of _ is epidemic parotitis.

Ex. 11. Answer the following questions:
1. What are the most known diseases of childhood? 2. What is the diagnosis of infectious diseases made on? 3. What is measles? 4. What are the signs and symptoms of measles? 5. How is chickenpox spread? 6. What are the signs of mumps? 7. What is diphtheria? 8. What its symptoms do you know? 9. What childhood disease is quite rare now?

Ex. 12. Insert the missing prepositions:
1. Whooping cough occurs _ infants younger than 2 years. 2. It is contracted _inhaling infected airborne droplets. 3. The symptoms _ this disease are sneezing and nasal congestion, tearing, loss appetite, and cough. 4. Chickenpox occurs primarily _ children. 5. It is spread _ breathing in infected respiratory droplets or _ unprotected direct contact with the rash. 6. Mumps is a childhood disease, but it can occur _ adults. 7. Mumps is caused _ a virus and spread _ inhalation of infected droplets.

Ex. 13. Complete the following table:

Disease	**Symptoms**
Measles Whooping cough Chickenpox Mumps Diphtheria	

Scarlet fever	

Ex. 14. Write out key words of the text "Childhood Infectious Diseases".

Ex. 15. Make up a plan of the text "Childhood Infectious Diseases".

Ex. 16. Speak on:
the causes of infectious diseases;
the signs and symptoms of the infectious diseases you know.

Ex. 17. Give a summary of the text "Childhood Infectious Diseases".

Ex. 18. Make up the dialogue on the infectious diseases of childhood.

Ex. 19. Read the following text and retell it:

CHICKENPOX

Chickenpox is an acute contagious disease of children, characterized by feverishness and an eruption on the skin.

The disease occurs in epidemics affecting especially children under the age of ten years. The disease is caused by a certain type of virus. There is an incubation period of twelve to twenty days after infection, and then the child becomes feverish or has a slight shivering, or may feel more severely ill with vomiting and pains in the back and legs. Within 24 hours, an eruption consisting of red pimples which quickly change into vesicles (везикула, пухирець) filled with clear fluid appears on the back and abdomen, on the head, chest and forehead, and less frequently on the limbs. These vesicles during the second day may show a change of the contents to turbid, purulent fluid and within a day or two they burst, or at all events shrivel up, and become covered with brownish crusts. In a slight case there may be only eight or ten of these vesicles; in severe cases their number may amount to one hundred or even more. The small crusts dry up and fall off in two or three weeks and recovery is almost always complete.

The infected children must be isolated from other children until the last crust has disappeared. A patient need not be confined to bed unless the temperature is raised, but he/she should be kept in one room. If the rash appears on the face, care must be taken to prevent scratching. A simple dusting powder relieves the itchiness. In the majority of cases no other treatment beyond isolation is required. If children have been exposed to the risk of infection, it is usual to isolate them for a period of twenty days before allowing them to return to school.

Ex. 20. Give the summary of the following text:

IMMUNIZATION

Nearly all children are vaccinated by the age 4 or 5 years because they must be immunized before they are allowed to enter school. For most vaccines, immunization should begin when a child reaches age 2 to 3 months.

Diphtheria. The vaccine usually is given in combination with tetanus and whooping chough vaccines. The immunization should be started when the child reaches 2 months of age and is given as series of 5 shots. A booster shot should be given every 10 years.

Whooping cough. Immunization is begun between 1 and 3 months of age. A few children may have reaction to the shot, in which case no further injections should be given.

Tetanus. Tetanus toxoid usually is given to children in a series of 5 shots, in combination with diphtheria and whooping cough immunization. It is given at ages 2, 4, and 5 months, again at 18 months, and before the child enters school. A tetanus/diphtheria booster is given every 10 years.

Polio. Poliomyelitis vaccine generally is given orally as a live vaccine at ages 2 and 4 months and at 18 months.

Measles. A live weakened measles vaccine is given to healthy children at about 15 months of age, usually in combination with mumps and rubella vaccines.

Mumps. Mumps vaccine is given in one dose, usually in combination with measles and rubella vaccines. It should not be given to children younger than 1 year.

Hepatitis A. A safe and effective vaccine is available for people at high risk for hepatitis A or travelers. This vaccine also is being considered for universal use in children. Persons younger than 18 years receive a three-injection series of vaccine; those older than 18 receive two injections.

Hepatitis B. A vaccine is available for people who are at risk of contracting the disease and are not immune. It is also now recommended that children be immunized against hepatitis B during the first month of life, at 2 to 4 months, and again at 6 to 18 months.

Rabies. If you are bitten by a rabid animal, you must receive a vaccine, given as five injections on separate days (the first day and 3, 7, 14, 28 days later), along with a passive antibody given on the first day.

Chickenpox (Varicella). A vaccine for prevention of chickenpox is available and should be considered for children between ages 12 and 18 months. Children younger than 13 years receive one dose of vaccine. Those older than 13 receive two doses given 4 to 8 weeks apart.

OVERVIEW

The most known infectious diseases of childhood are chickenpox, measles, and mumps. The signs and symptoms of **measles** are fever, cough, sneezing, inflamed eyes, sore throat, tiny white spots on the lining of the cheek, and rash. The virus that causes the disorder is transmitted by inhalation of infecting droplets. **Whooping cough** occurs in infants younger than 2 years. It is contracted by inhaling infected airborne droplets. The symptoms of this disease are: sneezing and nasal congestion, tearing, loss appetite, and cough. Fever, weakness, and red, itchy rash are the signs of **chickenpox**. Chickenpox occurs primarily in children. It is spread by breathing in infected respiratory droplets or by unprotected direct contact with the rash. **Mumps** is a childhood disease, but it can occur in adults. Its symptoms are the following: swollen, painful salivary glands, fever, weakness and fatigue, inflammation of the pancreas, testicles, ovaries, or brain. Mumps is caused by a virus and spread by inhalation of infected droplets. **Diphtheria** is an acute infection. It usually attacks the respiratory tract. Infection occurs by inhalation of airborne droplets exhaled by a person with the disease. The signs of this disease are sore throat and hoarseness, nasal discharge, malaise and fever, thick gray membrane covering the throat and tonsils, rapid pulse. **Scarlet fever** is caused by a specific type of streptococcal bacteria. The bacteria produce a specific type of toxin that causes a rash.

LESSON 64
MEASLES

VOCABULARY

measles [mI:zlz] кір

rubeola [ru:'bI:olq] кір

rubella [ru:'belq] краснуха

contagious [kqn'telGqs] інфекційний, контагіозний

incomplete ["Inkqm'plI:t] недосконалий

address [q'dres] звертати увагу на, замислюватися над

tiny ['taInI] дуже маленький, крихітний

spot [spOt] пляма

persistent [pq'slstqnt] стійкий; постійний

spike [spalk] різко підніматися

blotchy ['blOCI] покритий плямами

fade [feld] поступово зникати

rid [rId] звільняти; рятувати

accompany [q'kAmpqnI] супроводжувати,

benefit ['benIfIt] мати користь, перевагу

GRAMMAR:
INFINITIVE CONSTRUCTIONS AND PARTICIPLES (REVISION)

Ex. 1. Read and translate the following sentences:

1. Mumps is known to be an acute specific infection. 2. Having filled the lateral region of the neck, the swelling extended upon the face. 3. The pain preceding the swelling is increased by movement of the jaws. 4. Pain, swelling, and numbness seemed to be not so severe after infra-red therapy. 5. As a rule, the invasion of scarlet fever is abrupt, the symptoms of the onset usually being directly in proportion to the severity of the attack. 6. We know the most prominent function of blood to be carrying oxygen to the tissue. 7. We know bacteria to be very small bodies, visible only through a microscope. 8. An unusual temperature course in many atypical cases of pneumonia is likely to lead to a mistake. 9. The mass being rather large and tender, laparotomy was indicated.

READING AND DEVELOPING SPEAKING SKILLS

Ex. 2. Read VOCABULARY and memorize the following words.

Ex. 3. Compose 2-3- sentences using the words of VOCABULARY.

Ex. 4. Insert the missing letters and translate the following words:
Ra_h; m_asles; blotc_y; tin_; s_ot; ac_ompany; _ontagious; persi_tent.

Ex. 5. Translate the following words and word-combinations into Ukrainian:
Incomplete; rubella; rubeola; spike; rid; fade; address; benefit; case; cause; illness; spread; include; dry cough; inflamed eyes; sensitivity; bluish-white; lining of the cheek; spot.

Ex. 6. Read the following words and word-combinations:
Measles; respiratory; contagious; occur; rubella; exposure; virus; tiny; light; cough; sign; hairline; itchy; finally; vaccination; weaken; receive; severe; over-the-counter; isolation; nonimmunized.

Ex. 7. Read the following text:

MEASLES

Measles is primarily a respiratory infection caused by a highly contagious virus found all over the world. Also called rubeola, measles can be serious and even fatal for small children. Approximately 30 million to 40 million cases of measles occur worldwide each year, resulting in close to 1 million deaths. Measles (rubeola) is not the same as rubella, a condition caused by a different virus that is less contagious and results in less severe symptoms.

The measles vaccine is a highly effective way to prevent the measles illness. However, vaccination programs are incomplete in much of the world. Global health organizations are working hard to address this problem. The disease can spread easily with international travelers.

Measles symptoms and signs appear 10 to 12 days after exposure to the virus. They typically include: fever; dry cough; runny nose; inflamed eyes (conjunctivitis); sensitivity to light; and tiny red spots with bluish-white centers found inside the mouth on the inner lining of the cheek, called Koplik's spots.

Measles typically begins with a mild to moderate fever, accompanied by other signs and symptoms, such as a persistent cough, runny nose, inflamed eyes (conjunctivitis) and sore throat. Two or three days later, Koplik's spots – a characteristic sign of measles – appear. Then a fever spikes, often as high as 104 or 105 F. At the same time, a red blotchy rash appears, usually on the face, along the hairline and behind the ears. This itchy rash rapidly spreads downward to the chest and back and, finally, to the thighs and feet. After about a week, the rash fades in the same sequence that it appeared.

No treatment can get rid of an established measles infection. However, nonimmunized infants may be given the measles vaccination within 72 hours of exposure to the measles virus, to provide protection against the disease. Pregnant women, infants and people with weakened immune systems who are exposed to the virus may receive an injection of proteins (antibodies) that can fight

off infection, called immune serum globulin. When given within six days of exposure to the virus, these antibodies can prevent measles or make symptoms less severe.

The person may also take over-the-counter medications to help relieve the fever that accompanies measles. If you develop a bacterial infection while you have measles, such as pneumonia or an ear infection, your doctor may prescribe an antibiotic. Young children who are hospitalized with severe measles might also benefit from prescription doses of vitamin A.

Isolation is another element of treatment. Because measles is highly contagious, people with measles shouldn't return to activities in which they interact with other people during this period. It may also be necessary to keep nonimmunized people out of the infected person's house.

Ex. 8. Translate the following words and word-combinations into English:

Кашель; кір; нежить; з'являтися; інфекційний, контагіозный; розповсюджуватися вниз; забезпечувати захист; дуже маленький, крихітний; сироватка; висип; плямочка, пляма; призначення вітаміну; супроводжувати, супроводити.

Ex. 9. Translate the text "Measles" into Ukrainian.

Ex. 10. Insert the missing words:

The cause of measles is a _. The virus lives in the mucus in the nose and throat of an infected child or _. That child or adult is _ from four days before the rash appears to four days after. When someone with _ coughs, sneezes or talks, infected droplets spray into the air, where other people can inhale them. The infected droplets may also land on a surface where they remain active and _ for several hours. You can contract the _ by putting your fingers in your mouth or nose after touching the infected surface.

Once the virus gets inside your _, it typically grows in the cells that line the back of the throat and lungs. The infection then spreads throughout the body, including the respiratory system and the _.

Ex. 11. Answer the following questions:

1. What is measles? 2. How many cases of measles occur worldwide each year? 3. What is the cause of measles? 4. In what cases is the measles vaccine a highly effective? 5. What are the symptoms and signs of measles? 6. How does measles begin? 7. What is the next step? 8. What is the treatment for measles? 9. What is the prevention for measles?

Ex. 12. Match the following words with their definitions:

1. Over-the-counter.	1. Deliberate introduction of an antigen into a subject to stimulate the
2. Virus.	immune system and produce immunity to the antigen.
3. Vaccination.	2. Tiny organism that causes disease.
4. Serum.	3. Medications sold without a prescription.
	4. Fluid portion of blood after the removal of fibrin and blood cells.

Ex. 13. Insert the prepositions and name the complications of measles:

COMPLICATIONS OF MEASLES

Measles usually lasts about 10 _ 14 days. In some parts of the world, the disease is severe, even deadly. _ Western countries, that's usually not the case. People _ measles may become quite ill, but most people recover completely. However, complications may include:

Ear Infection. Measles causes an ear infection in nearly one out of every 10 children.

Encephalitis. About one in 1,000 people with measles develops encephalitis, an inflammation _ the brain caused _ a viral infection, which may cause vomiting, convulsions and, rarely, coma. Encephalitis can closely follow measles, or it can occur years later during adolescence as a result _ a slow virus infection. The late form, called Dawson's encephalitis, is rare.

Pneumonia. As many as one in 15 with measles gets pneumonia, which can be life-threatening.

Diarrhea or Vomiting. These complications are more common _ infants and small children.

Bronchitis, Laryngitis or Croup. Measles may lead _ inflammation of your voice box (larynx) or inflammation of the inner walls that line the main air passageways of your lungs (bronchial tubes).

Pregnancy Problems. Pregnant women need to take special care to avoid measles, because the disease can cause miscarriage, premature labor or babies _ low birth weights.

Low Platelet Count (thrombocytopenia). Measles may lead to a decrease _ platelets – the type _ blood cells that are essential _ blood clotting.

Ex. 14. Write out key words of the text "Measles".

Ex. 15. Make up a plan of the text "Measles".

Ex. 16. Give a summary of the text "Measles".

Ex. 17. Speak on the causes, symptoms, and treatment of measles.

Ex. 18. Make up a dialogue on treatment of measles.

Ex. 19. Pronounce and memorize the words to the theme studied:

Catarrhal [kq'ta:rql] катаральний; **prodromal stage** ['prOdrqmql] продромальний (початковий) період; **height of the disease** [halt] розпал хвороби; **eruption** висип; **spots** плями Бельского-Філатова; **branny desquamation** ["deskwq'melSn] висівкоподібне лущення; **convalescence** ["kOnvq'lesns] одужання.

Ex. 20. Read and translate the following text:

SOME NOTIONS ABOUT MEASLES

I have two patients who have measles. Measles is an infectious disease. It is dangerous for children as well as grown-ups, but mild cases are dangerous neither for children nor for grown-ups. Although measles is a communicable disease, it is less communicable that many other infectious diseases. Now measles is a preventable disease.

Clinical manifestations of measles are fever, catarrhal symptoms in eyes, nose, throat in the prodromal stage, as well as at the height of the disease, an early eruption in the mouth and spots, later a branny desquamation during convalescence.

Both my patients are at home in a separate room as they have a large family and contact with them is dangerous. They are not in an infection hospital as they have a mild form of measles.

Ex. 21. Answer the following questions:

1. How many patients does the doctor have? 2. What are they ill with? 3. For whom is measles dangerous? 4. What do we call a disease, which passes from one person to another? 5. Is measles preventable now? 6. What cases of measles aren't dangerous? 7. Why are the patients in a separate room?

Ex. 22. Insert the missing words (laboratory; preventable; mild; measles; eruption; analyses; fever; clinical characteristics)**:**

1. The child at the right window has _. 2. It is a _ case. 3. _ and catarrhal symptoms in eyes, nose and throat are _ _ of measles. 4. Doctor Smirnov says that the child has _ in the mouth. 5. Measles is a _ disease now. 6. They make different _ at the _ in the clinic.

OVERVIEW

Measles is primarily a respiratory infection caused by a highly contagious virus. The virus lives in the mucus in the nose and throat of an infected child or adult. Measles symptoms and signs include: fever; dry cough; runny nose; inflamed eyes (conjunctivitis); sensitivity to light; and tiny red spots found inside the mouth on the inner lining of the cheek. Measles typically begins with a mild to moderate fever, accompanied by a persistent cough, runny nose, inflamed eyes and sore throat. Two or three days later, Koplik's spots appear. No treatment can get rid of an established measles infection. However, nonimmunized infants may be given the measles vaccination within 72 hours of exposure to the measles virus, to provide protection against the disease. Pregnant women, infants and people with weakened immune systems may receive an injection of proteins (antibodies).

LESSON 65
REVISION

I. Read and translate one of the following texts:

Text A

FEMALE REPRODUCTIVE SYSTEM

As in the male, female reproduction is under the control of hormonal and nervous regulation. Development of the female reproductive organs and normal function depend on the relative levels of a number of hormones in the body.

The female reproductive system consists of ovaries, uterine tubes, uterus, vagina, external genital organs, and mammary glands. The female reproductive system produces ova and provides a place for the embryo growth.

There are two fallopian tubes (also called uterine tubes) one on each side of the uterus. Each of these tubes contains a passageway no wider than a needle. The fallopian tubes transport the oocyte or zygote (the fertilized oocyte) from the ovary to the uterus.

Two ovaries are small organs approximately 2 to 3.5 cm long and 1 to 1.5 cm wide. They are located in pelvic cavity. Between puberty and menopause, the ovaries generally release one egg each month. They also produce the female sex hormones (estrogen and progesterone). The union of the male and female sex cells in humans takes place within the female body. Fertilization is the process of penetrating the secondary oocyte by the spermatozoon. It is completed with the fusion of the male and female pronuclei. If fertilization takes place, the new cell formed begins a nine-month period of development within the uterus.

The size and shape of the uterus is as a medium-sized pear and is approximately 7.5 cm long and 5 cm wide. The walls of uterus are thick and consist of three layers: serous, muscular, and mucous. The powerful muscles contract during childbirth to push the baby out.

The narrow neck of the uterus is called the cervix, and it also has thick walls. The mucus fills the cervical canal and acts as a barrier to substances that could pass from the vagina into the uterus. Ordinarily, the opening of the cervix is exceedingly small. During childbirth, the cervical opening expands to allow passage of the baby.

The cervix extends into vagina, which is a muscular tube about 10 cm long. The wall of the vagina consists of an outer muscular layer and an inner mucous membrane. Most of the time the walls of vagina touch, but they can expand to accommodate a baby. The internal reproductive organs are held in place within the pelvis by a group of ligaments.

The opening to vagina is protected by external genitals.

Mammary glands are the organs of milk production and are located within breasts. The mammary glands are modified sweat glands. Externally, the breasts of both males and females have a raised nipple surrounded by a circular, pigmented areola (pl. areolae). The female breasts begin enlarging during puberty under the influence of estrogen and progesterone.

Text B

MALE REPRODUCTIVE SYSTEM

The main function of the male reproductive system is producing sperm cells and transporting them to the female reproductive system.

The male reproductive system consists of the testes (or testicles), epididymides, ductus deferentia, urethra, seminal vesicles, prostate gland, bulbourethral glands, scrotum, and penis. Sperm cells are very temperature sensitive and do not develop normally at usual body temperatures. The testes and epididymides are located outside the body cavity where the temperature is low.

The testes are contained in a pouch of skin, called the scrotum. In each testis there is a tightly packed mass of coiled tubes surrounded by a protective capsule. At puberty the testes begin to produce the sperm cells (spermatozoa) that are used in reproduction. This process continues throughout life. In addition to producing sperm cells the testes secrete the male hormone testerone, which plays an important role in the development and maintenance of the typical masculine physical characteristics, such as facial hair, greater muscle mass and strength, and a deeper voice. The sperm cells are constantly being produced within each testis. They are transported through the epididymides and the ductus deferentia and then stored in the seminal vesicles. The mixture of the sperm cells with the fluids formed by the seminal vesicles and the prostate gland forms the semen that is ejaculated during sexual activity. Although sperm cells make up only a small portion of the semen, a single ejaculation contains as many as 500 million sperm. After sexual intercourse, one of these cells may reach and fertilize an egg in the female. The prostate gland contributes fluids to the semen. As a man ages, the prostate gland frequently enlarges. The urethra, which runs the length of the penis through its center, carries urine during voiding and semen during ejaculation. The urethra exits from the pelvis and passes through the penis to the outside of the body.

Text C

INFERTILITY

Infertility is a common problem in partners. Fortunately, major advances have been made in recent decades, and the problem of infertility can be solved in many cases. Problems of infertility can include problems with the sperm, problems with egg, or difficulties encountered in their union. Abnormal function of the fallopian tube or uterus, infections, and immunologic and other factors may also cause infertility. Infertility problems also can result from sexual dysfunction.

To physicians, the term infertility usually means the inability to become pregnant after 1 year of frequent sexual intercourse without using any contraception.

Ten to 15 percent of couples are infertile. Of these couples, the man is the infertile partner in about 30 percent of cases and contributes to the infertility problem in an additional 20 percent of cases; the woman is infertile 50-70 percent of the time. In both men and women, various factors can account for infertility. Forty percent of infertile couples have more than one cause of their infertility. Thus, the physician will begin a comprehensive infertility examination of both partners.

The most cause of infertility in men is a slow sperm cell count. Normal sperm counts range from 75,000,000 to 400,000,000 sperm cells. If the sperm cell count drops to 20,000,000 sperm cells per milliliter, the male is usually sterile. Decreased sperm cell count can occur because of damage to the testes (e.g., because of mumps, radiation, or trauma), obstruction of the duct system, or inadequate hormone production.

In women, the failure to release an egg, is responsible for infertility problems in up to 15 percent of cases. It can be caused by various factors. We know of uterine's and immunologic factors' being a cause of infertility.

In some cases the physicians don't know exactly the reasons of infertility's occurring.

The numerous treatments for infertility depend on the cause. Recent developments in therapy have increased the number of once-infertile couples who can achieve pregnancy. Various means of insemination or embryo transfer may be possible so that the woman can still become pregnant.

Text D

BREAST CANCER

Breast canceris the disease women fear most. Experts predict 178,000 women will develop breast cancer in the United States in 2007. Breast cancer can also occur in men, but it's far less common. For 2007, the predicted number of new breast cancers in men is 2,000.

Yet there's more reason for optimism than ever before. In the last 30 years, doctors have made great strides in early diagnosis and treatment of the disease and in reducing breast cancer deaths. In 1975, a diagnosis of breast cancer usually meant radical mastectomy – removal of the entire breast along with underarm lymph nodes and muscles underneath the breast. Today, radical mastectomy is rarely performed. Instead, there are more and better treatment options, and many women are candidates for breast-sparing operations.

Knowing the signs and symptoms of breast cancer may help save your life. When the disease is discovered early, you have more treatment options and a better chance for a cure.

Most breast lumps aren't cancerous. Yet the most common sign of breast cancer for both men and women is a lump or thickening in the breast. Often, the lump is painless. Other potential signs of breast cancer include: a spontaneous clear or bloody discharge from your nipple, often associated with a breast lump, retraction or indentation of your nipple, a change in the size or contours of your breast, any flattening or indentation of the skin over your breast, redness or pitting of the skin over your breast, like the skin of an orange, a number of conditions other than breast cancer can cause your breasts to change in size or feel. Breast tissue changes naturally during pregnancy and your menstrual cycle. Other possible causes of noncancerous (benign) breast changes include fibrocystic changes, cysts, fibroadenomas, infection or injury.

If you find a lump or other change in your breast – even if a recent mammogram was normal – see your doctor for evaluation. If you haven't yet gone through menopause, you may want to wait through one menstrual cycle before seeing your doctor. If the change hasn't gone away after a month, have it evaluated promptly.

A diagnosis of breast cancer is one of the most difficult experiences you can face. In addition to coping with a potentially life-threatening illness, you must make complex decisions about treatment.

Treatments exist for every type and stage of breast cancer. Most women will have surgery and an additional (adjuvant) therapy such as radiation, chemotherapy or hormone therapy. Experimental treatments are also available at cancer treatment centers.

Text E

WHOOPING COUGH

Whooping cough – known medically as pertussis – is a highly contagious respiratory tract infection. Although it initially resembles an ordinary cold, whooping cough may eventually turn more serious, particularly in infants. In the more advanced stages, it's marked by the symptom that gives the disease its name: a severe, hacking cough followed by a high-pitched intake of breath that sounds like "whoop."

Whooping cough is more serious in children, especially infants younger than 6 months of age.

Once you become infected with the bacterium that causes whooping cough, it takes a few days to a few weeks for signs and symptoms to appear. When they do, they're usually mild at first and resemble those of a common cold, such as: a runny nose, nasal congestion, sneezing, red, watery eyes, a mild fever, dry cough, general feeling of being unwell and loss of appetite, after a week or two, signs and symptoms become worse and usually include: severe coughing attacks that bring up thick phlegm.

Coughing attacks that end with a high-pitched whoop sound as you gasp for air. These may be so severe that your child vomits or turns red or blue from the effort.

Fatigue from coughing so much. In adults, signs and symptoms of whooping cough may resemble those of bronchitis, a respiratory infection that causes a nagging cough – you may have heard it referred to as the "100-day cough." Babies and infants with whooping cough may not whoop at all, or at least not as loudly as older children do. Some children with whooping cough may experience choking spells and turn blue in the face as they struggle to breathe after a coughing fit.

Severe coughing can result in tiny red spots caused by ruptures in blood vessels at the skin's surface (petechiae) in your upper body, as well as small areas of bleeding in the whites of your eyes.

You may even bruise or break a rib if your coughing episodes are severe. Coughing may be worse at night.

Even after treatment to destroy the bacteria, your body continues to repair the damage to the lining of your trachea. As a result, the cough often lingers after the initial illness. With time, coughing usually lessens but can persist for six weeks or longer. Some people may even experience recurring episodes of coughing over the course of a year, especially when they contract a cold or other respiratory infection.

Text F

TREATMENT FOR WHOOPING COUGH

Treatment for whooping cough varies, depending on your age and the severity of signs and symptoms.

When whooping cough is diagnosed early in older children, teenagers and adults, doctors usually prescribe bed rest along with an antibiotic such as azithromycin or erythromycin. Although antibiotics won't cure whooping cough, they can shorten the duration of the illness and they shorten the period of communicability. If there is a confirmed diagnosis but a slow response to antibiotic therapy, it may be necessary to take the antibiotic for at least two weeks and maybe longer.

If the illness has progressed to the point of severe coughing spells, antibiotics aren't as effective but may still be used. Unfortunately, not much is available in the way of symptom relief. Over-the-counter cough medicines, for instance, have little effect on whooping cough. A case of whooping cough usually resolves in six weeks but may last longer.

Almost all infants with whooping cough who are younger than 2 months, as well as many older babies, are admitted to the hospital to help decrease the risk of serious complications of the disease. Most babies treated for whooping cough overcome the condition without lasting effects, but the risk exists until the infection clears.

In the hospital, your child is likely to receive intravenous antibiotics to treat the infection and perhaps corticosteroid drugs, which help reduce lung inflammation. Sometimes a child's airway may also be suctioned to remove mucus that's blocking it. Your child's breathing will be carefully monitored in case extra oxygen is needed.

If your child can't keep down liquids or food, intravenous fluids may be necessary. In some cases, prescription sedatives will help your child rest. Your child will also be isolated from others to prevent the infection from spreading.

II. Speak on the following topics:

1. Urinary System.
2. Kidneys Disorders.
3. Cancer.
4. Pregnancy.
5. Infant’s Development During the First Year of Life.
6. Child’s Nutrition.
7. Childhood Diseases.

APPENDIX 1

IRREGULAR VERBS

V	Translation	V_2	V_3
be [bI:]	бути	**was, were** [wOz, wq:]	**been** [bI:n]
bear [bFq]	нести; родити	**bore** [bO:]	**born(e)** [bO:n]
beat [bI:t]	бити	**beat** [bI:t]	**beaten** ['bI:tn]
become [bI'kAm]	ставати	**became** [bI'keIm]	**become** [bI'kAm]
begin [bI'gIn]	починати	**began** [bI'gxn]	**begun** [bI'gAn]
bring [brIN]	приносити	**brought** [brO:t]	**brought** [brO:t]
build [bIld]	будувати	**built** [bIlt]	**built** [bIlt]
catch [kxC]	ловити	**caught** [kO:t]	**caught** [kO:t]
choose [Cu:z]	вибирати	**chose** [Couz]	**chosen** ['Couzn]
come [kAm]	приходити	**came** [keIm]	**come** [kAm]
cut [kAt]	різати	**cut** [kAt]	**cut** [kAt]
deal [dI:l]	мати справу	**dealt** [delt]	**dealt** [delt]
do [du:]	робити	**did** [dId]	**done** [dAn]
draw [drO:]	тягнути	**drew** [dru:]	**drawn** [drO:n]
drink [drINk]	пити	**drank** [drxNk]	**drunk** [drank]
eat [I:t]	їсти	**ate** [et, eIt]	**eaten** ['I:tn]
fall [fO:l]	падати	**fell** [fel]	**fallen** ['fO:ln]
feed [fI:d]	кормити	**fed** [fed]	**fed** [fed]
feel [fI:l]	відчувати	**felt** [felt]	**felt** [felt]
fight [faIt]	битися	**fought** [fO:t]	**fought** [fO:t]
find [faInd]	знаходити	**found** [faund]	**found** [faund]
get [get]	одержувати	**got** [gOt]	**got, gotten** [gOtn]
give [gIv]	давати	**gave** [geIv]	**given** [gIvn]
go [gou]	ходити	**went** [went]	**gone** [gOn]
grow [grou]	рости	**grew** [grU:]	**grown** [groun]
have [hxv]	мати	**had** [hxd]	**had** [hxd]
hear [hIq]	чути	**heard** [hq:d]	**heard** [hq:d]
hold [hould]	тримати	**held** [held]	**held** [held]
keep [kI:p]	тримати; зберігати	**kept** [kept]	**kept** [kept]
know [nou]	знати	**knew** [nju:]	**known** [noun]
lead [lI:d]	вести	**led** [led]	**led** [led]
learn [lq:n]	вчити	**learnt** [lq:nt], **learned**	**learnt** [lq:nt], **learned**
leave [lI:v]	залишати	**left** [left]	**left** [left]
lie [laI]	лежати	**lay** [leI]	**lain** [leIn]
lose [lu:z]	губити	**lost** [lOst]	**lost** [lOst]
make [meIk]	робити	**made** [meId]	**made** [meId]
mean [mI:n]	означати, мати на увазі	**meant** [ment]	**meant** [ment]
meet [mI:t]	зустрічати	**met** [met]	**met** [met]
pay [peI]	платити	**paid** [peId]	**paid** [peId]
put [put]	класти	**put** [put]	**put** [put]
read [rI:d]	читати	**red** [red]	**red** [red]
rise [raIz]	піднімати	**rose** [rouz]	**risen** ['rIzn]
run [rAn]	бігати	**ran** [rxn]	**run** [rAn]
say [seI]	сказати	**said** [sed]	**said** [sed]

see [sI:]	бачити	**saw** [sO:]	**seen** [sI:n]
send [send]	посилати	**sent** [sent]	**sent** [sent]
show [Sou]	показувати	**showed** [Soud]	**showed, shown** [Soun]
sit [sIt]	сидіти	**sat** [sxt]	**sat** [sxt]
sleep [sll:p]	спати	**slept** [slept]	**slept** [slept]
smell [smel]	пахнути	**smelt** [smelt]	**smelt** [smelt]
speak [spI:k]	говорити	**spoke** [spouk]	**spoken** ['spoukn]
spend [spend]	витрачати	**spent** [spent]	**spent** [spent]
spread [spred]	простягатися	**spread** [spred]	**spread** [spred]
take [teIk]	брати	**took** [tuk]	**taken** ['teIkn]
teach [tI:C]	вчити	**taught** [tO:t]	**taught** [tO:t]
tell [tel]	розказувати	**told** [tould]	**told** [tould]
think [TI:Nk]	думати	**thought** [TO:t]	**thought** [TO:t]
understand ["Andq'stxnd]	розуміти	**understood** ["Andq'stud]	**understood** ["Andq'stud]
write [raIt]	писати	**wrote** [rout]	**written** [rItn]

APPENDIX 2

SUFFIXES AND TERM-ELEMENTS

NOUN:	**ADJECTIVE:**
-age (denotes condition or phenomena)	**-able (-ible)**
-algia (pain)	**-al (**pertaining to)
-ance, -ence (denote condition or phenomena)	**-ant (-ent)**
-er, -or (one who)	**-ar**
-ia, -iasis (condition, process)	**-ary (-ory, -ery)**
-ian (specialist)	**-ful** (full of; characterized by; tending to; able to)
-ion (-ation, -tion, -ssion) (denote condition or phenomena)	**-ic** (pertaining to)
-itis (inflammation)	**-ive** (pertaining to)
-(i)ty(denotes condition or phenomena)	**-less (**without**)**
-ist (specialist)	**-ous** (pertaining to)
-logy (study of)	**-y**
-ment (denotes condition or phenomena)	
-ness (denotes condition or phenomena)	**ADVERB:**
-osis (abnormal condition)	**-ly**
-th (denotes condition or phenomena)	
-tomy, -otomy (cut into; incision; section)	**VERB:**
-ure (denotes condition or phenomena)	**-ate**
	-ize (-ise)
	-fy

APPENDIX 3

TERM ELEMENTS OF GREEK AND LATIN ORIGIN
GREEK, LATIN, ENGLISH AND UKRAINIAN EQUIVALENTS

Greek	**Latin**	**English**	**Ukrainian**
aden/o	glandula, ae *f*	gland	залоза
adeno	tonsilla, ae *f*	tonsil	мигдалик
adipo	adeps, adipis *m*	fat	жир
angi/o	vas, vasis *n*	vessel	судина
alg/o	dolor, oris *m*	pain	біль
arthr/o	articulatio, onis *f*	joint	суглоб
-carcin	cancer, cri *m*	ancer	рак
cardi/o	cor, cordis *n*	heart	серце
crino-	separo, are; secreno, ere	to secrete	виділяти
cryo	frigiditas, atis *f*	chill; cold	холод
ctino	findere; separare	to cleave; to divide	розділяти
cyt/o	cellula, ae *f*	cell	клітина
dermo-	cutis, is *f*	skin	шкіра
dia-	trans	through	через, крізь
diastole	dilatation, onis *f*	dilatation	розширення
echo	sonus	sound	звук
ectom-	excisio, onis *f*	excision	вирізання
-emia	status sanguinis	blood condition	стан крові
encephalo	cerebrum, i *n*	brain	головний мозок

endo-	in, internus, a, um	within, inner	внутрішній
enter-	intestinum tenue	small intestine	тонка кишка
epi-	super; supra	above	над
erythr/o	rubber, bra, brum	red	червоний
glos-	lingua, ae *f*	tongue	язик
h(a)em/o	sangius, inis *m*	blood	кров
horm-	stimulo, are	to stimulate	стимулювати
hyper-	super	above	над
hypo-	sub, infra	under, below	під
immuno-	immunis, e	protection	захист
leuk/o	albus, a, um	white	білий
lith-	calculus, i *m*	stone, calculus	камінь, конкремент
-lysis	dissolutio, onis *f*	dissolution	розчинення
-megaly	cresco, ere	to enlarge	збільшувати; рости
meningo	tunica, ae *f*	membrane	оболонка
mono-	unus, a, um	one	один, єдиний
myc/o	fungus, i *m*	fungus, mold	грибок
myos	musculus, i *m*	muscle	м'яз
neur/o	nervus, i *m*	nerve	нерв
nephr/o	ren, renis, *m*	kidney	нирка
-oma	tumor, oris, *m*	swelling, tumour	пухлина
oo-	ovun, i *n*	egg	яйце
-osis	status aegrotus	abnormal condition	хворий
para-	proxime	near	близько
path-	morbus, i *m*	disease, illness	хвороба
peri-	circum	around	навколо
phag/o	edo, ere	to eat	поїдати
pharmacy/o	medicamentum, i *n*	medication, drug	лікарський препарат
phleb/o	vena, ae, *f*	vein	вена
pneum/o	pulmo, onis *m*	lung	легеня
poly-	multum	many	багато
-ptosis	cadentio, onis *f*	drooping, prolapse	опущення; спадаючий
py/o	pus, puris *n*	pus	гній
rhino	nasus, i *m*	nose	ніс
-rrhoea	fluctio, onis *f*	flow	витікання
scopo-	inspicio, ere	visual examination	обстеження
somato-	corpus, oris *m*	body	тіло
sten(osis)	angustus, a, um	narrow, tight	вузький
systole	contractio, onis *f*	contraction	скорочення
tachy-	celer, eris, ere	fast, quick	швидкий
thromb/o	claustrum, i *n*	clot	згусток
tom-	seco, are	to cut	різати
tox/o	venenum, i *n*	poison	отрута
-trophy	nutritio, onis *f*	nourishment	живлення
ur/o	urina, ae *f*	urine	сеча

КОРОТКИЙ ДОВІДНИК З ПРАВИЛ СЛОВОТВОРЕННЯ

В англійській мові нові слова можуть утворюватися за допомогою таких способів:

1. **Складання**, наприклад:
   head – голова + ache – біль = headache – головний біль
   eye – око + ball – куля, кулька = eyeball – очне яблуко

У складних словах наголошується перший елемент, наприклад: **headache** ['hedeIk], **eyeball** ['aIbO:l].

Перший з двох поспіль іменників може виступати означенням та перекладатися українською як прикметник чи іменник родового відмінка: blood cells – клітини крові, кров'яні клітини; brain damage – ушкодження мозку.

2. **Афіксації**, тобто за допомогою суфіксів та префіксів.

За допомогою суфіксів **-er, -or** утворюються іменники на позначення особи – виконавця дії чи представника професії: *to research – досліджувати + er = research**er** – дослідник; to build – будувати + er = build**er** – будівельник; to found – засновувати + er = found**er** – засновник.*

За допомогою суфіксів **–er, -or** утворюються іменники на позначення інструмента, приладу, наприклад: *to retract – відводити назад, відтягувати + **or** = retract**or** – ранорозширювач, ретрактор; to calculate – вираховівати, підраховувати + **or** = calculat**or** – калькулятор.*

Префікс **re-** означає повторення дії: ***re**write – переписати, **re**build – перебудувати; **re**design – переконструювати*; зворотню дію: *to act – діяти – to **re**act протидіяти, чинити опір*. Суфікси і префікси у таких словах, як правило, ненаголошені.

Найуживаніші суфікси англійської мови:

Суфікси іменників**: -age, -ance(ence), -ancy(ency), -er(or), -ian, -ing, - ion, -(i)ty, -ist, -ist, -mess,-ness –th, -ure, -y.**

Суфікси прикметників: **-able(ible), -al, -ant(ent), -ar, -ary(ory, ery), -ful, - ian, -ic(al), -ing, -ish, -ive, -less, -ous, -y.**

Суфікси числівників: **-th, -teen, -ty.**

Суфікси прислівників: **-Iy.**

Суфікси дієслів: **-ate, -ize(ise), -y, -en, -fy.**

Основні префікси:

a-, ab-, be-, com-, con-, de-, dis-, ex-, il-, im-, in-,inter-, intra-, it-, over-, per-, pre-, re-, sub-, un-.

Префікси із заперечувальним значенням:

un-	uncomfortable	незручний
	unlock	відчиняти
in-	indirect	непрямий
il-	illogical	нелогічний
ir-	irregular	неправильний
im-	impossible	неможливий
dis-	dislike	не любити
	dishonest	нечесний
mis-	misunderstand	неправильно зрозуміти

Префікси з різним значенням:

re-	rewrite	переписати
over-	overwork	перетрудитися
under-	enderpay	недоплачувати
post-	postwar	повоєнний
pre-	pre-war	довоєнний
counter-	counteraction	протидія
ex-	ex-minister	колишній міністр

3. **Конверсії** – коли слова пишуться та вимовляються однаково, але належать до різних частин мови, і, відповідно, виконують різні синтаксичні функції: *to work – працювати, work – робота; to help – допомагати, help — допомога; drop – крапля, to drop – крапати, стікати краплями.*

PRACTICAL GRAMMAR GUIDE
(КОРОТКИЙ ГРАМАТИЧНИЙ ДОВІДНИК)

ІМЕННИК
(NOUN)

Іменник є частиною мови, що позначає назви предметів, людей, тварин, рослин, речовин і понять і відповідає на питання: хто? або що? Іменники мають два числа: однину (Singular) і множину (Plural). В англійській мові в однині іменник не має ніяких особливостей та спеціальних показників. Форма множини більшості іменників утворюється за допомогою додавання закінчення -s (-es):

Таблиця 1.

Іменники, що мають в однині закінчення:	Закінчення у множині:	Приклади
глухі та дзвінки приголосні та голосні	-s	doctor – doctors student – students uncle – uncles
-s, -ss, -x, -ch, -sh	-es	research – researches box – boxes
-y з попередньою голосною	-s	day – days
-y з попередньою приголосною	-y → -i + -es	body – bodies remedy – remedies

-f, -fe	-f, -fe → v + -es	life – lives

Ряд іменників мають особливі форми множини, наприклад: child – children, foot – feet, man – men.

Відмінки
(CASES)

Іменники ванглійській мові мають два відмінка: загальний (Common Case) і присвійний (Possesive Case). Загальний відмінок в англійській мові не має жодного показника. Він є словниковою формою іменника. Іменник у загальному відмінку може виконувати у реченні функції підмета, іменної частини складеного присудка, додатка, означення й обставини. Присвійний відмінок передає значення належності, яка в українській мові передається родовим відмінком. Іменник у присвійному відмінку слугує означенням до іншого іменника: a man's leg – нога людини, cow's milk – коров'яче молоко. Іменник у присвійному відмінку має закінчення -'s, а якщо іменник у множині закінчується на -s, то додається лише апостроф ('): student's book; students' books.

АРТИКЛЬ
(ARTICLE)

АРТИКЛІ: неозначений **(a/an)** та означений **(the)** входять до так званої групи означень іменника: *Give me **a** pen.* Тут мова йде про яку-небудь ручку. *There is **a** pen.* Тут мова йде саме про ручку, а не інший придмет. *Give me **the** pen.* У цьому випадку йдеться про певну ручку. *There is **the** pen*. (той хто слухає/говорить знає, про яку ручку іде мова); (**an = a** (перед словом, що починається на голосний **an apple, an idea**). Неозначений артикиль не вживається з іменниками у множині, а також з необчислюваними іменниками.

Таблиця 2.

Іменники	**a/an**	**the**	**no article**
Обчислювані в однині	a tree an apple	the apple the tree	-
Необчислювані в множині		the trees the apples	trees apples
Необчислювані		the sugar the water (певна кількість)	sugar water

Необчислювані іменники **news, advice, weather, progress, information, luggage** з неозначеним артиклем ***a*** не вживаються. *This is welcome news (advice). – Це приємні новини (слушна порада). I like cold weather. – Мені подобається прохолодна погода.*

Зверніть увагу на те, як виражається значення обчислюваності іменників, коли той, хто говорить, має потребу це підкреслити: *Here is an interesting item (piece) of news (information). – Ось одна цікава новина (інформація). Give me a bit (word) of advice. – Дайте мені хоча б одну пораду. How many pieces of luggage have you got? – Скільки у вас місць у багажу?*

Означений артикль **the** вживається перед назвами:

Таблиця 3.

Готелів	the Europa Hotel, the Ambassador Hotel
Суден	the Queen Elizabeth, the Titanic
Каналів	the Suez
Річок	the Dniper River, the Thames
Морів, океанів	the Black Sea, the Pacific Ocean
Груп островів	the Canaries (Canary Islands)
Гірських пасм	the Alps, the Caucasus (Mountains)
Частин світу	the South
Країн, областей, що становлять групове поняття	the United Kingdom, the United States

Артикль **the** не вживається перед:

Іменами людей (кличками тварин)	Mary, John Carlston, Spot
Назвами міст, вулиць, майданів, вокзалів	Atlantic City, London, Kreshchatik Street, Trafalgar Square, Times Square, Victoria Station, University Station
Назвами озер, окремих островів чи гір	Lake Ontario, Chomolungma, Mount Everest
Материків	Europe, Australia

Порівняйте:

Shevchenko's birthplace *(без артикля)*	the Shevchenko museum *(з артиклем)*
місце народження Шевченка	музей Шевченка
Tolstoy's library	the Tolstoy library
бібліотека, котра належала Толстому	бібліотека імені Толстого

У деяких виразах та словосполученнях артикль відсутній, наприклад: after breakfast, go by plane, on Monday, according to schedule.

Іменники після слів **kind, type, sort, style** вживаються без артикля: *What kind of person is she? What sort of thing(s) did you mean?*

Артиклі не вживаються перед назвами хвороб, наук: ***gastritis, Anatomy.***

Артиклі не вживаються, коли власним іменам передують іменники, які означають звання: ***Dr. Smith, Prof. Murphy***.

ЗАЙМЕННИКИ (PRONOUNS)

Займенник – це повнозначна частина мови, що позначає предмет або ознаку предмета, але не називає його. Займенники поділяються на кілька груп, кожна з яких має свої власні граматичні характеристики: *we* – ми, who – хто, *that* – той, *some* – трохи тощо.

Займенник зазвичай уживається в реченні замість іменника або прикметника, іноді замість числівника й прислівника.

До **особових займенників (Personal Pronouns)** належать:

Таблиця 4.

	Називний відмінок	Об'єктний відмінок
Однина	I я he він she вона it воно, він, вона	me мені, мене him йому, його her їй, її it йому/їй, його/її
Множина	we ми you ви, ти, Ви they вони	us нам, нас you вам, вас them їм, їх

Займенник "I" завжди пишеться з великої літери.

Займенники he/she уживаються щодо істот; it – щодо неістот: неживих предметів, абстрактних понять і тварин.

Займенник it часто використовується як формальний підмет у безособових реченнях, у яких ідеться про погоду, час, відстань і різні виміри. *It's raining . – Іде дощ. It's very cold outside. – На вулиці дуже холодно. It's five o'clock. – Зараз п'ята година. It's forty degrees above zero. – Зараз сорок градусів тепла.*

Присвійні займенники (Possessive Pronouns) в англійській мові вживаються набагато частіше, ніж в українській мові, і мають дві форми: одна використовується як прикметник (при іменнику), інша (абсолютна) – як іменник (незалежно).

Таблиця 5.

Форма	**Особові**	**Присвійні**	**Абсолютна форма**
Однина	I	my	mine
	he	his	his
	she	her	hers
	it	its	its
Множина	we	our	ours
	you	your	yours
	they	their	theirs

Присвійні займенники-означення вживаються як означення при іменнику. Присвійні займенники з іменниками вживаються у функції підмета, додатка або іменної частини присудка (за відсутності іменника): ***His*** *thoughtful grey eyes seemed to see everything. – Його задумливі сірі очі, здається, бачили все, що відбувалося довкола. This is my test paper, but where is yours? – Це моє тестове завдання, а де твоє?* ***My*** *problems are no business of* ***yours****. – Мої проблеми вас не стосуються.*

Вказівні займенники (Demonstrative Pronouns)

Таблиця 6.

Однина	**Множина**

this – цей, ця, це that – той, та, те	these – ці those – ті

До вказівних займенників також належать **such** і **so.**

У загальному випадку займенник **this** указує на більшу наближеність відповідного предмета до мовця, ніж займенник **that,** щовідповідає смисловому розходженню між словами "цей" **і** "той". *Take this book and I'll take that one. – Візьміть цю книгу, а я візьму ту.* Займенник **that** вказує на особу, поняття, подію, предмет віддалені в часі або в просторі. Займенник **that** може використовуватися як слово-замінник, щоб уникнути повторення того самого іменника (з означеним артиклем): *The climate here is like that of France. – Цей клімат схожий та клімат Франції. Do not be one of those who can do anything. – Не будьте одним з тих, хто вміє робити все.*

Питальні займенники (Interrogative Pronouns)

До питальних займенників належать: **who, whom** – хто, кого, кому; **whose** – чий; **which** – який, котрий; **what** – що, який; **when** – коли; **where** – де, куди; **why** – чому; **how** – як.

Займенник **who** виступає у функції іменника, займенник **whom** – це об'єктна форма займенника who, що використовується переважно в письмовому мовленні. У сучасній англійській мові спостерігається тенденція до вживання єдиної форми займенника who у будь-якій позиції.

Займенники **what, which** і **whose** уживаються як у ролі іменника, так і в ролі прикметника й займенника. Займенники **when, where, why** і **how** використовуються як прислівники. Якщо займенник who або what є підметом, то він узгоджується з дієсловом в однині: *What is it? – Що це? What is he? – Хто він за професією? Who has just came? – Хто щойно прийшов? But what are they? – Але що вони за люди?*

Якщо займенник who або what ставить запитання до додатка, то дієслово має форму однини або множини залежно від числа підмета: *Who were his friends? – Mark and John. – Хто були його друзями? – Марк і Джон. What responsibilities and obligations do you suggest during the first year? – За що я відповідатиму та які обов'язки матиму протягом першого року роботи?*

Як питальні займенники-прикметники уживаються **which** і **what.** Займеннику **which** надається перевага, якщо мовець припускає вибір з обмеженої кількості можливостей, займенник **what** вживається в ситуації необмеженого вибору: *I'm nearly out of petrol. – Which grade do you need? – Бензин у мене майже закінчився. – Який бензин вам потрібен? What/which measures are effective to prevent the development of infectious diseases? – Які заходи є ефективними для попередження інфекційних хвороб?*

Відносні займенники (Relative Pronouns).

Відносні займенники вводять означальні підрядні речення. Як відносні займенники в англійській мові використовуються питальні займенники, а також займенник **that.**

До відносних займенників належать: **who** – хто, що; **whose** – чий; **which** – який, котрий; **what** – що, який, котрий; **when** – коли; **where** – де, куди; **why** – чому; **how** – як.

Відносний займенник **who** може стосуватися тільки людей, займенник **which** – тільки неживих об'єктів і тварин. Займенник **that** може стосуватися як тих, так й інших. Займенник **which,** на відміну від інших відносних займенників, може стосуватися не одного іменника, а цілого речення.

ПРИКМЕТНИК
(ADJECTIVE)

Прикметник – це повнозначна частина мови, що позначає ознаку предмета. За значенням прикметники бувають якісними (large – великий, small – маленький, heavy – важкий, brave – хоробрий) і віднос ними (wooden – дерев'яний, central – центральний) тощо.

В англійській мові, як і в українській, прикметники утворюють два ступені порівняння: вищий (deeper – глибший, more interesting – цікавіший) і найвищий (the biggest – найбільший, the most interesting – найцікавіший). При цьому необхідно пам'ятати, що відносні прикметники не мають ступенів порівняння й не сполучаються із прислівником very (дуже).

Вищий ступінь порівняння прикметників (Comparative Degree).

Вищий ступінь прикметників в англійській мові може утворюватися синтетично (додаванням суфікса -er) або аналітично (за допомогою конструкції зі словом more).

1. Синтетично утворюють вищий ступінь односкладові прикметники (крім right і wrong), а також частина двоскладових прикметників (усі, що закінчуються на -y, а також прикметники clever, narrow, quiet, simple), наприклад:

Таблиця 7.

Нейтральний ступінь (Positive)	Вищий ступінь (Comparative)
deep – глибокий	deeper – глибший
hard – важкий	harder – важчий
big – великий	bigger – більший
simple – простий	simpler – простіший
fat – жирний	fatter – жирніший
easy – легкий	easier – легший
narrow – вузький	narrower – вужчий

2. Багато двоскладових прикметників можуть утворювати вищий ступінь як синтетично, так і аналітично, наприклад: common (розповсюджений) – commoner / more common (більш розповсюджений); polite (чемний) – politer/more polite (більш чемний).

3. Тільки аналітично вищий ступінь утворюють двоскладові прикметники, що закінчуються на -ing, -ed, -ful і -less, а також прикметники, що складаються із трьох або більше складів. У деяких випадках спосіб утворення вищого ступеня

двоскладових прикметників слід встановлювати за словником, наприклад: eager (енергійний) – more eager (енергійніший) intelligent (розумний) – more intelligent (розумніший).

4. Для позначення спадання ступеня прояву якості замість займенника **more** використовується займенник **less,** наприклад: less interesting – менш цікавий, less expensive – менш дорогий.

5. Прикметник у вищому ступені може мати при собі уточнюючі слова (означальні займенники, прислівники) **much, many** (перед **more +** іменник у множині**), far, a lot, lots** – набагато, значно, **any** – скільки-небудь, **rather** – досить, **a little, a bit** – трохи, **even, all the** – ще, **any the** – ще скільки-небудь, **none the** – ще анітрохи не. Слова any, **no, a bit** і **a lot,** як правило, не використовуються при прикметниках у вищому ступені, що мають при собі іменники.

6. Синтетична форма вищого ступеня не використовується, якщо порівнюються дві можливі характеристики того самого предмета: *She is more nice than wise. – Вона скоріше мила, ніж розумна.*

7. Кілька прикметників утворюють вищий ступінь від інших коренів: good – better; little – less; bad – worse; old – elder; much, many – more; far – farther, further.

Найвищий ступінь порівняння прикметників (Superlative Degree)

Найвищий ступінь прикметників в англійській мові може утворюватися синтетично (додаванням суфікса **-est)** або аналітично (за допомогою конструкції зі словом **most).**

1. Синтетично утворюють найвищий ступінь односкладові прикметники (крім **right і wrong)**, а також частина двоскладових прикметників (усі, що закінчуються на **-**у, а також прикметники **clever, narrow, quiet, simple)**, наприклад:

Таблиця 8.

Нейтральний ступінь (Positive)	Найвищий ступінь (Superlative)
deep – глибокий	the deepest – найглибший
hard – важкий	the hardest – найважчий
big – великий	the biggest – найбільший
thin – тонкий	the thinnest – найтонший
lovely – чарівний	the loveliest – найчарівніший

2. Багато двоскладових прикметників можуть утворювати найвищий ступінь як синтетично, так і аналітично, наприклад: pleasant (приємний) – the pleasantest/the most pleasant (найприємніший), severe (суворий) – the severest/the most severe (найсуворіший).

3. Тільки аналітично утворюють найвищий ступінь двоскладові прикметники, що закінчуються на **-ing, -ed, -ful** і **-less,** а також прикметники, що складаються із трьох або більше складів.

Таблиця 9.

Нейтральний ступінь (Positive)	Найвищий ступінь (Superlative)
interesting – цікавий	(the) most interesting – найцікавіший
boring – нудний	the most boring – найнудніший

4. Кілька прикметників утворюють найвищий ступінь від інших коренів або мають кілька форм найвищого ступеня:

Таблиця 10.

Нейтральний ступінь (Positive)	Найвищий ступінь (Superlative)
good – добрий	(the) best – найкращий
bad – поганий	(the) worst – найгірший
much, many – багато	(the) most – найбільший
little – маленький, мало	(the) least – найменший
old – старий	(the) oldest – найстаріший (the) eldest – найстарший
far – віддалений, дальній	(the) farthest – найвіддаленіший (the) furthest – найдальший

5. Прикметники в найвищому ступені, як правило, уживаються з означеним артиклем **the** або присвійним займенником. Без артикля вживаються прикметники в найвищому ступені, якщо порівнюється ступінь прояву якої-небудь характеристики того самого предмета в різних ситуаціях, наприклад: *She feels best when she's taken a bath. – Вона почуває себе найкраще після ванни.*

ПОРЯДОК СЛІВ У РЕЧЕННІ.

На відміну від української мови, порядок слів в англомовному реченні строго фіксований, оскільки є одним з основних засобів вираження відношення між словами. У англійській мові відділяють чотири типи речень:

Розповідне (стверджувальне речення): *Sure, I will help you with your exams.*

Заперечне речення: *I have not heard about this before.*

Запитальне речення: *When did you graduate from the University?*

Наказове речення: *Send a runner for a new tray of instruments.*

Розповідні речення (Declarative Sentences).

Особливістю англійського речення у порівнянні з українським розповідним реченням є сталий порядок слів, тобто перше місце посідає підмет, друге – присудок, третє – додаток, четверте – обставина.

Розповідне речення в англійській мові характеризується прямим порядком слів (direct word order), при якому підмет стоїть перед присудком, а додаток – за присудком. Обставина може займати позицію як в абсолютному початку, так і в абсолютному кінці речення.

Таблиця 11.

1. Підмет	2. Присудок	3. Додаток	4. Обставина
The teacher Викладач **The student** Студент	**asks** запитує **asks** запитує	**the student** студента **the teacher** викладача	**at the lesson.** на занятті. **at the lesson.** На занятті.

Питальні речення (Interrogative sentences)

Загальні запитання (General Questions).

Загальне запитання – це запитання до всього речення, на яке відповідь вимагає зворотного порядку слів. При цьому допоміжне (чи модальне) дієслово виноситься наперед (на нульове місце), потім ставиться підмет. Загальне запитання потребує відповіді "так" або "ні", і, як правило, перекладається з часткою *чи.* Воно вимовляється з підвищеною інтонацією в кінці речення: *Does she speak English? – Чи говорить вона англійською мовою? Yes, she does. – Так. Did he get a certificate of degree in 2001? – Чи він отримав диплом у 2001 році? No, he didn't. – Ні.*

Спеціальні запитання (Special Questions).

Спеціальні запитання – це запитання до окремих членів речення. Вони завжди починаються питальним словом і вимовляються зі спадною інтонацією.

Спеціальні запитання до підмета та його означення

1. Запитання, що стосуються підмета, починаються питальними словами *who хто; what що,* які набувають властивості підмета і потребують прямого порядку слів: *Who speaks English? – She speaks English. What works well? – The engine works well.*

2. Запитання, котрі ставлять до означення підмета, починаються з питальних слів *whose чий, which, what який* і також потребують прямого порядку слів: *Whose sister studies at the institute?– Чия сестра навчається в інституті? What patients are in this dental surgery? – Які хворі перебувають зараз у цьому стоматологічному кабінеті?*

Спеціальні запитання до інших членів речення.

Спеціальні запитання, котрі ставлять до другорядних членів речення, починаються з питальних слів **what** що, **whom** кого, кому, **when** коли, **where** де, куди, **why** чому, **how** як, **how many(much)** скільки і потребують, як і загальні запитання, зворотного порядку слів. Проте, на відміну від загальних, у спеціальних запитаннях перед допоміжним (або модальним) дієсловом стоїть питальне слово чи група слів: *What does he read at home? When does he read newspapers?*

Побудова розповідних і питальних речень

Таблиця 12.

Місце члена речення	**0**	**0**	**1**	**2**	**3**	**4**
Види речень і типи запитань	Питальне слово до групи присудка	Допоміжне дієслово	Підмет	Присудок	Додаток	Обставина місця, часу.
Стверджувальна форма (прямий порядок)			My friend	reads	books	at home in the evening.
Спеціальне запитання до групи підмета (прямий порядок)			Who Whose friend	reads reads	books books	at home in the evening? at home in the evening
Загальне запитання (зворотний порядок)		Does	my friend	read	books	at home in the evening?
Спеціальні запитання до інших членів речення (зворотній порядок)	What When Where	does does does	my friend my friend my friend	read read read	 books books	at home in the evening? at home? in the evening?

СПОСОБИ ВИЗНАЧЕННЯ ПРИСУДКА В АНГЛІЙСЬКОМУ РЕЧЕННІ

Присудок в англійському реченні можна визначити за такими ознаками:

а) за позицією у реченні (слідує після підмета, вираженого іменником, займенником): *Physicians **examine** patients.*

б) за формальними граматичними показниками, наприклад, закінчення -s(-es) третьої особи однини теперішнього часу; -ed (-d) минулого часу групи Simple: *My sister go**es** to the institute in the morning. The surgeon operat**ed** on the patient yesterday.*

в) за допоміжними дієсловами **do (does, did), to be, to have, shall, will, should, would:** *He **has** come in time. He **was** diagnosed bronchitis.*

г) за модальними дієсловами: **can (could), may (might), must, should, ought to, need**: *The doctor **could** diagnose pneumonia.*

д) за прислівниками, котрі визначають дієслово: *These surgeons **always** operate **successfully.***

НЕОЗНАЧЕНО-ОСОБОВІ РЕЧЕННЯ

В англійській мові неозначено-особове речення складається з формального підмета it (one, they) та узгодженого з ним присудка. (Із займенником it завжди виступає дієслово пасивного стану.)

They know that he works here.
It is known that he works here. Відомо, що він працює тут.
One knows that he works here.

Безособові речення.

Якщо в українському реченні немає підмета, то таке речення називається безособовим. В англійських безособових реченнях, які позначають явища природи, час, відстань чи відчуття, займенник it вживається без будь-якого значення, як формальний підмет. На українську мову підмет it не перекладається. Присудок англійського безособового речення звичайно складається з дієслова-зв'язки to be (будь-якого часу) та іменної частини, у ролі якої може виступати прикметник, іменник або числівник. *It is cold today. – Сьогодні холодно. It was autumn. – Стояла осінь. It will be warm. – Буде тепло.*

ЗВОРОТ THERE + TO BE

Коли в центрі уваги того, хто говорить, знаходиться присудок, виражений дієсловами *бути, мати, перебувати, існувати,* тобто, коли йдеться про наявність або відсутність певного предмета, в англійській мові вживається зворот ***there + to be***: *There are many foreign issues in our library. – В нашій бібліотеці багато іноземних видань.*

У такому звороті ***there*** втрачає своє основне значення **там,** а лише вказує, що підмет стоїть після присудка, який перебуває в центрі висловлювання. Переклад таких речень слід починати з обставини місця чи присудка. Після звороту **there is** перед іменником в однині вживається неозначений артикль, у множині артикль випускається. У цьому звороті дієслово ***to be*** вживається в особовій формі (***was, were, shall be, will be):*** *There was a book on the table. – На столі була книга. There will be a new hospital in the village. – У селищі буде нова лікарня.*

У заперечній формі після звороту ***there + to be***, як правило, вживається займенник ***no,*** тобто заперечення стосується іменника, а не дієслова, отже, ***no*** виключає вживання артикля. *There is no book on the table. – На столі немає (жодної) книги.*

Примітка:

Заперечення ***not*** вживається у короткій відповіді та у тому разі, коли після звороту йдуть слова: ***any, enough, many, much.*** *There is not any book on the table. – На столі немає (жодної) книги. There is not enough (much) water in the glass. – У склянці води не досить (небагато).*

Щоб утворити питальну форму, треба дієслово ***to be*** у певній особовій формі відповідного часу поставити перед there. ***Is there*** *a book on the table? – Чи є на столі книга?*

1) У звороті ***there + to be*** дієслово ***to be*** узгоджується з наступним іменником: *There is a book and two pencils on the table. – На столі книга і два олівці. There are two pencils and a book on the table. – На столі два олівці та книга.*

2) У звороті ***there + to be*** замість дієслова ***to be*** можуть вживатися інші дієслова: ***to lie*** *лежати;* ***to stand*** *стояти;* ***to live*** *жити;* ***to grow*** *рости;* ***to become*** *ставати: There lives a doctor there. – Там живе лікар.*

3) Якщо слово ***there*** стоїть у кінці речення, то воно перекладається як обставина місця – ***там.***

ФОРМИ ДІЄСЛОВА
FORMS OF THE VERB

Таблиця 13.

I	II	III	IV
Інфінітив **Infinitive**	**Форма минулого часу** **Past Form**	**Дієприкметник минулого часу** **Participle II**	**Дієприкметник теперішнього часу** **Participle I**
V	V 2	V3	Ving (V_4)
to work, to write	worked, wrote	worked, written	working, writing

ЧАСИ ГРУПИ SIMPLE (INDEFINITE)
PRESENT SIMPLE

Значення форми. Вживається для позначення звичної, регулярної чи повторюваної дії.

В українській мові відповідає дієслову теперішнього часу недоконаного виду. *The best students usually participate in Students' research societies. – Найкращі студенти зазвичай беруть участь у роботі наукових студентських товариств. The most sensitive sites are normally here. – Тут знаходяться найчутливіші ділянки.*

Ознаки: Дієслово у стверджувальному реченні вживається у формі інфінітива без частки **to**; а у 3-й особі однини має суфікс **-s (-es).** *The nurses and doctor's assistants fulfil their duties carefully. – Молодші медичні працівники ретельно виконують свої обов'язки. Every day doctors make morning round at their departments. – Кожного дня лікарі здійснюють ранковий обхід у своїх відділеннях. He studies preclinical subjects as he is a second-year student. – Він вивчає доклінічні предмети, оскільки він студент другого курсу.*

Обставини часу: прислівники usually, always, sometimes, often, generally, normally, regularly, from time to time, every day (week, month), twice a week, seldom, ever, never зазвичай передують смисловому дієслову, але вживаються після дієслова to be.

Заперечні форми (**Negative Sentences).**
Заперечні форми **Present Simple** утворюються з використанням допоміжного дієслова do, does та заперечної частки not, що йдуть після підмета перед присудком, вираженим смисловим дієсловом у формі інфінітива без частки to. Редукована форма заперечення don't, doesn't . Порядок слів у реченні прямий. *We (I, you, they)* ***do not (don't)*** *study the problem of asymmetry in animate and inanimate nature. – Ми (я, ти, вони) не вивчаємо проблему асиметрії у живій та неживій природі. He (she)* ***does not (doesn't)*** *work on the problem of artificial blood substitute. – Він (вона) не працює над проблемою штучних замінників крові. She* ***does not*** *have signs of the disease. – У неї немає ознак цієї хвороби.*
Питальні форми (**Interrogative Sentences)**
Питальні форми **Present Simple** утворюються з використанням допоміжного дієслова **do, does**, що, в залежності від типу запитання, знаходиться в абсолютному початку речення (загальні запитання) або йде після питального слова (спеціальні запитання); далі йде підмет, виражений іменником, займенником, словосполученням тощо, та смислове дієслово у формі інфінітива без частки to: ***Do*** *you* ***study*** *the adverse reactions of these medicines? – Чи вивчаєте ви побічні наслідки цих ліків?* ***Does*** *he* ***work on*** *the problem of artificial blood substitutes? – Чи він працює над проблемою штучних замінників крові? What* ***does*** *Anatomy* ***describe****? – Що вивчає анатомія? What problem* ***do*** *you* ***work on****? – Над якою проблемою ви працюєте?* Запитання до підмета: *Who work**s** on the problem of artificial blood substitute? – Хто працює над проблемою штучних замінників крові?*

PAST SIMPLE

Значення форми:
1. Вживається для позначення дій, що відбувалися в минулому та не мають зв'язку з теперішнім часом (діями), причому приналежність дії до минулого часу уточнюється **обставинами часу** (yesterday, last week, last year (month, time, etc.), two days ago, in 1990, on Monday, six years ago) чи іншою минулою дією: *Dr Nixon* ***taught*** *at Harvard Medical School last year. – Доктор Ніксон викладав у Медичній школі Гарварду минулого року. in 1796 English surgeon Edward Jenner* ***introduced*** *a vaccination for smallpox. – У 1796 англійський хірург Едвард Дженнер запровадив вакцинацію проти віспи.*
2. Вживається для опису низки послідовних дій в минулому: *The students enter**ed** the laboratory, prepar**ed** the instruments and materials, and start**ed** to carry out an experiment. – Студенти увійшли до лабораторії, приготували інструменти та матеріали, та розпочали експеримент. He* ***gave*** *a detailed description of the mechanism of protein synthesis, illustrat**ed** it with some photos and answer**ed** all our questions. – Він представив детальний опис механізму синтезу білків, проілюстрував його фотографіями та відповів на усі наші питання.*
3. Вживається для позначення повторюваних чи звичних дій, що відбувалися протягом якогось проміжку часу, не пов'язаного з теперішнім: *He* ***spent*** *four years in the university. – Він провчився чотири роки в університеті. From 1974 to 1978 Mr Cook often attend**ed** the Medical Scientific Society of the university he studi**ed** at. – Протягом 1974 – 1978 містер Кук часто відвідував наукове медичне товариство університету, де він навчався.*
Ознаки:
Дієслово у стверджувальному реченні вживається у формі минулого часу (друга форма).
При цьому правильні дієслова мають суфіксом **-ed (to work – worked, to play - played, to study – studied)**, а неправильні дієслова мають строго зафіксовані та історично усталені форми (to begin – began, to build – built, to say –said).
Заперечні форми (Negative Sentences).
Заперечні форми Past Simple утворюються з використанням допоміжного дієслова do у формі минулого часу – did та заперечної частки not, що йдуть після підмета перед присудком, вираженим смисловим дієсловом у формі інфінітива без частки to. Редукована форма заперечення – didn't. Порядок слів у реченні прямий. *The drug didn't stop the spreading of inflammation. – Ці ліки не зупинили поширення запалення. Because of her unbalanced diet she didn't avoid dyspepsia. – Через незбалансоване харчування вона не уникла диспепсії.*
Питальні форми (Interrogative Sentences)
Питальні форми **Past Simple** утворюються з використанням допоміжного дієслова did, що, в залежності від типу запитання, знаходиться в абсолютному початку речення (загальні запитання) або йде після питального слова (спеціальні запитання); далі йде підмет, виражений іменником, займенником, словосполученням тощо, та смислове дієслово у формі інфінітива без частки to. ***Did*** *Louis Pasteur* ***invent*** *pasteurization? – Чи Луїс Пастер відкрив процес пастеризації? When* ***did*** *Koch* ***identify*** *the causative agent of tuberculosis? – Коли Кох виявив збудник туберкульозу? Why* ***didn't*** *you* ***attend*** *the lecture on Physiology yesterday? – Чому ви вчора не були на лекції з фізіології?* Запитання до підмета: *Who defend**ed** the thesis last year? – Хто захистив дисертацію минулого року?*

FUTURE SIMPLE

Значення форми:
Вживається для позначення одноразової чи повторюваної дії в майбутньому. В українській мові відповідає дієслову майбутнього часу як доконаного, так і недоконаного виду.
Ознаки:
Допоміжне дієслово **shall** (для 1-ї особи) або **will** (для решти осіб) + смислове дієслово у формі інфінітива без частки **to.** *He* ***will be*** *free for most of the summer. – Він буде вільний майже все літо. I'**ll carry** you bag. – Я понесу вашу валізу. I am not sure that your sister* ***will arrive*** *by 6.15 train. – Я не впевнений, що ваша сестра прибуде поїздом о 6.15.*
Обставини часу: **tomorrow** завтра, **next month (year)** наступного місяця (року), дата чи підрядне речення: *Tomorrow we shall meet Russian participants of the 7th Congress of Cardiological Societies in Helsinki. – Завтра в Хельсінкі ми зустрінемо російських учасників 7-го Конгресу членів товариств кардіологів. They* ***will graduate from*** *the university in 2015. – Вони закінчать університет у 2015 році. We* ***shall tell*** *him our address, when he comes. – Ми скажемо йому нашу адресу, коли він прибуде.*
Заперечні форми (**Negative Sentences).**
Заперечні форми **Future Simple** утворюються з використанням допоміжних дієслів **shall, will** та заперечної частки **not**, що йдуть після підмета перед присудком, вираженим смисловим дієсловом у формі інфінітива без частки to. Редуковані форма заперечення will not – won't, shall not – shan't вживаються здебільшого як розмовний варіант. Порядок слів у реченні

прямий. *She has got a bit of headache, so she **will not joint** us for dinner. – У неї трохи болить голова, тому вона не буде обідати з нами. I'm afraid I'**ll not meet** her tomorrow evening. – На жаль, я не зустріну її завтра ввечері.*

Питальні форми (Interrogative Sentences)

Питальні форми **Future Simple** утворюються з використанням допоміжних дієслів **shall, will,** що, в залежності від типу запитання, знаходяться в абсолютному початку речення (загальні запитання) або йдуть після питального слова (спеціальні запитання); далі йде підмет, виражений іменником, займенником, словосполученням тощо, та смислове дієслово у формі інфінітива без частки to. ***Will** they **outline** the present state of research in the field of immunology? – Чи вони окреслять сучасний стан досліджень в галузі імунології? When **will** your paper **come out**? – Коли вийде ваша стаття? Who **will make** the report on this problem? – Хто робитеме доповідь з цієї проблеми?*

SIMPLE TENSES

Таблиця 14.

Affirmative sentences	Negative sentences	Interrogative sentences
Senior medical students **study** clinical subjects.	Junior medical students **do not study** clinical subjects.	**Do** junior medical students **study** clinical subjects? What subjects **do** junior medical students **study**?
Robert Koch identifi**ed** the causative agent of tuberculosis.	Medieval doctors **did not identify** the causative agent of tuberculosis.	**Did** Robert Koch **identify** the causative agent of tuberculosis? When **did** Robert Koch **identify** the causative agent of tuberculosis?
They **will graduate from** the university in 2015.	They **will not graduate from** the university in 2015.	**Will** they **graduate from** the university in 2015? When **will** they **graduate from** the university?

ЧАСИ ГРУПИ CONTINUOUS

Усі часи **Continuous** позначають дію в її розвитку, протяжності, вказуючи на те, що ця дія має тимчасовий характер.

PRESENT CONTINUOUS

Значення форми:

1. Вживається для позначення тривалої, неперервної дії, що відбувається в момент мовлення або у певний відрізок теперішнього часу*: We are now looking for an optimal solution, since there is a choice. – Зараз ми шукаємо оптимальне рішення, оскільки у нас є вибір.*

2. Вживається для позначення майбутньої дії, коли є намір її здійснення або впевненість в її здійсненні: *They are leaving for London next week. – Вони приїжджають до Лондона наступного тижня.*

В українській мові відповідає дієслову теперішнього часу недоконаного виду.

Ознака:

Дієслово **to be** у Present Simple **(am, are, is)** + смислове дієслово у формі дієприкметника теперішнього часу (Participle I).

Обставини часу: now, right now, at this moment, today.

*Dr. Smeeth **is** examin**ing** a patient now. Wait, please. – Доктор Сміт зараз оглядає пацієнта. Будь-ласка, зачекайте. Look, this substance **is** chang**ing** its color. – Погляньте, ця речовина змінює свій колір. We **are** visit**ing** the Chicago's Museum of Science and Industry in two days. – Через два дні ми відвідаємо Чікагський музей науки та промисловості.*

PAST CONTINUOUS

Значення форми:

Вживається для вираження дії, що відбувалася в минулому в певний часовий інтервал, який позначається або обставиною часу, або іншою одночасною дією в минулому: *Susan Wheeler **was working** in the lab from 3 to 5 p.m. yesterday. – Учора Сюзан Уілер працювала в лабораторії з п'ятнадцятої до сімнадцятої години. Tom **was reading out** a data while Joan **was writing** it down. – Том зачитував вголос дані, а Джоан їх записувала. Також вживається для позначення перерваної, перепиненої дії: She **was working** in the lab when her sister came to see her. – Вона працювала в лабораторії, коли сестра зайшла побачити її.* В українській мові підмет у **Past Continuous** відповідає дієслову минулого часу недоконаного виду.

Ознака:

Дієслово **to be** у Past Simple **(was, were)** + смислове дієслово у формі дієприкметника теперішнього часу (Participle I).

Обставини часу: from 6 till (to) 7, all day long, last Saturday, the whole day yesterday.

*Yesterday at noon he **was making** his report on preleukemic conditions. – Учора опівдні він робив доповідь про стани, що передують лейкемії. She **was writing** her research article when the phone rang. – Вона працювала над науковою статею, коли задзвонив телефон. It **was raining** heavily and the ambulance **was driving** hardly seen through the mist. – Був сильний дощ, і машина швидкої допомоги їхала, ледве бачачи дорогу через туман.*

FUTURE CONTINUOUS

Значення форми:

Вживається для позначення тривалої дії, яка розпочнеться до певного моменту в майбутньому і буде тривати в цей момент: *At 10 a.m. tomorrow he **will be having** an exam. – Завтра о 10 він буде складати іспит. I **shall be reading** the whole day tomorrow. – Завтра я читатиму цілий день.*

В українській мові підмет у **Future Continuous** відповідає дієслову майбутнього часу недоконаного виду.

Ознака:

Дієслово **to be** у Future Simple **(shall be, will be)** + смислове дієслово у формі дієприкметника теперішнього часу (Participle I).

Обставини часу: the next day, the whole day tomorrow, at 10 p.m.
*We **shall be thinking** about your proposal. – Ми поміркуємо над вашою пропозицією. I **shall be waiting** for you at 6 p.m. near the University. – Я буду чекати тебе о 6 вечора біля університету.*
Future Continuous також вживається для позначення запланованої дії*: **I'll be going** to the city later. – Я поїду до міста пізніше.*
Заперечні форми (**Negative Sentences).**
Заперечні форми часів групи **Continuous** утворюються з використанням заперечної частки **not**, що йде після дієслова **to be**, вжитого в особовій формі та відповідному часі, перед смисловим дієсловом у формі Participle I. Редукована форма заперечення вживається здебільшого як розмовний варіант. Порядок слів у реченні прямий. *Where is Stephen? He **is not taking** an interview. – Де Стівен? Його немає на співбесіді (зараз). She **is not operating** the computer, she is skipping through periodicals. – Зараз вона не працює на комп'ютері, а проглядає періодику. Sedatives were rather strong, but she **was not sleeping** yet. – Хоча заспокійливі були досить сильними, вона все ще не спала. The baby **was not** just aimlessly **exercising** its hands, it was trying to grasp a rattle. – Немовля не просто безладно гралося своїми ручками, воно намагалося схопити брязкальце. Yesterday **I was't working** at the library in the morning, I was outside the city at all.- Учора я не працювала вранці у бібліотеці, мене взагалі не було в місті.*
Питальні форми (**Interrogative Sentences)**
Питальні форми **Continuous Tenses** утворюються з використанням відповідних форм дієслова **to be**, вжитого в особовій формі та відповідному часі, яке, в залежності від типу запитання, знаходиться або в абсолютному початку речення (загальні запитання) або йде після питального слова (спеціальні запитання); далі йде підмет, виражений іменником, займенником, словосполученням тощо, та смислове дієслово у формі дієприкметника теперішнього часу **(Participle I**). ***Are** you **filling in** case histories now? - Ти заповнюєш зараз історії хвороби? Look! What **are** you **doing** here? – Що ти тут робиш?What **is** he **looking** for? – Що він шукає?* Запитання до підмета: *Who **is waiting** for me? – Хто на мене чекає?*

CONTINUOUS TENSES

Таблиця15.

Affirmative sentences	Negative sentences	Interrogative sentences
They **are waiting** for you now. Yesterday at noon he **was making** his report on preleukemic conditions I **shall be reading** the whole day tomorrow.	They **are not waiting** for you now. Yesterday at noon he **was not making** his report on preleukemic conditions. I **shall not be reading** the whole day tomorrow.	**Are** they **waiting** for you now? **Was** he **making** his report on preleukemic conditions at noon yesterday? **Will** you **be reading** the whole day tomorrow?

Деякі дієслова не вживаються в **Continuous Tenses.** Це так звані дієслова ментальної дії, емоційного та чуттєвого сприйняття: realize, believe, seem, forget, want, know, prefer, like, love, hate, see, hear, belong, mean, suppose, remember, understand. Ці дієслова вживаються лише в Simple чи Perfect Tenses.

PERFECT TENSES

Усі часи групи **Perfect** позначають завершену дію, коли на певний момент часу (момент мовлення тощо) наявний факт здійсненої дії чи результат цієї дії.

PRESENT PERFECT

Значення форми:
1) **Present Perfect** вживається, коли слід підкреслити результат певної дії, а не власне саму дію: *The scientists **have discovered** that the neutron has no electrical charge. – Учені відкрили, що нейтрон не має електричного заряду;*
2) для вираження дії, яка завершилась, але період часу, в який вона здійснювалась, ще триває: *I **have known** him all my life. – Я знав його усе своє життя. The students have always enjoyed his lectures. – Студентам завжди подобалися його лекції;*
3) для вираження дії, яка відбувалася в минулому аж до теперішнього моменту часу (часто з обставинами часу lately, recently, for two hours (days, years), up to now, since)
Ознака:
Допоміжне дієслово **to have** у Present Simple (1-а, 2-а особа, 3-я особа множини – **have**, 3-я особа однини – **has**) + смислове дієслово у формі дієприкметника минулого часу (Participle II).
Обставини часу: ever, never, hardly ever, just, already, often, seldom, yet, for a long time, since, up to now.
Кострукція **Present Perfect** в українській мові здебільшого відповідає дієслову доконаного виду. *We **have just checked** her with X-rays and echocardiograph. – Ми щойно виконали їй рентген-обстеження та ехокардіографію. He **has worked** for Liverpool's Dell Owen Hospital all his life. – Він пропрацював у Делл Оуен госпіталі Ліверпуля усе своє життя.*

PAST PERFECT

Значення форми:
Past Perfect вживається для позначення дії, яка відбувалася або відбулася до певного моменту в минулому. Цей момент може бути виражений: 1) указівкою на момент часу за допомогою прийменника **by**: *I **had** already **drawn up** the plan of our research by Tuesday. – До вівторка я вже окреслив план нашої дослідницької роботи*. 2) з допомогою складнопідрядного речення, причому **Past Perfect** може вживатися як у головному, так і у підрядному реченні: *He **had visited** London before, and so the city was not new to him. – Він бував у Лондоні раніше, тому це місто не було для нього новим, незнайомим. The nurse **had completed** a series of routine medical tests before Dr. Berman came into the ward. – Медсестра закінчила низку стандартних медичних тестів, коли доктор Берман увійшов до палати.*
Кострукція **Past Perfect** в українській мові відповідає дієслову минулого часу доконаного виду.
Ознака:
Допоміжне дієслово **to have** у Past Simple (**had**) + смислове дієслово у формі дієприкметника минулого часу (Participle II).

Обставини часу: by 5 o'clock, by the end of the year, by the time: *He **had sent** his abstracts to the Congress by the 1st of June. – Він надіслав тези для участі у конгресі до першого червня. After I **had finished** the inspection of the new device I spoke to the engineer. – Після того, як я закінчив огляд нового приладу, я звернувся до інженера.*

FUTURE PERFECT

Future Perfect Tense вживається не досить часто, як правило, коли мовець хоче підкреслити, що певна дія буде завершена до певного моменту в майбутньому: *Our doctor **will have advised** you before leave. – Наш лікар проконсультує вас перед тим, як ви поїдете. You **will have received** the schedule by 5 o'clock. – Ви отримаєте розклад до п'ятої години.*

Кострукція **Future Perfect** в українській мові відповідає дієслову майбутнього часу доконаного виду.

Ознака:

Допоміжне дієслово to have у Future Simple (shall have, will have) + смислове дієслово у формі дієприкметника минулого часу (Participle II).

Обставини часу: *till the end of the next week, to the 1st of April, by 6 o'clock: Mary Smith will have prepared her report on this problem by 1st of March. – Мері Сміт підготує доповідь з цієї проблеми до першого березня. I shall have written an autobiographical sketch by 2 p.m. - Я напишу автобіографію до 14 години.*

Заперечні форми (Negative Sentences).

Заперечні форми часів групи **Perfect** утворюються з використанням заперечної частки **not**, що йде після допоміжного дієслова **to have**, вжитого в особовій формі, перед смисловим дієсловом у формі Participle II. Редукована форма заперечення вживається здебільшого як розмовний варіант. Порядок слів у реченні прямий: *She **has not participated** in any congresses, conferences before. – Вона раніше не брала участі в якихось конгресах, конференціях. He **had not visited** London before, and so the city was new to him. – Раніше він не відвідував Лондон, тому тому це місто було для нього новим, незнайомим. You **will have not received** the schedule by 5 o'clock. – Ви не отримаєте розклад до п'ятої години.*

Питальні форми (Interrogative Sentences)

Питальні форми **Perfect Tenses** утворюються з використанням відповідних форм дієслова **to have**, вжитого в особовій формі та відповідному часі, яке, в залежності від типу запитання, знаходиться або в абсолютному початку речення (*загальні запитання*) або йде після питального слова (*спеціальні запитання*); далі йде підмет, виражений іменником, займенником, словосполученням тощо, та смислове дієслово у формі дієприкметника минулого часу **(Participle II)**: ***Have** you ever **met** her before? – Чи раніше ви її колись зустрічали? **Will** you **have received** the schedule by 5 o'clock? – Чи отримаєте ви розклад до п'ятої години? **Had** the nurse **completed** a series of routine medical tests before Dr. Berman came into the ward. – Чи закінчила медсестра низку стандартних медичних тестів, коли доктор Берман увійшов до палати? **What has** he **redone** in this experiment? – Що він переробив у цьому експерименті?* Запитання до підмета: *Who **has** ever **been** to London? – Хто бував у Лондоні ?*

PERFECT TENSES

Таблиця 16.

	Affirmative sentences	Negative sentences	Interrogative sentences
Present	We **have** just **checked** her with X-rays and echocardiograph.	We **have not checked** her with X-rays and echocardiograph.	**Have** you **checked** her with X-rays and echocardiograph. What **have** you **checked** her with Who **has checked** her?
Past	I **had** already **drawn up** the plan of our research by Tuesday.	I **had not drawn up** the plan of our research by Tuesday.	**Had** you **drawn up** the plan of our research by Tuesday? When **had** you **drawn up** the plan of our research by ? Who **had drawn up** the plan of our research by Tuesday?
Future	Mary Smith **will have prepared** her report on this problem by 1st of March.	Mary Smith **will have not prepared** her report on this problem by 1st of March.	**Will have** Mary Smith **prepared** her report on this problem by 1st of March? When **will have** Mary Smith **prepared** her report on this problem? Who **will have prepared** a report on this problem?

СТАН ДІЄСЛОВА

Стан – це форма дієслова, яка показує, чи є підмет речення діячем або об'єктом дії, вираженої присудком. В англійській мові є два стани: the Active Voice (активний стан) і the Passive Voice (пасивний стан).

Форма **активного стану** вживається в реченні, підметом якого є предмет, особа, що й виконує дію, описувану дієсловом (дієслівною формою). Форма **пасивного стану** вживається в реченні, підметом якого є предмет, на який спрямована дія, виражена дієсловом. Таким чином, об'єкт дієслова в активному стані відповідає підмету дієслова в пасивному стані. *Dr. Smith compiled this dictionary. – Доктор Сміт уклав цей словник. This dictionary was compiled by Dr. Smith. – Цей словник укладений доктором Смітом.*

У пасивному стані немає часів Future Continuous і Future Continuous-in-the-Past.

Пасивний стан вживається, коли виконавець дії очевидний чи важливий або коли дія чи її результат є цікавішими, ніж виконавець. Пасивний стан утворюється за допомогою дієслова to be у відповідному часі й дієприкметника минулого часу.

PASSIVE VOICE

Таблиця 17.

	Simple	Continuous	Perfect
Present	am is + V_3 are	am is + being + V_3 are	has + been + V_3 have

Past	was + V_3 were	was + being + V_3 were	had + been + V_3
Future	shall + be + V_3 will	-	shall + have + been + V_3 will
Future-in-the-Past	should + be + V_3 would	-	should + have + been + V_3 would

Питальна форма утворюється шляхом перенесення першого допоміжного дієслова на місце перед підметом. *Have the work been done by 3 p.m. today? When will the work been done? Whom was she asked about?* Заперечна форма утворюється за допомогою заперечення **not,** яке ставиться після першого допоміжного дієслова. *The work was not done last week. The work will not done tomorrow.*

Як і в українській мові, іменник, що виконує роль додатка в реченні активного стану, у реченні пасивного стану стає зазвичай підметом. Якщо у зворотах із пасивним станом указаний діяч, то в українській мові він позначається орудним відмінком, а в англійській йому передує прийменник by. Вживання часу в англійському пасивному стані принципово не відрізняється від його вживання в активному стані.

ЗВЕДЕНА ТАБЛИЦЯ ЧАСІВ СТВЕРДЖУВАЛЬНОЇ ФОРМИ

Таблиця 18.

Час	**Present**	**Past**	**Future**
Simple (Active Voice)	V Vs	V2	shall + V will
Simple (Passive Voice)	am is + V_3 are	was + V_3 were	shall + be + V_3 will
Continuous (Active Voice)	am is + Ving are	was + Ving were	shall + be + Ving will
Continuous (Passive Voice)	am is + being + V_3 are	was + being + V_3 were	—
Perfect (Active Voice)	have + V_3 has	had + V_3	shall + have + V_3 Will
Perfect (Passive Voice)	have + been + V_3 has	had + been + V_3	shall + have been + V_3 will

ЗВЕДЕНА ТАБЛИЦЯ ПИТАЛЬНОЇ ФОРМИ
INTERROGATIVE FORM

Таблиця 19.

Tense	**(1) Questioning word**	**(2) Auxiliary verb**	**(3) Subject**	**(4) Predicate**	**Example**
Present Simple Tense, Active Voice	What	**do** **does**	I, you, we they he, she, it	**V** (study, write)	**Do** you **study**? Where **does** he **study**?
Past Simple Tense, Active Voice	Where	**did**	I, he, she, it, you, we, they	**V** (study, write)	When **did** you **go** to the Academy?
Future Simple Tense, Active Voice	When	**shall** **will**	I, we he, she, it, you, they	**V** (study, write)	Where **will** they **go** tomorrow?
Present Simple Tense, Passive Voice	Why	**am** **is** **are**	I he, she, it you, we, they	**V_3** (studied, written)	Where **is** this hospital **built**?
Past Simple Tense, Passive Voice	How	**was** **were**	I, he, she, it you, we they	**V_3** (studied, written)	What medicine **was** your doctor **prescribed**? **Were** the patients **examined**?
Future Simple Tense, Passive Voice	How many	**shall** **will**	I, we he, she, it, you, they	**be + V_3** (be studied, be written)	When **will** the polyclinic **be closed**?

Present Continuous Tense, Active Voice	How much	**am** **is** **are**	I he, she, it you, we, they	**V_{ing}** (study**ing**, writ**ing**)	What **is** he **writing** now? What **are** you **doing** ?
Past Continuous Tense, Active Voice		**was** **were**	I, he, she, it you, we they	**V_{ing}** (study**ing**, writ**ing**)	Where **was** a doctor **performing** on the operation?
Future Continuous Tense, Active Voice		**shall** **will**	I, we he, she, it, you, they	**be + V_{ing}** (be studying, be writing)	What **will** you **be doing** at 3 p.m.?
Present Continuous Tense, Passive Voice		**am** **is** **are**	I he, she, it you, we, they	**being + V_3** (being studied, being written)	What hospital **is** your friend **being operated** on?
Past Continuous Tense, Passive Voice		**was** **were**	I, he, she, it you, we they	**being + V_3** (being studied, being written)	When **was** the work **being fulfilled**?
Present Perfect Tense, Active Voice		**have** **has**	I, you, we they he, she, it	**V_3** (studied, written)	What **has** he **received** this week?
Past Perfect Tense, Active Voice		**had**	I, he, she, it, you, we, they	**V_3** (studied, written)	How many articles **had** the student **read** by 5 o'clock?
Future Perfect Tense, Active Voice		**shall** **will**	I, we he, she, it, you, they	**have + V_3** (have studied, have written)	What text **will** Helen **have translated** by 3 o'clock?
Present Perfect Tense, Passive Voice		**have** **has**	I, you, we they he, she, it	**been + V_3** (been studied, been written)	**Has** the text **been translated** today?
Past Perfect Tense, Passive Voice		**had**	I, he, she, it, you, we, they	**been + V_3** (been studied, been written)	Where **had** the patient **been examined**?
Future Perfect Tense, Passive Voice		**shall** **will**	I, we he, she, it, you, they	**have + been + V_3** (have been studied, have been written)	When **will** the hospital **have been modernized**?

ДІЄСЛОВА TO BE ТА TO HAVE

В англійській мові існують особливі дієслова. Це – **to be**, **to have.** Вони мають не лише певні смислові значення **to be –** бути, **to have –** мати, але також служать допоміжними дієсловами для утворення різних часів і форм, дієслово виступає у ролі дієслова зв'язки.

ОЗНАКИ ФУНКЦІОНАЛЬНОЇ ВІДМІННОСТІ ДІЄСЛОВА *TO BE*

Таблиця 20.

Функції	Місце в реченні	Приклади	Особливості перекладу
1. Смислове дієслово	1) перед іменником з прийменником або прислівником місця; 2) після дієслова there, перед іменником без прийменника	My friend is at the laboratory. I was there yesterday. There are many wards in this clinic.	Перекладається: бути, перебувати; у теперішньому часі часто випускається. Перекладається: мати, перебувати, існувати. Якщо є обставина місця і часу, то переклад речення слід починати з них.
2. Дієслово-зв'язка	1) перед іменником, прийменником (за винятком прийменника of), прикметником або числівником; 2) після підмета- іменника типу aim, plan, function, purpose, task, etc., перед герундієм.	He is a student. The results of the treatment were satisfactory. There are 15 students in the group. Our task is preventing many diseases.	Перекладається: бути, становити; у теперішньому часі часто випускається. Перекладається: полягати; у теперішньому часі часто випускається.
3. Допоміжне дієслово	1) перед ing-form (Participle I) для утворення часів групи	The students are listening to the lecture.	У цих випадках дієслово to be окремо не перекладається.

4. Частина модальної конструкції	Continuous; 2) перед Participle II для утворення пасивного стану. 1) перед інфінітивом (дія за заздалегідь наміченим планом, значення обов'язку)	They were invited by their teacher. He is to go there. We are to study diseases of inner organs.	Виражає те, що повинне бути.

ОЗНАКИ ФУНКЦІОНАЛЬНОЇ ВІДМІННОСТІ ДІЄСЛОВА *TO HAVE*

Таблиця 21.

Функції	Місце в реченні	Приклади	Особливості перекладу
1. Смислове дієслово	Перед іменником (часто з означеннями)	He has a lot of medical books.	Перекладається: він має…, у нього є.
2. Допоміжне дієслово для утворення часів групи Perfect	Перед дієсловом у формі Participle II	I have read this book. He has been working here for 10 years.	У цих випадках дієслово to have окремо не перекладається
3. Модальне значення необхідності, зумовлене обставинами	Перед дієсловом у формі інфінітиву	You will have to repeat it.	Виражає необхідність здійснення дії, позначеної інфінітивом (доведеться зробити).

МОДАЛЬНІ ДІЄСЛОВА
(MODAL VERBS)

1. Дієслова can, may, ought (to), must, could, might, shall, should, will, would належать до групи модальних допоміжних дієслів. При цьому дієслово could є формою минулого часу дієслова can, а дієслово might є формою минулого часу дієслова may. Дієслова need і dare можуть уживатися не тільки як модальні дієслова, але також і як повнозначні дієслова.
2. Як правило, модальні дієслова не вживаються самостійно, а тільки в сполученні з інфінітивом без частки to.
3. Модальні дієслова виражають імовірність, необхідність, можливість, бажаність здійснення дії, вираженої основним дієсловом.
4. Модальне дієслово завжди ставиться перед формою основного дієслова.
You may go. – Ти можеш іти (у тебе є дозвіл на це). *He must have come. – Мабуть, він уже прийшов.*
5. Модальні дієслова не мають закінчення -s у формі 3-ї особи однини часу Present Simple: *She must do it. – Вона повинна це зробити. He can do it. – Він може це зробити.*
6. Модальні дієслова не мають безособових форм – інфінітива, герундія й дієприкметника.
7. Дієслова can і may мають форми теперішнього й минулого часу (could і might), а дієслова must, ought і need мають тільки одну форму – теперішнього часу.
8. Питальна й заперечна форми модальних дієслів у Present і Past Simple утворюються без допоміжного дієслова to do. У питальній формі модальне дієслово ставиться перед підметом.

Модальне дієслово CAN

Модальне дієслово can у стверджувальних реченнях позначає фізичну або теоретичну можливість, уміння зробити що-небудь, якщо потрібно виразити, що щось є можливим у принципі, а не щодо цієї конкретної ситуації. *They can help you. – Вони можуть нам допомогти. My brother can speak five languages. – Мій брат розмовляє (може розмовляти) п'ятьма мовами. They can not help us. – Вони не можуть допомогти нам.*

Це модальне дієслово може перекладатися, як: *можливо, ймовірно, невже* (цим воно виражає припущення, сумнів, подив); *не може бути* (виражає неймовірність у заперечних реченнях).

Модальне дієслово can має тільки дві часові форми – Present Form (can) і Past Form (could). Хоча вони можуть позначати також дії, які, можливо, відбудуться в майбутньому. Для вираження майбутнього часу можна використовувати також його еквівалент to be able to.

Модальне дієслово COULD

Модальне дієслово could є формою минулого часу дієслова can і в стверджувальних реченнях позначає фізичну або теоретичну можливість або вміння зробити що-небудь, якщо потрібно виразити, що щось було можливим у принципі, а не щодо якої-небудь конкретної ситуації в минулому. *They could help you. – Вони могли тобі/вам допомогти. It could be seen there the day before yesterday. – Там це можна було побачити позавчора.* Модальне дієслово could може виражати ввічливе прохання. *Could you help me with this bag? – Ви не могли б допомогти мені із цією сумкою? Could I have this book with me? – Можна мені взяти цю книжку із собою? I could help you. – Я міг би вам допомогти (зараз).*

У стверджувальних реченнях could може вживатися також для вираження припущення, що щось може відбуватися зараз. При цьому дієслово could виражає менший ступінь упевненості в можливості здійснення дії, ніж can.

Модальне дієслово MAY

Модальне дієслово may позначає можливість, яка допускається, дозвіл зробити що-небудь (на відміну від теоретичної можливості, що виражається дієсловом can). У цьому значенні вживається тільки у стверджувальній формі. *They may help you. – Вони можуть (їм дозволено) вам допомогти. You may be right. – Ти можеш мати рацію.*

Також за допомогою цього дієслова виражається припущення, яке ґрунтується на непевності. У стверджувальних реченнях, які виражають припущення про те, що зараз або в майбутньому щось може відбутися (статися), використовуються дієслова may і might. Між may і might у цьому випадку практично немає різниці, однак might виражає більший ступінь сумніву в можливості описуваної події. *It may snow tomorrow. – Завтра може піти сніг. It might rain tomorrow. – Завтра*

може піти дощ (хоча це й малоймовірно). *They may have been discussing the question for two hours. – Можливо, вони вже дві години обговорюють питання.*

Для вираження майбутнього часу можна використовувати також його еквівалент to be allowed to.

Модальне дієслово MUST

Дієслово must виражає необхідність, моральний обов'язок і відповідає в українській мові словам *повинен, потрібно, треба. I must go to work today. – Я повинен прийти на роботу сьогодні. You must do it as you are asked. – Ти повинен зробити так, як тебе просили.*

Дієслово must не має форм ні минулого, ні майбутнього часу, уживається тільки в теперішньому часі. Для вираження повинності в майбутньому й минулому вживається його еквівалент to have to. Якщо конструкція to have to уживається в теперішньому часі, вона позначає вимушену (об'єктивну) повинність.

Must виражає внутрішньо усвідомлену необхідність: *треба, потрібно, необхідно, повинен. I must do it today. – Я повинен зробити це сьогодні.* Must виражає також настійну пораду: *повинен, потрібно. You must go to the doctor. – Ти повинен піти до лікаря.*

Модальне дієслово must у заперечній формі має значення заборони: *не можна, не повинен, забороняється.*

ОЗНАКИ РОЗПІЗНАВАННЯ ГРАМАТИЧНИХ ФОРМ, УТВОРЕНИХ ЗА ДОПОМОГОЮ ДОПОМІЖНИХ ДІЄСЛІВ *SHOULD I WOULD*

Таблиця 22.

Функції	Ознаки	Приклади	Еквіваленти в українській мові
1. Допоміжне дієслово	Входить до складу присудка підрядного речення, а присудок головного речення має одну з форм минулого часу.		Присудок перекладається майбутнім часом.
a) Future-in-the-Past		The surgeon said that he *would consult* this patient in two days. – Хірург сказав, що він проконсультує хворого через 2 дні.	
b) Subjunctive Mood	1) Входить до складу присудка головного речення, де підрядне є умовним.	If there were no calcium salts producing a barrier, the caries *would go* straight to the pulp. – Якби не було кальцієвих солей, що створюють бар'єр, карієс перейшов би на пульпу.	Присудок перекладається умовним способом, тобто дієсловом у минулому часі з часткою "б", "би".
	2) Входить до складу присудка підрядного речення.	*Should* this condition *arise* the drug should be administered intravenously. – Якби стан погіршився, то ліки треба було б вводити внутрішньовенно.	
2. Модальне дієслово	Входить до складу присудка простого чи головного речення:	The doctor suggested that the patient *should be operated on*. – Лікар наполягав, щоб пацієнт був прооперований.	Виражає необхідність, пораду, докір тощо. Перекладається: варто, слід, слід було б (потрібно було б).

ПІДРЯДНІ ДОДАТКОВІ ТА ОЗНАЧАЛЬНІ РЕЧЕННЯ
(OBJECT CLAUSES)

В англійській мові підрядні додаткові речення (Object Clauses) виконують функцію додатка до дієслова або прикметника в головному реченні. Вони приєднуються до головного речення сполучниками ***that, if, whether,*** сполучними займенниками та прислівниками ***who, whose, what, which, where, when, how, why,*** а також безсполучниковим способом. Додаткові підрядні речення перекладаються зі сполучником *що* або без нього: *I know my friend is not ill. – Я знаю, (що) мій друг не хворий.*

Підрядні означальні речення (Attributive Clauses) виконують роль означення іменника або займенника головного речення і з'єднуються з ним за допомогою сполучних займенників ***who, whose, which, that,*** сполучних прислівників ***where, when,*** а також безсполучниковим способом. Перекладаючи підрядні означальні речення, вводять сполучник ***який,*** наприклад: *My friend you know well is not ill. – Мій друг, якого ви добре знаєте, не хворий.*

Виділення членів речення за допомогою
підсилювальної конструкції IT IS (was, will be) … THAT (who, which)

Іноді в англійських реченнях вживаються конструкція типу ***It is (was) … that (who).*** Українською мовою такі конструкції перекладають словом ***саме*** і використовують для виділення певного члена речення.

Якщо слід виділити обставину часу, то, як правило, вживають таку конструкцію: **it *was not until... that,*** а її українські відповідник – слова ***лише, лише після; лише тоді, коли.***

***It was not until** 1538 **that** A. Vesalius published this work. – **Лише** в 1538 році А. Везалій опублікував свою роботу.*

УМОВНИЙ СПОСІБ

Умовний спосіб виражає дію не як реальну, а як таку, що могла б відбутися за певних умов, а також необхідну, бажану або нереальну, нездійсненну. Форми переважної більшості дієслів умовного способу збігаються з формами дійсного способу. Виняток становлять дієслова 3-ої особи однини, котрі не мають закінчення -s: *It was necessary (that) the doctor **take** the patient's blood pressure immediately. – Було необхідно, щоб лікар негайно виміряв хворому кров'яний тиск.*

Для утворення умовного способу також вживаються дієслова ***should, would*** та ***might:*** *The patient must follow the administered course of treatment lest an unfavourable reaction **should develop.** – Хворий має дотримуватися курсу призначеного лікування, щоб не виникли небажані наслідки.*

Вживання умовного способу.

Умовний спосіб вживається:

а) у підрядних умовних реченнях (як із сполучником if, так і без нього. В останньому випадку дієслово стоїть перед підметом): *If I **were** at home I **should** callin a doctor immediately. – Якби я був удома, я викликав би лікаря негайно. **Were** I at home, I **should** call in a doctor immediately. – Якби я був удома, я викликав би лікаря негайно.*

б) у підрядних реченнях, які вводяться зворотом із займенником it:

it is necessary that	*Необхідно, щоб*
it is desirable that	*Бажано, щоб*
it is recommended that	*Рекомендується, щоб*
it is important that	*Важливо, щоб*
it is ordered	*Наказано*

It is recommended *that the patients take their temperature every day. – Рекомендується, щоб хворі вимірювали температуру кожного дня.*

в) у додаткових підрядних реченнях після дієслів ***to suggest, to propose*** *– пропонувати;* ***to insist*** *– наполягати;* ***to wish*** *– бажати;* ***to order, to command*** *– наказувати;* ***to demand*** *– вимагати,* ***to request*** *– просити,* ***to advise*** *– радити* та інших: *The surgeon* ***suggested*** *that this patient be operated on next week. – Хірург запропонував, щоб цього хворого прооперували наступного тижня.*

г) у підрядних реченнях, що приєднуються до головного сполучниками ***as if, as though*** *– наче, ніби: She looks as* ***if*** *she* ***were ill.*** *– Вона має такий вигляд, ніби хвора.*

д) у підрядних реченнях, які вводяться сполучниками ***lest*** *щоб* не; ***so that*** *для того, щоб:*

You must keep your bed lest you ***should have*** *a complication. – Ви маєте лежати в* ***ліжку,*** *щоб не було ускладнення.*

Умовні речення (Conditional Sentences).

В англійській мові існує три типи підрядних речень. Підрядні речення умови та часу вводяться сполучниками ***if*** *якщо, якби;* ***as*** *коли, в той час як;* ***since*** *з того часу як;* ***when*** *коли;* ***whenever*** *кожного разу, коли;* ***as soon as*** *як тільки;* ***after*** *після того як;* ***before*** *перш ніж, перед тим як;* ***till, until*** *поки;* ***unless*** *якщо не* та іншими.

Перший тип – на позначення реальної, здійсненної умови. Дія, виражена в цих реченнях, стосується майбутнього часу. У такому типі речень присудок головного речення вживають у Future Simple, а присудок підрядного речення вживають у Present Simple. Українською мовою обидва присудки перекладаються дієсловами майбутнього часу. *I'****ll buy*** *that novel,* ***when*** *it* ***comes out.*** *– Я куплю той роман, коли він вийде.* ***If*** *she* ***shows*** *signs of exhaustion, the nurse* ***will help*** *her immdeiately. – Якщо у неї будуть ознаки виснаження, медсестра їй негайно допоможе.*

2. Другий тип умовних речень виражає малоймовірну умову. Дія, виражена в цих реченнях, відноситься до теперішнього або майбутнього часу. У такому типі речень присудок підрядного речення вживається в Past Simple, а головного речення – у формі should / would + Indefinite Infinitive (без частки to). Українською мовою ці речення перекладаються дієсловом в умовному способі, тобто дієсловом минулого часу з часткою "б". ***If*** *I* ***knew*** *his address, I* ***would write*** *to him. – Якби я знав його адресу, то написав би йому.* ***If*** *any symptoms* ***troubled*** *her, she* ***would consult*** *her doctor. – Якби її турбували якісь симптоми, то вона звернулася б до свого лікаря.*

В реченнях другого типу дієслово ***to be*** має форму ***were*** для всіх осіб однини та множини:

If I ***were*** *you I* ***would call*** *a doctor immediately. – На вашому місці я негайно б викликав лікаря.*

3. Третій тип умовних речень виражає нездійсненну умову. Дія, виражена в цих реченнях, стосується минулого часу. У такому типі речень присудок підрядного речення вживається в Past Perfect, а у головному реченні – з допоміжним дієсловом should / would у формі Perfect Infinitive (без частки to). ***If*** *I* ***had read*** *or* ***heard*** *this information last month, I* ***would have chosen*** *better way in solving the problem. – Якби я прочитав чи почув цю інформацію минулого місяця, я б вибрав кращий шлях у вирішенні цієї проблеми.* ***If*** *he* ***had complained*** *of his symptoms a year ago, he* ***would have been carried out*** *an elective surgery. – Якби він поскаржився на свої симптоми рік тому, йому б здійснили планову операцію.*

ІНФІНІТИВ
(INFINITIVE)

Інфінітив являє собою безособову форму дієслова, яка тільки називає дію. Він не має ні особи, ні числа й відповідає неозначеній формі дієслова в українській мові. У словнику дієслово подається зазвичай у формі інфінітива. Формальною ознакою інфінітива є частка to.

Форми інфінітива

Таблиця 23.

INFINITIVE	**ACTIVE**	**PASSIVE**
Indefinite	**V** (to write)	**to be + V_3** (to be written)
Continuous	**to be + V_{ing}** (to be writing)	–
Perfect	**to have + V_3** (to have written)	**to have + been + V_3** (to have been written)

Інфінітив у формі **Indefinite** вживається: якщо дія, яку він виражає, одночасна з дією, вираженою дієсловом-присудком речення; з дієсловами, що виражають намір, надію, бажання і т.п. Indefinite Infinitive може означати дію, майбутню по відношенню до дії, вираженої дієсловом-присудком: *He was the first surgeon to speak to me about it. – Він був першим хірургом, який заговорив про це зі мною. They conduct blood test to determine the amount of the hormones. – Вони виконують аналіз крові для того, щоб встановити рівень гормонів.*

Інфінітив у формі **Continuous** виражає тривалу дію, що відбувається одночасно з дією, вираженою дієсловом-присудком: *He seems to be writing something. – Він, здається, щось пише.*

Інфінітив у формі **Perfect** виражає дію, що передує дії, вираженій дієсловом-присудком: *I am glad to have seen you. – Я дуже радий, що ми побачилися з вами.*

Суб'єктний інфінітивний комплекс
(Subjective Infinitive Construction)

В англійській мові суб'єктний інфінітивний комплекс, який виконує функцію складного підмета. Суб'єктний інфінітивний комплекс складається з двох частин. Перша частина комплексу – іменник у загальному відмінку або особовий займенник у називному відмінку. Друга частина комплексу – інфінітив, що виражає дію, яку виконує або зазнає особа чи предмет, позначений іменником (займенником). *This girl is known to be a good student. – Відомо, що ця дівчина гарна студентка.*

Особливістю суб'єктного інфінітивного комплексу є те, що перша і друга його частини відокремлені одна від одної присудком.

Присудком можуть бути такі дієслова (у пасивному стані): *to say – говорити; to report – повідомляти; to expect – сподіватися; to know – знати; to think – думати; to consider – вважати; to believ e– думати, вірити; to suppose – припускати та інші*: ***This text-book*** *is said* ***to be printed*** *in Lviv. – Кажуть, що цей підручник друкується у Львові.* ***The delegation*** *is reported* ***to have arrived*** *in Kyiv. – Повідомляють, що делегація прибула до Києва. He was thought* ***to have gone.*** *– Думали, що він пішов. He was seen* ***to enter*** *the laboratory. – Бачили, як він заходив до лабораторії.*

Суб'єктний інфінітивний комплекс вживається з дієсловами *to seem, to appear – здаватися, to prove – стверджувати; to turn out – виявлятися; to happen; to chance – траплятися:* ***He*** *appears to* ***be ill.*** *– Здається, що він хворий.*

Суб'єктний інфінітивний комплекс вживається зі словосполученнями *to be sure – напевно, to be certain – безперечно, to be likely – мабуть, to be unlikely – навряд:* ***They*** *are likely* ***to return*** *next week. – Мабуть, вони повернуться наступного тижня.*

Українською мовою речення з суб'єктним інфінітивним комплексом перекладають здебільшого за допомогою складнопідрядних речень. Переклад слід починати з присудка, який в українській мові перетворюється на неозначено-особове або безособове головне речення.

Інфінітив перекладається як присудок підрядного речення. Якщо вживається простий інфінітив, то він перекладається теперішнім часом, перфектний – минулим, а пасивного стану – присудком як активного, так і пасивного стану відповідного часу. *He is said* ***to live*** *here. – Кажуть, що він живе тут. He is said* ***to have lived*** *here. – Кажуть, що він жив тут. He is thought* ***to be discharged.*** *– Вважають, що його випишуть з лікарні.*

Об'єктний інфінітивний комплекс
(Objective Infinitive Construction)

В англійській мові додаток може складатися з групи слів, до якої входить іменник або займенник непрямого відмінка та інфінітив. Такий додаток називають складним. Складний додаток перекладається підрядним реченням зі сполучниками *що, як, щоб.* При цьому іменник (займенник) у непрямому відмінку стає підметом українського підрядного речення, а інфінітив – присудком: *I know this surgeon (him) to operate on successfully. – Я знаю, що цей хірург (він) оперує успішно. I want you to tell me about his mother. – Я хочу, щоб ви розповіли мені про його матір.*

Складний додаток вживається після дієслів, що виражають:

а) бажання, намір, почуття: *to want хотіти; to wish, to desire – бажати; should/ would, like – хотіти; to hate – ненавидіти; to intend – мати намір* та інші: *He intended me to go with him to the policlinic. – Він хотів, щоб я пішов з ним до поліклініки.*

б) думку (погляд), сподівання, припущення: *to expec t– сподіватися; to think – думати; to consider, to believe – вважати; to suppose – припускати; to find – знаходити; to know – знати* та інші. *We consider him to be the best student of our group. – Ми вважаємо його найкращим студентом нашої групи.*

в) наказ, прохання, дозвіл, пораду, примус: *to order, to command – наказувати; to ask, to request просити; to allow, to permit дозволяти; to advice, to recommend радити, рекомендувати; to cause, to force, to make – примушувати. The teacher allowed us to use dictionaries. – Викладач дозволив нам користуватися словниками.* Після дієслів *to make, to let* інфінітив вживається без частки ***to:*** *The doctor made the patient lie down. – Лікар примусив хворого лягти.*

г) сприймання за допомогою органів чуттів: *to see – бачити; to hear – чути; to feel – почувати; to watch, to observe – спостерігати; to notice – помічати.* Після цих дієслів частка to не вживається: *Suddenly I heard her call my name. – Раптом я почув, що вона покликала мене. I felt the pain become less. – Я відчув, що біль трохи стих.*

Переклад складного додатка залежить від форми інфінітива, тобто простий інфінітив перекладається теперішнім часом, перфектний – минулим, а пасивного стану – присудком пасивного стану.

ДІЄПРИКМЕТНИК
(PARTICIPLE)

Дієприкметник – це неособова форма дієслова, що має властивості прикметника, прислівника і дієслова. В англійській мові є прості та складені форми дієприкметника.

Форми дієприкметника
Forms of Participle

Таблиця 24.

PARTICIPLE	FORM	EXAMPLES
Participle I (Active)	**V + -ing**	writing, working
Participle I (Passive)	**being + V3**	being written, being worked
Participle II (Passive)	**V3**	written, worked
Perfect Participle (Active)	**having + V3**	having written, having worked
Past Participle (Passive)	**having + been + V3**	having been written having been worked

Having *plenty of time, we decided to walk to the museum. – Маючи багато часу, ми вирішили піти до музею. The text* ***translated*** *was easy. – Перекладений текст був легким.* ***Made*** *according to new method, the experiment showed good results. – Проведений відповідно до нового методу, експеримент продемонстрував добрі результати.* ***Being asked****, he didn't answer the questions. – Коли його запитали, він не відповів на питання. The nurse* ***working*** *here is my mother. – Медсестра, яка працює тут, моя мати.* ***Reading*** *this paper, I made notes. – Читаючи цю статтю, я робив нотатки.* ***Having read*** *the book, I gave it to the library. – Прочитавши книгу, я повернув її до бібліотеки.*

Незалежний дієприкметниковий комплекс
(Absolute Participle Construction)

Якщо в англійському реченні у дієприкметниковому звороті (комплексі) перед дієприкметником стоїть іменник чи займенник у називному відмінку, то такий зворот називається ***незалежним.*** При цьому іменник (займенник) виступає в ролі підмета, а дієприкметник – присудка. Незалежний дієприкметниковий зворот виокремлюється комами. Незалежний дієприкметниковий зворот перекладається українською мовою підрядним обставинним реченням зі сполучниками ***оскільки, після того, як; коли, якщо*** та ін. Якщо незалежний дієприкметниковий зворот стоїть у кінці речення, то українською мовою його перекладають як складносурядне речення зі сполучниками ***при цьому, а, і, але. My friend suffering from a severe pain,*** *I called in a doctor. – Оскільки мій приятель страждав від сильного болю, я викликав лікаря. The doctor palpated the patient's gum,* ***the pain becoming severe. –*** *Лікар пальпував ясна хворого, при цьому біль посилювався.*

Дієприкметник може бути простим, недоконаного виду або перфектним. Від цього залежить його переклад українською мовою: *The doctor* ***having performed*** *the operation, the patient's condition began to improve. – Після того, як лікар зробив операцію, стан хворого покращав. The operation* ***having been performed,*** *the patient's condition began to improve. – Після того, як було зроблено операцію, стан хворого покращав.*

Дієприкметник від дієслова ***to be (being, having been)*** можна опускати: *The work* ***being done,*** *they went home. The work* ***done,*** *they went home. – Після того, як роботу було закінчено, вони пішли додому.*

Слова ***there, one, if*** у складі незалежного дієприкметникового звороту можуть виступати у ролі підмета: ***There being no high temperature,*** *the patient felt better. – Оскільки не було високої температури, хворий почувався краще.*

Об'єктний дієприкметниковий комплекс
(Objective Participle Construction)

Цей дієприкметниковий комплекс вживається після групи "підмет-присудок", де присудок виражений дієсловом, що означає сприймання за допомогою органів чуттів: to feel – відчувати; to hear – слухати; to see – бачити; to watch – спостерігати, бачити; to want – хотіти:

Таблиця25.

NOUN (Common Case)	**or**	**PRONOUN (Objective Case)**		**PARTICIPLE**
Doctor(s) Student(s)		me him her it us you them		Participle I (Active): **V_{ing}** (working, writing) Participle I (Passive): **being + V_3** (being worked, being written) Participle II (Passive): **V_3** (worked, written)

The Objective Participle Construction перекладається підрядним реченням зі сполучником "як": *I saw* ***them walking*** *along the street. – Я бачив, як вони йшли по вулиці.*

ГЕРУНДІЙ
(GERUND)

Герундій – це безособова форма дієслова, що має властивості дієслова й іменника. У функції іменника герундій може виконувати в реченні функції підмета, додатка, означення й обставини. У функції дієслова герундій може мати в постпозиції прямий додаток і визначатися прислівником, мати перфектну форму, категорію стана, а також виражати дію як процес. Герундій утворюється від основи дієслова шляхом додавання суфікса -ing. ***Examining*** *is necessary. – Огляд обов'язковий. The necessary part of the examination is* ***listening*** *the heart. – Необхідна частина огляду – це прослуховування серця. They support her idea of* ***observing*** *the stomach. – Вони підтримують її ідею щодо обстеження шлунку. After giving injection the nurse left the ward. – Зробивши ін'єкцію, медсестра вийшла з палати (Після того як ін'єкція була зроблена, медсестра вийшла з палати). It is impossible to make a diagnosis without* ***palpating*** *the abdominal parts. – Неможливо встановити діагноз без пальпації (не обстеживши відповідним чином) органи черевної порожнини.*

Форми герундія

Форми герундія збігаються з формами Participle I, однак це різні форми дієслова, що відрізняються й за значенням, і за синтаксичними функціями.

Таблиця26.

Form	**Active**	**Passive**
Indefinite	**Ving** (working, writing)	**being + V_3** (being worked, being written)
Perfect	**having + V_3** (having worked, having written)	**having + been + V_3** (having been worked, having been written)

Her bad condition prevented her from ***attending*** *the lecture in Pharmacology. – Її погане самопочуття завадило відвідати лекцію з фармакології.* ***On having examined*** *the patient the physician made the diagnosis of pneumonia. – Після того, як лікар обстежив хворого, він встановив діагноз – пневмонія. He wants* ***being treated*** *at this hospital. – Він хоче, щоб його лікували в цій лікарні.*

Герундіальний комплекс (зворот)
(Gerund Construction)

Герундій і присвійний займенник або іменник, що стоять перед ним, утворюють герундіальний комплекс, який може виконувати в реченні функцію складеного підмета або складеного додатка. На початку речення герундіальний комплекс перекладається підрядним реченням із сполучниками *"те, що"; "в тому, що"*: *This* ***doctor's knowing*** *English well helps him in the work. – Те, що цей лікар добре знає англійську, допомагає йому в роботі.*

Після присудка герундіальний комплекс перекладається підрядним реченням із сполучником *"що": We know of* ***his having performed*** *on this operation well. – Ми знаємо, що він добре виконав операцію.*

УЗГОДЖЕННЯ ЧАСІВ У ПІДРЯДНОМУ ДОДАТКОВОМУ РЕЧЕННІ

Правило узгодження часів діє головним чином у складних реченнях з підрядним додатковим. Якщо в англійському головному реченні дієслово-присудок стоїть у минулому часі, то і в підрядному додатковому реченні дієслово-присудок має бути в одному з минулих часів. В українській мові такої залежності немає. *He said (that) he lived in Kyiv. – Він сказав, що живе у Києві.*

Коли у головному реченні дієслово-присудок стоїть у Past Simple (або Past Continuous), то в підрядному реченні ці часи свідчать про те, що дія відбулася одночасно з дією головного речення, і перекладаються в українській мові теперішнім часом: *She **said** that he **translated** the article. – Вона сказала, що він перекладає статтю. She **said** that she was **writing** a letter. – Вона сказала, що пише лист.*

Past Perfect у підрядному реченні показує, що ця дія відбулася раніше, ніж дія головного речення, і перекладається минулим часом: *He said (that) he had lived in Kyiv. – Він сказав, що жив у Києві (раніше).*

Якщо в головному реченні дієслово-присудок стоїть в Past Simple, а в підрядному реченні треба передати дію, котра має відбутися у майбутньому, то дієслово-присудок підрядного речення вживається у Future-in-the-Past і перекладається майбутнім часом. Допоміжні дієслова ***shall, will*** мають форму минулого часу ***should, would:*** *He said (that) he would live in Kyiv. – Він сказав, що житиме у Києві.*

VOCABULARY

A

abdomen ['xbdqmqn] черевна порожнина

abdominal [xb'dOmIn(q)l] абдомінальний, черевний

abdominal diseases [xb'dOmIn(q)l] шлунково-кишкові захворювання

abnormality [ˌxbnO: 'mxlltl] відхилення, аномалія, патологія

absorb [qb'sO:b] всмоктувати, вбирати; абсорбувати

accelerate [xk'selqreIt] прискорювати; збільшувати швидкість

accept [qk'sept] приймати; визнавати

access ['xkses] доступ; підхід, прохід; приступ

accessory [qk'sesqrI] додатковий, допоміжний; побічний

accident ['xksId(q)nt] нещасний випадок, аварія

accommodate [q'kOmqdeIt] пристосовувати(ся); розміщувати

accompany [q'kAmpqnI] супроводити

accomplish [q'kOmplIS] досягати; виконувати; здійснювати; доводити до кінця

account [q'kaunt] причина, підстава; значення; пояснювати

accumulate [q'kju:mjuleIt] скупчувати(ся); акумулювати; наростати

accuracy ['xkjurqsI] точність, правильність

ache [eIk] біль; боліти, нити

achieve [q'CI:v] досягати; добиватися; успішно виконувати

acid ['xsId] кислота

acquire [qk'waIq] набувати; одержувати; досягати

act [xkt] дія; діяти, поводитися

actual ['xktjuql] справжній; дійсний; фактичний

acute [q'kju:t] гострий (про зір, біль); різкий

acupuncture ["xkju'pANkCq] акупунктура, голкотерапія

adapt [q'dxpt] пристосовувати; адаптувати

add [xd] додавати, приєднувати

additional [q'dISqnl] додатковий

adhere [qd'hiq] прилипати, приставати

adipose['xdIpqus] жировий

adjacent [q'GeIs(q)nt] розташований поряд; близький, суміжний

adjoin [q'GOIn] прилягати, межувати

adjust [q'GAst] пристосовуватись; приладжувати, регулювати

administer [qd'mInIstq] призначати

adrenal cortex [qd'rInql 'kO:teks] кора надниркової залози

adrenal gland [qd'rInql] надниркова залоза

adrenal medulla [qd'rInql me'dAlq] мозкова речовина надниркової залози

adult ['xdAlt, q'dAlt] дорослий, повнолітній

advance [qd'vRns] рух уперед; успіх, прогрес; просуватися

adverse ['xdvq:s] несприятливий, побічний

advice [qd'vaIs] порада

aerosol ['FqrqusOl] аерозоль

affect [q'fekt] впливати; уражати (про хворобу); шкодити

age [eIG] вік (людини)

agent ['eIGent] збудник

aggravate [‘xgrqveIt] погіршувати; обтяжувати

aid [eId] допомога; допомагати

ailment ['eIlmqnt] захворювання, недуга

albumin ['xlbjumIn] альбумін

alike [q'laIk] схожий, подібний; такий самий; так само, однаково

alimentary ["xlI’mentqrI] харчовий, аліментарний

alive [q’laIv] живий

alleviate [q'lI:vIeIt] полегшувати

allocate [‘xlqkeIt] розподіляти; розміщати; призначати

allow [q’lau] дозволяти; давати, надавати; допускати; визнавати

along [q’lON] по, уздовж; далі, уперед

alter ['O:ltq] змінювать(ся); видозмінювати, вносить зміни

although [O:l'Dqu] незважаючи на те, що

alveolus (pl. alveoli) [xl'vIqlqs] альвеола, ячейка

amount [q'maunt] кількість; загальна сума; складати (суму); дорівнювати

analgesic ["xnxl'GesIk] анальгезуючий, анальгетичний, болезаспокійливий

analyze [‘xnqlaIz] аналізувати

anamnesis ["xnxm'nI:sIs] анамнез

angina [xn'GaInq] стенокардія

ankle [xNkl] надп’ятково-гомілковий суглоб; зона з’єднання надп’ятково-гомілкового суглоба; щиколотка

announce [q’nauns] повідомляти

anterior [xn'tIqrIq] передній

antibiotic ["xntIbaI'OtIk] антибіотик

antibody ['xntI"bOdI] антитіло

antigen ['xntIGqn] антиген

antiviral ['xntI'vaIrql] противірусний

anvil ['xnvIl] коваделко

apex ['eIpeks] верхівка

apparent [q'pxr(q)nt] помітний, очевидний

appear [q'pIq] виглядати

appetite [‘xpItaIt] апетит

appliance [q’plaIqns] прилад, пристрій

application ["xpII’keISn] вживання, використання; прикладання, накладання

apply [q'plaI] ставити; використовувати, вживати; прикладати, накладати

appoint [q’pOInt] призначати

approach [q'prquC] підхід

approximately [q'prOksImItlI] приблизно

arachnoid [q'rxknOId] павутинна оболонка (мозку)

arch [RC] дуга; арка, склепіння; вигинати дугою

arise [q’raIz] виникати, з’являтися; бути наслідком, випливати

arm [Rm] плече (частина верхньої кінцівки); рука

arrange [q’reInG] систематизувати; влаштувати; урегулювати

arrest [q’rest] затримання, затримка; затримувати, зупиняти

artery ['a:tqrI] артерія

arthritis [a:'TraItIs] артрит

aside [q’saId] убік; осторонь

assemble [q'sembl] збирати

associate [q’souSIIt] тісно пов’язаний; [q’souSIeIt] поєднувати, сполучати; приєднувати; мати зв’язок

aspiration ["xspq'reIS(q)n] аспірація

asthma [xsmq] астма

atop [q'tOp] поверх; над

attach [q'txC] прикріплювати, зв'язувати

attempt [q'tempt] намагатись, прямувати

attitude ['xtItju:d] постава

atrial ['eItrIql] передсердний, такий, що стосується передсердя

auricle ['O:rIkl] вушна раковина

auscultation ["O:sk(q)l'teIS(q)n] вислуховування (хворого), аускультація

auxiliary [O:g’zIljqrI] допоміжний

average ['xvqrIdZ] середній; звичайний, середнє число; середнє (число); в середньому; дорівнювати в середньому, складати

avoid [q'vOId] уникати; застерігати; уникнення; скасування

awareness [q'wFqnIs] обізнаність, знання

axis [‘xksIs] (pl. axes) вісь

axon ['xksOn] аксон, провідна частина нервової клітини, відросток нервової клітини

B

back [bxk] спина, хребет; задня сторона; задній; зворотній; назад

backbone [‘bxkboun] спинний хребет

backward [‘bxkwqd] назад, у зворотному напрямі; зворотний

bactericidal [bxk'tIqrI"saIdl] бактерицидний

band [bxnd] стрічка; зв’язок; зв’язувати; сполучати; скріплювати

bandage [‘bxndIG] бинт; бандаж; перев’язувати, бинтувати

basement ['beIsmqnt] базис, основа

basis [‘beIsIs] (pl. bases) основа; підстава; базис

be [bI:] бути; існувати

bear [bFq] родити, народжувати; носити; переносити; терпіти, зносити

bearable [‘bFqrqbl] стерпний

bearer [‘bFqrq] носій; опора

beat [bI:t] битися; удар, поштовх, скорочення, систола, пульсація

become [bI’kAm] ставати; робитися; перетворюватися; траплятися

begin [bI’gIn] починати(ся)

behavior [bI'heIvjq] манери, поведінка

believe [bI’lI:v] вірити; думати, вважати

belly [‘bel] живіт, черево

belong [bl’lON] належати; стосуватися

below [bl'lou] внизу; під, нижче

bend [bend] згинати(ся); нахиляти(ся); згин, вигин; нахил

beneath [bl’n1:T] нижче; внизу

benefit ['benefit] перевага; користь

benign [bl'naIn] доброякісний

beyond [bl’jOnd] зовні, за межами; за, по той бік; над, понад, вище

bilateral [baI’lxtqrql] двобічний, двосторонній

bile [baIl] жовч

Biology [baI'OlqdZI] біологія

bit [blt] шматочок; частина, невелика кількість

bite [baIt] кусати; укус; кусок, шматочок

blemish ['blemlS] дефект

bladder ['blxdq] сечовий міхур

bleed [bll:d] кровоточити; пускати кров

blench [blenC] ухилятися; відступати

blend [blend] змішувати(ся); зливатися; суміш; змішування

bloat [blqut] роздувати(ся), надувати (ся)

blood [blAd] кров

blood circulation ['blAd sq:kju'leIS(q)n] кровообіг

bloodstream ['blAdstrI:m] кровоплин, судинне русло

blood supply ['blAd sq'plaI]
кровопостачання, прилив крові

blood transfusion ['blAd "trxns'fju:Zn] переливання крові

blotch [blOC] прищ; пляма

blow [blou] дути; важко дихати; удар

body [‘bOdI] тіло; організм; головна частина (чогось)

bone [boun] кістка

bone marrow ['boun 'mxrqu] кістковий мозок

border [‘bOdq] край; межувати; облямовувати

bottom ['bOtqm] нижня частина

bound [baund] обмежувати, ставити межу, стримувати, межувати, слугувати межою

boundary [‘baundqrI] межа

bow [bau] згинати(ся)

bowel ['bauql] кишка; pl. нутрощі

brain [breIn] мозок

brainstem (brain stem) ['breInstem] стовбур головного мозку

branch ['brQ:nC] гілка; галузь; розгалужуватися

branching ['brQ:nClN] розгалуження, гілкування

break [‘breIk] ламати(ся); розбивати(ся); порушувати; переривати; розмикати

breakdown ['breIkdaun] розщеплення

breast [brest] груди, молочна залоза

breath [breT] дихання

breathe [brl:D] дихати

breathlessness ['breTllsnls] задишка

breathe out ['brl:D "aut] видихати

bridle [‘bra1dl] вуздечка

bring [brlN] приносити, приводити; доставляти

broad [brO:d] широкий

bronchi (sing. bronchus) ['brONka1] бронхи

bronchial asthma ['brONk1ql 'xsmq] бронхіальна астма

bronchiole ['brONk1qul] бронхіола

bronchitis [brON'ka1tls] бронхіт

bud [bAd] брунька, зачаток

bulk [bAlk] основна маса, більша частина

bunch [bAnC] в’язка; зв’язувати

burn [bq:n] палити; спалювати; обпалювати; опік

burrow ['bq:rqu] ховатися, зариватися

burst [bq:st] вибух, спалах; лопатися; спалахнути

C

calf [ka:f] (pl. calves) литка

calm [ka:m] спокійний; тихий; спокій, тиша; заспокоюватися

calyx (pl. calyces) ['kelll1ks] ниркова чашка

canal of Schlemm [kq'nxl qv 'Slem] шоломів канал, венозний синус склери

cancellous bone ['kxnsqlqs] сітчаста кістка, губчаста кісткова речовина

cancer ['kxnsq] рак

capable ['kelpqbl] здатний (на), здібний

capability [,kelpq'bllltl] здатність, можливість, потенціал

capable [kel'pqbl] дієздатний

capillary [kq'p1lqr1] капіляр; капілярний

care (for, of, about) [kFq] турбуватися

carbohydrate [kRbqu'ha1dreit] вуглевод

carbon dioxide ['ka:bqn da1'Oksa1d] діоксид вуглецю

cardiac ['kO:d1qk] кардіальний, що належить до проксімального відділу

cardiovascular ['ka:d1qu'vxskjulq] серцево-судинний

care [kFq] турбота, піклування; уважність; обережність; доглядати, дбати; піклуватися, турбуватися

carry ['kxr1] переносити, нести

carry on ['kxr1] продовжувати, вести справу

cartilage ['katllG] хрящ

case [kels] випадок; випадок захворювання; обставина; справа

case history ['kels 'h1st(q)r1] історія хвороби

casing ['kelslN] оболонка

catarrhal [kq'ta:rql] катаральний, застудний

cause [kO:z] причина; підстава; спричиняти, викликати

cave [kelv] порожнина

cavity ['kxvltl] порожнина

cell [sel] клітина

cerebellum ["serl'belqm] мозочок

cerebral cortex ['kO:teks] кора головного мозку

cerebrum ['serlbrqm] великий мозок

cessation [se'selS(z)n] зупинка, припинення

chamber ['CelmbQ] камера

chance [Ca:ns] випадок; випадковість; траплятися; статися

change ['CelnG] зміна; переміна; змінювати(ся); міняти(ся)

charge [CQ:G] вимагати

check [Cek] затримка; перешкода; контроль; перевірка; зупиняти; стримувати; контролювати; перевіряти

cheek [Cl:k] щока

cheekbone ['Cl:kbqun] вилиця

Chemistry ['kemlstrl] хімія

chemist's (shop) ['kemlsts 'SOp] аптека

chest [Cest] грудна клітка

chew [Cu:] жувати

chickenpox ['ClklnpLks] вітряна віспа

chief [Cl:f] головний

chill [Cll] охолоджуватися, замерзати; озноб, гарячка, пропасниця; застуда

chin [Cln] підборіддя

choose [Cu:z] обирати

choroid ['kO:rOld] судинна оболонка ока, хоріоід, хоріоідея

circular ['sq:kjulq] круглий; коловий; круговий

circulation ["sq:kju'lelS(q)n] обіг, циркуляція

claim [klelm] вимагати; претендувати; твердити; вимога; заява

clavicle ['klxvlkl] ключиця

cleave [kll:v] розколювати(ся)

closure ['klquZq] закриття

clot [klOt] згортатися; згусток крові, тромб

clue [klu] ключ

coagulate [kou'xgjulelt] згущатися, зсідати

cochlea ['kOkllq] равлик (вуха)

columnar [kq'lAmnq] стовпчиковий, стовпчикоподібний

cold [kquld] застуда

collagen ['kOlqGqn] колаген

collarbone ['kOlqbqun] ключиця

come [kAm] приходити; доходити; траплятися; походити; бути родом

common ['kOmqn] загальний; спільний; звичайний; загальновідомий

compact bone ['kOmpxkt 'boun] компактна кісткова тканина

comparable ['kOmpqrqbl] порівнянний

compartment [kqm'pRtmqnt] відділення (частина чого-небудь)

compatible [kqm'pxtqbl] сумісний

compete [kqm'pI:t] конкурувати

complain [kqm'pleIn] скаржитися

complaint [kqm'pleInt] скарга; быль, недуга

complete [kqm'pl:t] повний; закінчений; цілковитий; закінчувати; укомплектовувати

completeness [kqm'pl:tnls] повнота, завершеність

complex ['kOmpleks] складний; комплексний; комплекс

complexity [kqm'pleksIti] складність

compliance [kqm'plaIqns] згода; поступливість; догідливість

complicate ['kOmplIkeIt] ускладнювати(ся)

compound ['kOmpaund] складений; складний; суміш; сполука; [kqm'paund] змішувати; сполучати

comprise [kqm'praIz] містити в собі; охоплювати, включати

compromise ['kOmprqmaIz] піддавати ризику, небезпеці

concave [kOn'keIv] угнутий

concern [kqn'sq:n] відношення, причетність; інтерес, участь; турбота, хвилювання; стосуватися; відноситися

condition [kqn'dIS(q)n] умова; стан

conduct [kqn'dAkt] проводити, бути провідником

confine [kqn'faIn] обмежувати

confirm [kqn'fq:m] підтверджувати; затверджувати

confusion [kqn'fjuZ(q)n] заплутаність

congenital [kqn'GenItl] вроджений

conjoin [kqn'GOIn] з'єднувати(ся); сполучати(ся)

conjunction [kqn'GANkSn] з'єднання; зв'язок

conjunctiva ["kOnGANk'taIvq] кон'юнктива (слизова оболонка ока)

connect [kq'nekt] з'єднувати(ся); сполучати(ся)

connective [kq'nektIv] сполучний, з'єднувальний

conscious ['kOnSqs] свідомий

consciousness ['kOnSqsnIs] свідомість

consequence ['kOnsIkwens] наслідок, результат

consider [kqn'sIdq] вважати

consist of [kqn'sIst] складатися з

constipation ["kOnstI'peISn] запор

constriction [kqn'strIkS(q)n] скорочення, стягання, звуження; стиснення

constitute ['kOnstItju:t] призначати; встановлювати, засновувати; складати

constrict [kqn'strIkt] стискувати; скорочувати

consume [kqn'sju:m] знищувати; споживати; марнувати

consumption [kqn'sAmpSn] споживання; туберкульоз легенів

contagious [kqn'teIGqs] заразний, інфекційний

contain [kqn'teIn] містити

contaminate [kqn'txmIneIt] заражати, інфікувати

contract [kqn'trxkt] скорочуватися

contraindication ["kOntrq"ɪndɪ'keɪS(q)n] протипоказання

contrary ['kOntrqrɪ] протилежний; супротивний; несприятливий

contribute [kqn'trɪbjut] співвідноситися; сприяти

control [kqn'trqul] стримування; контролювання

convalescent ["kOnvq'lesnt] одужуючий

conventional [kqn'venSqnl] звичайний, традиційний

converse ['kOnvq:s] зворотний; протилежний; зворотне; протилежне

convert [kqn'vq:t] перетворювати, обертати; навертати

convex [kOn'veks] опуклий

convey [kqn'veɪ] передавати; трансопртувати

convulsion [kqn'vAlSn] конвульсія

copper ['kOpq] мідь

cord [kO:d] зв'язка

core [kO:] серцевина; ядро

cornea ['kO:nɪq] рогівка, рогова оболонка ока

corpse [kO;ps] труп

corpuscle ['kO:pAsl] часточка, корпускула, тільце, елемент крові

correct [kq'rekt] відповідний

cortex ['kO:teks] кора

cough [kOf] кашель

count [kaunt] рахувати; підраховувати; рахунок, підрахунок

counter ['kauntq] протилежний; всупереч; проти; протидіяти

counteract ["kauntq'rxkt] протидіяти, перешкоджати; нейтралізувати

course ['kO:s] курс, напрям; перебіг, хід

cover ['kAvq] покривати; накривати; містити, охоплювати

cranial ['kreɪnjql] черепний

cranium ['kreɪnɪqm] череп

create [krɪ'eɪt] породжувати, робити, виробляти, створювати, творити

critical ['krɪtɪk(q)l] важливий, суттєвий, необхідний

cure [kjuq] лікування; виліковувати

currently ['kAr(q)ntlɪ] зараз, в теперешній час, нині

curriculum [kq'rɪkjulqm] навчальний план

curvature ['kq:vqCq] вигин

curve [kq:v] вигин, закруглення, кривизна

cushion ['kuS(q)n] валик, м'ясиста анатомічна структура у формі подушки

cut [kAt] різати; розрізувати; розріз; вирізка; поріз, рана

cutaneous [kju(:)'teɪnjqs] шкірний

cycle ['saɪkl] цикл, період; оберт, такт

cyst [sɪst] киста

D

damage ['dxmɪG] пошкоджувати; пошкодження

danger ['deɪnGq] небезпека

damp [dxmp] сирість, вологість

data ['delt̬q] дані, відомості; інформація

dead ['ded] мертвий; занімілий

deaf [def] глухий

deal [dl:l] мати справу; розглядати

death [deT] смерть

decay [dl'kel] гниття; руйнування; розпад; гніти, розкладатися

decide [dl'saɪd] вирішувати

decline [dl'klaɪn] спад; занепад; погіршення; нахилятися; зменшуватися; погіршуватися; відхиляти

decompose ["dl:kqm'pouz] розкладати на складові частини; розпадатися

decontaminate ['dl:kqn'txmlnelt] дезінфікувати; дезактивувати

decrease [dlk'rl:s] зменшувати(ся), скорочувати(ся); спадати; ['dl:krl:s] зменшення, спад

deep [dl:p] глибокий

defend [dl'fend] захищати

defense [dl'fens] захист

deficiency [dl'flS(q)nsl] нестача; дефіцит; недолік; відсутність

define [dl'faɪn] визначати, давати визначення; передавати; характеризувати

definite ['defɪnlt] визначений; певний

degree [dl'grl:] ступінь; міра; градус

delay [dl'lel] затримка; зволікання; відкладення; затримувати; зволікати; відкладати

deliver [dl'llvq] розносити, доставляти; передавати; доставляти

demand [dl'ma:nd] вимога; потреба; вимагати; мати потребу

denote [dl'nout] показувати; позначати

dense [dens] щільний; густий; стиснутий; густий

depart [dl'pQ:t̬] відходити; залишити; відхилятися, відступати

departure [dl'pQ:Cq] відхилення, відступ

depend [dl'pend] залежати; розраховувати

depose [dl'pouz] усувати; скидати

deposit [dl'pOzlt] відкладення, осад

depress [dl'pres] пригнічувати; понижувати, ослаблювати

deprive [dl'praɪv] позбавляти; відбирати

derive [dl'rQlv] виводити; отримувати; добувати; породжувати; походити

derived [dl'raɪvd] похідний, вторинний

dermis ['dq:mls] дерма, власне шкіра

describe [dls'kraɪb] описувати, характеризувати

destroy [dls'trOl] руйнувати; знищувати

destruction [dls'trAkSn] руйнування; знищення

detect [dl'tekt] помічати, виявляти

deterioration [dl"tlqrlq'relSn] погіршення

determine [dl'tq:mln] визначати

detoxification [dl:"tOkslfl'kelSn] детоксикація

device [dl'vaɪs] прилад

devote [dl'vout] присвячувати

diabetes insipidus ["daIq'bl:tlz] нецукровий діабет

diabetes mellitus ["daIq'bl:tlz 'mellIqs] цукровий діабет

diaphragm ['daIqfrxm] діафрагма

diagnosis ["daIqg'nousIs] діагноз

diastole [daI'xstqll] діастола

die [daI] вмирати

diet ['daIqt] харчування, стіл; дієта

differentiation ["dlfqrenSl'elS(q)n] модифікація, пристосування, видозмінення

digest [dl'Gest] перетравлювати; засвоювати; сприймати

digestion [dl'GesC(q)n] травлення, травлення їжи

digestive [dl'Gestlv] травний, такий, що стосується травлення

dilate [daI'lelt] розширювати; поширювати

dilute [daI'lju:t] зниженої концентрації; розбавляти

dim [dlm] неяскравий, тьмяний

diminish [dl'mlnlS] зменшуватися, послаблювати; знижуватися; скорочуватися

direct [dl'rekt] прямий; безпосередній; спрямовувати; направляти

disable [dls'elbl] робити нездатним; виводити з ладу

disappear [dlsq'plq] зникати; пропадати

discharge [dls'CQ:G] розряджати; виділяти, випускати; звільняти; виділення; звільнення

disclose [dls'klous] розкривати, відкривати; виявляти; викривати

disease [dl'zl:z] захворювання

disintegration [dls"lntl'grelSn] роздрібнення, роздвоєння

dislodge [dls'lOG] пересувати, переміщати, усувати

disorder [dl'sLdq] захворювання

disperse [dls'pq:s] розповсюджувати; диспергувати, розкидати, розсіювати частини

disposable [dls'pquzqbl] одноразовий

disrupt [dls'rApt] порушити

disseminate [dl'seml'nelt] розповсюджувати(ся), розсіювати

dissolved [dl'zOlvd] розчинений

distil [dls'tIl] добувати

distinguish [dls'tlNgwlS] відрізняти, розрізняти; розпізнавати; відділяти

distortion [dls'tO:S(q)n] відхилення, аномалія

distribute [dls'trlbju:t] розподіляти

distribution ["dlstrl'bjuS(q)n] розподіл

disturbance [dls'tq:b(q)ns] порушення, розлад, патологічне відхилення

diuretic ['daIjuq'retlk] діуретик; сечогінний засіб; сечогінний

diverse [daI'vq:s] різноманітний, різний; відмінний

division [dl'vlZqn] поділ, розподіл; ділення

dose [dous] доза; давати дозами; дозувати

doubt ['daut] сумнів; сумніватися

drain ['dreln] відводити, відкачувати; дренувати; висушувати; витікання; дренаж, осушення

dressing ['dresIN] перев'язувальний матеріал

drop ['drOp] крапля; зниження, падіння; крапати; падати, випадати; знижувати(ся); опускатися

droplet ['drOplIt] краплинка

dropsy ['‘drOpsI] водянка

drug [drAg] ліки, лікарський засіб; наркотичний засіб

dry ['‘draI] сухий; сушити, висушувати

duct [dAkt] канал, протока

duodenal ["djuo'dI:nql] дуоденальний, що стосується дванадцятипалої кишки

dura mater ['djuqrq 'meItq] тверда мозкова оболонка

duration [dju(q) 'reIS(q)] тривалість, довгість

dyspepsia [dIs'pepsIq] розлад травлення, диспепсія

E

ear ['Iq] вухо

eardrum ['IqdrAm] барабанна перетинка

eat ['I:t] їсти

effect [I’fekt] наслідок, результат; дія, вплив; здійснення; виконувати, здійснювати, чинити

efficiency [I’fISnsI] дієвість, ефективність; продуктивність; коефіцієнт корисної дії

effort ['efqt] зусилля, напруження

e.g. (from L. exempli gratia) наприклад

egg [eg] яйцеклітина

eject [I:’Gekt] викидати; вивергати; виганяти

elaborate [I'lxbqreIt] детально обдумувати, розробляти

elastin [I'lxstIn] еластин

elbow ['elbqu] лікоть

element ['elImqnt] елемент, складова частина

elevate ['elIveIt] піднімати, підносити; підвищувати

eliminate [I'lImIneIt] знищувати, ліквідувати; усувати

elimination [I"lImI'neISn] видалення, виведення

embryo ['embrIqu] (pl. embryos) зародок, ембріон

embryonic ["embrI'OnIk] зародковий, ембріональний

emerge [I’mq:G] виходити; з’являтися; виявлятися; з’ясовуватися

empty ['emptI] спорожнити; виливати; впадати, входити

enable [I’neIbl] давати змогу

enclose [In'klqus] оточувати, обгороджувати; містити

encounter [In'kQuntq] наштовхнутися

encourage [In'kArIG] стимулювати

endocrine ['endqukraIn] ендокринний

enfold [In’fould] охоплювати; загортати

engage [In'geIG] залучати

engulf [In'gAlf] поглинати

enhance [In'ha:ns] збільшувати, підсилювати, посилювати; поліпшувати

enlarge [In’lQ:G] збільшувати(ся); розширювати(ся)

ensure [ɪn'ʃuq] запевняти, гарантувати; забезпечувати

enter ['entq] входити, вступати

enteritis ["entq'raɪtɪs] ентерит, запалення тонкої кишки

entry [‘entrɪ] вхід; вступ

envelop [ɪn’velqp] обгортати; обкутувати; оточувати

enzyme ['enzaɪm] фермент, ензим

epidermis ["epɪd'q:mɪs] епідерма, епідерміс

epilepsy ['epɪlepsɪ] епілепсія

epithelium (pl. epithelia) ["epɪ'Tɪ:ljqm] епітелій

equalize ['ɪ:kwqlaɪz] вирівнювати, рівняти

eradicate [ɪ'rxdɪkeɪt] усувати, звільняти

erythrocyte [ɪ'rɪTrosaɪt] еритроцит

esophagus [ɪ'sOfqgqs] стравохід

estimate ['estɪmeɪt] визначати, оцінювати

evaluate [ɪ'vxljueɪt] оцінювати

evaporate [ɪ'vxpqreɪt] випаровуватися

eventually [ɪ'venCqlɪ] зрештою, нарешті, з часом

evident ['evɪd(q)nt] явний, очевидний

examine [ɪg'zxmɪn] оглядати; обстежувати

except [ɪk’sept] виключати; заперечувати; за винятком, крім

excess [ɪk’ses] надлишок; крайність

excitation ["eksɪ'teɪSqn] активізація, збудження

exchange [ɪks’CeɪnG] обмін; обмінювати(ся)

exclusively [ɪks'klu:sɪvlɪ] винятково, виключно

exclude [ɪks’klu:d] виключати, вилучати

excrete [eks'krɪ:t] виділяти

excretion [eks'krɪ:S(q)n] виведення (речовини з організму), екскреція; виділення

excretory [eks'krɪ:tqrɪ] вивідний, видільний, екскреторний

exhale [eks'heɪl] видихати; робити видих

exist [ɪg’zɪst] існувати; жити

exit [‘eksɪt] вихід

expand [ɪks'pxnd] розтягувати(ся), розширювати(ся); збільшувати(ся) в об’ємі, в розмірах; поширювати(ся)

expect [ɪks'pekt] чекати, дожидатися

expectancy [ɪks'pekt(q)nsɪ] очікування, сподівання, погляди на майбутнє; ймовірність; life expectancy тривалість життя

expiration ["ekspaɪ’reɪSn] видих

exploration ["eksplO:’reɪSn] дослідження

expose [ɪks'pquz] піддавати впливу

exposure [ɪks'pquZq] зараження, контакт з джерелом зараження; стимуляція; експозиція; вплив

extend [ɪks'tend] розповсюджуватися; простягати(ся); тягтися; продовжувати

extrinsic [eks'trɪnsɪk] зовнішній

eye [aɪ] око

eyeball ['aɪbO:l] очне яблуко

eyebrow ['aɪbraʊ] брова

eyelid ['aɪlɪd] віко, повіка

F

face [feɪs] обличчя; лице; лицьовий бік; бути повернеким (до чогось)

fascia ['feɪSq] фасція

fail [feɪl] слабшати, перестати діяти; не вдаватися; зазнавати невдачі; бракувати

failure ['feɪljq] недостатність

fairly [fEqlɪ] достатньо

fall [fO:l] падати, опускатися; падіння; осінь

fall ill ['fOl 'Il] захворіти

false ['fO:ls] хибний, помилковий; фальшивий

familiar [fq'mɪljq] добре відомий; звичайний

fasten ['fQ:sn] прив'язувати; прикріпляти

farther ['fa:Dq] віддалений

fat [fxt] жир

fatigue [fq'tI:g] втома, стомлюваність

fauces ['fO:sI:z] горло, зів

feed [fI:d] харчувати(ся); живити(ся); годувати(ся); постачати; харчування; їжа

feel [fI:l] відчувати, почквати

female ['fI:meIl] жінка

ferment ['fq:mqnt] фермент

fertilization ["fq:tIlaI'zeIS(q)n] запліднення

fertilize ['fWtIlaIz] запліднювати

fetus ['fI:tqs] (утробний) плід

fever ['fI:vq] жар, гарячка; лихоманка, підвищена температура; нервове збудження

fiber [faIbq] волокно

fibrinogen [faI'brInoGqn] фібриноген

fight [faIt] боротьба; боротися

filament ['fIlqmqnt] філамент, тоненьке волокно або нитка

fill ['fIl] наповнювати(ся); заповнювати

filtrate ['fIltrIt] фільтрат; ['fIltreIt] фільтрувати

find [faInd] знаходити; виявляти; знахідка

fine [faIn] тонкий; чудовий, прекрасний

finger ['fINgq] палець

fit [fIt] придатний; відповідний; здатний; готовий; годитися; підходити; припасовувати; постачати

fix [fIks] укріпляти; закріпляти; встановлювати;

flank [flxNk] бік

flexible ['fleksqbl] гнучкий, еластичний

float ['flout] плавати

flow [flou] текти; лити(ся); течія, потік

fluid [fluId] рідина; рідкий, текучий

flux [flAks] течія, потік; постійний рух; витікати; плавити

fold [‘fould] складати; згинати; загортати; складка, згин

follicle ['fOlIkl] фолікул

follow ['fOlqu] дотримуватись, слідувати

food [fu:d] їжа; харч

foot [fut] (pl. feet) нога; ступня

force [fO:s] сила; міць; примушувати; змушувати

forearm ['fLrRm] передпліччя

forecast [fO:’kQ:st] передбачати; завбачати

forehead ['fOrId] лоб

foreign [‘fOrIn] іноземний; чужорідний

forth ['fO:T] вперед, далі

forward [‘fO:wqd] передній, передовий; уперед; далі; прискорювати; сприяти

fovea ['fouvIq] поглиблення, ямка

fracture [‘frxkCq] перелом

fragment ['frxgmqnt] фрагмент

frame [‘freIm] каркас, кістяк, остов; структура, будова; система; споруджувати, будувати

free [fri:] вільний; безплатний; добровільний; визволяти

frequency [‘fri:kwqnsI] частота; частотність

fulfil [ful'fIl] виконувати; здійснювати

full [ful] повний

function [‘fANkSn] функція; призначення; функціонувати, діяти

fundamental ["fAndq’mentl] основний; докорінний

fundus ['fAndqs] дно

fungus [‘fANgqs] (pl. fungi [‘fANgaI]) грибок

fuse [fjuz] об'єднувати (ся), переплітатися

G

gain [geIn] отримувати; здобувати, одержувати; домогтися; збільшення, приріст

gallbladder ['gO:l"blxdq] жовчний міхур

gargle [‘gQ:gl] полоскати (горло); полоскання

gate [geIt] вхід, вихід; ворота

gather [‘gxDq] збирати; скупчуватися

gastric ['gestrIk] шлунковий, що стосується шлунку

general [‘GenqrqI] загальний; звичайний; головний

germ [Gq:m] мікроорганізм

gestation [Ges'telS(q)n] вагітність; період вагітності

get [get] діставати, одержувати; спіймати, схопити

girdle [gWdl] пояс

give [gIv] давати; віддавати; передавати; надавати

gland [glxnd] залоза

glandular ['glxndjulq] гландулярний, залозовий, такий, що стосується залози

globulin ['glObjulIn] глобулін

glomerular [glO'merulq] клубочковий, гломерулярний

glue [glu:] клей; скріплювальна речовина

go [gou] іти; ходити; діяти, працювати (про механізм); ставити, робитися

goal [goul] завдання, мета, ціль

goiter ['gOltq] зоб

gonad ['gOunxd] статева залоза

gout [gaut] подагра

grade [greld] градус; ступінь; ранг, чин; сорт, якість; сортувати

gradual ['grxdjuql] поступовий

graft ['grQ:ft] трансплантат

granule ['grxnjul] гранула

grasp [gra:sp] схоплювати; затискати; затиск, стиск

grind [gralnd] молоти(ся), перемелювати(ся); розтирати (в порошок)

gripe [gralp] стискувати; викликати біль у животі; затиск, стиск

groin [grOln] пах

grow [grou] рости; збільшуватися; вирощувати; ставити

growth [grouT] зростання, ріст; збільшення

growth hormone [grqus 'hO:mqun] гормон росту

gullet ['gAllt] стравохід

gum [gAm] ясна

gynaecologist ["galnl'kOlqGlst] гінеколог

H

habit [‘hxblt] звичка; схильність, склад; будова тіла

hair [hFq] волосся

half [ha:f] половина; половинний

hammer ['hxmq] молоточок

hand [hxnd] кисть

hang [hxN] вішати; підвішувати; висіти

hard [ha:d] твердий; тяжкий; сильно; наполегливо; важко, насилу

harmful ['ha:mful] шкідливий, небезпечний

hasten ['helsn] прискорювати

hazard ['hxzqd] небезпека, джерело небезпеки

head [hed] голова; верхня частина; прямувати; очолювати

headache ['hedelk] головний біль

heal [hl:l] виліковувати, зцілити; загоюватися

health [helT] здоров’я

hear [hlq] чути; слухати, вислуховувати

hearing ['hlqrlN] слух

heart [ha:t] серце

heat [hl:t] теплота; жар, гарячка; нагрівати(ся)

heel [hl:l] п’ятка, п’ята

height [halt] висота; зріст; верх, верхівка, вершина

helminth ['helmlnT] глист, паразитний глист

hemisphere ['hemlsflq] півкуля

hepatic [hl'pxtlk] печінковий

herb [hq:b] трава, рослина

hereditary [hl'redlt(q)rl] спадковий

hernia ['hq:njq] грижа

hide [hald] ховати(ся)

high [hal] високий; заввишки; у висоту; великий
hilum хілус, ворота органу

hip [hlp] стегно

hold [hould] тримати; держати; стримувати; затримувати; володіти; мати; містити; проводити

hollow ['hOlou] порожнистий; пустий; порожнина; западина

homeopathy ["hqumlO'pxsl] гомеопатія

hormone ['hO:mqun] гормон

however [hau'evq] як би не; проте, однак, незважаючи на

huge [hju:G] великий, величезний

human ['hju:mqn] людський; людина

humoral ['hju:m(q)rql] гуморальний (що відносится до рідких тканин організму)

hurt [hq:t] хворіти

hydrochloric ['haldro'klOrlk] соляний, хлористий, хлористоводневий

hydrogen ['haldrlGqn] водень

hyoid ['halOld] під'язиковий

hypertension ['halpq(:)'tenS(q)n] гіпертонія

hypothalamus ["halpo'Txlqmqs] гіпоталамус

I

identify [al'dentlfal] встановлювати

ill [Il] хворий, недужий

illness ['Ilnls] хвороба, захворювання

immature ["Imq'tjuq] cell незріла клітина

immediate [I'mldjqt] негайний

impair [Im'pFq] погіршувати, ослаблювати, знижувати, зменшувати

improve [Im'pru:v] поліпшувати(ся); удосконалювати

inability ["Inq'bllltl] неспроможність; неможливість

inaccuracy [In'xkjurqsl] неточність; помилка

inborn ['In'bO:n] природжений

inch [InC] дюйм (= 2.5 см)

include [In'klu:d] включати; містити

inclusion [In'klHZ(q)n] включення

incompatible ["Inkqm'pxtqbl] несумісний

increase [In'krl:z] збільшувати

incus ['INkqs] ковадло (у внутрішньому вусі)

indicate ['Indlkelt] вказувати; означати

indication ["Indl'kelS(q)n] показання

indigestion ["ɪndɪ'GesC(ɑ)n] порушення травлення

indistinct ["ɪndɪs'tɪNkt] неясний, невиразний

individual ["ɪndɪ'vɪdjuɑl] особистий, індивідуальний; окремий; особа, людина

infant ['ɪnfɑnt] дитина, немовля

infect [ɪn'fekt] заражати

inferior [ɪn'fɪɑrɪɑ] нижчий

inflame [ɪn'fleɪm] запалюватися

influence ['ɪnfluɑns] впливати

influenza ["ɪnflu'enzɑ] грип

influx ['ɪnflʌks] впадіння

ingest [ɪn'Gest] ковтати, проковтнути

inherent [ɪn'hɪɑrɑnt] властивий, притаманний

inherited [ɪn'herɪtɪd] спадковий

inhibit [ɪn'hɪbɪt] пригнічувати, стримувати

inhibition [ɪnhɪ'bɪS(ɑ)n] стримання, гальмування

injection [ɪn'GekS(ɑ)n] ін'єкція

injure ['ɪnGɑ] ушкоджувати, травмувати

injury ['ɪnG(ɑ)rɪ] травма, пошкодження

innermost ['ɪnɑmɑust] той, що знаходиться глибоко усередині; внутрішній

insert [ɪn'sɑ:t] вставляти

inside ['ɪn'saɪd] внутрішня частина; внутрішній; усередині; усередину

intact [ɪn'tʌkt] непошкоджений

integrate ['ɪntɪgreɪt] об'єднувати(ся)

integrity [ɪn'tegrɪtɪ] цільність; повнота,

integumentary [ɪn:tɪgju'mentɑrɪ] покривний

interfere ["ɪntɑ'fɪɑ] заважати, бути перешкодою; перешкоджати; втручатися

interlobular ["ɪntɑlObjulɑ] між частковий, такий, що розміщений між частками чи виникає між ними

internal [ɪn'tɑ:nl] внутрішній

interrupt ["ɪntɑ'rʌpt] переривати; заважати; втручатися

interstitial ["ɪntɑ'stɪSɑl] інтерстиційний, такий, що стосується чи розміщений між частинами або в дрібних проміжках тканини, внутрішньотканинний

intestine [ɪn'testɪn] кишка; кишківник

intracavitary ["ɪ:ntrɑ'kʌvɪtɑrɪ] внутрішньопорожнинний

intrathecal ["ɪ:ntrɑ'Tɑkɑl] внутрішньооболонковий

intravenous ["ɪ:ntrɑ'vɪ:nɑs] внутрішньовенний

intrinsic [ɪn'trɪnsɪk] внутрішній

introduce ["ɪntrɑ'dju:s] вводити

invade [ɪn'veɪd] уражати, захоплювати

invention [ɪn'venS(ɑ)n] винахід

inward ['ɪnwɑd] всередину

ion ['aɪɑn] іон

iris ['aɪɑrɪs] райдужка

irritability ["ɪrɪtɑ'bɪlɪtɪ] роздратованість

ischemia [ɪs'kɪ:mɪq] ішемія

islet ['aɪlɪt] острівець

isolate [‘aɪsqleɪt] ізолювати; відокремлювати

itch ['ɪC] свербіж; свербіти

J

jaw [GO:] щелепа; *pl* рот

jejune [GI’Gu:nqm] худий

join [GOIn] з’єднувати(ся), приєднувати(ся), об’єднувати(ся); межувати; зв’язок, з’єднання

joint [GOInt] суглоб; з’єднання; стик; з’єднувати; зв’язувати; з’єднаний; спільний

juice [Gu:s] сік

junction [‘GANkSn] з’єднання; сполучення; стик

just [GAst] саме (так), точно, якраз; щойно, тільки що

K

keep [kI:p] тримати; зберігати; утримуватися (в певному стані); продовжувати

keratin ['kerqtIn] кератин, рогова речовина

kidney ['kIdnI] нирка

kidney disorder ['kIdnI: dI'sLdq] захворювання нирок

kind [kaInd] сорт, різновид; клас, розряд

knee [nI:] коліно

know [nou] знати; пізнавати; відрізняти

knowledge ['nOlIdZ] знание

L

labial [‘leIbjqI] губний

labyrinth ['lxbIrInT] лабіринт

lack [lxk] нестача, відсутність, брак; потреба; не мати; відчувати нестачу, потребувати, мати потребу

lacrimal gland ['lxkrImqI] сльозова залоза

Langerhans islet ['la:Ngqha:ns 'aIlIt] панкреатичний острівець, острівець Лангерганса

lamina ['lxmInq] тонка пластинка, тонкий шар

larynx ['lxrINks] гортань

last [lRst] тривати

laxative ['lxksqtIv] проносне (засіб)

lead [lI:d] вести, проводити; керувати

leak [lI:k] протікати; просочуватися; теча; витік

leg [leg] гомілка; нога

lens [lenz] кришталик ока

lesion ['lI:Zqn] ураження

leukocyte (leucocyte) ['lju:kqusaIt] лейкоцит

level ['levl] рівень

lie [laI] лежати; бути розташованим, перебувати; положення

life-threatening ['TretnIN] що загрожує життю

ligament ['lIgqmqnt] зв'язка

likelihood ['laɪklɪhud] вірогідність

limb [lɪm] кінцівка

line [laɪn] вистилати

lining ['laɪnɪN] слизова оболонка; прошарок

link [lɪNk] з'єднувати, зв'язувати

linking ['lɪNkɪN] зв'язок

lip [lɪp] губа

lipid ['lɪpɪd ('lɪpaɪd)] ліпід

liquid ['ʻlɪkwɪd] рідина; рідкий

liver ['lɪvq] печінка

lobe ['lqub] частка

lose [lOs] втрачати; губити; пропустити; упустити

lozenge ['lOzɪnG] таблетка

lung [lAN] легеня

M

main [meɪn] головний; основне, головне

maintain [meɪn'teɪn] підтримувати, утримувати, зберігати

maintenance ['meɪntqnqns] підтримка, збереження

major ['meɪGq] головний

majority [mq'dZOrɪtɪ] більшість

make [meɪk] **(**made; made**)** робити; змушувати

malaria [mq'lFqrɪq] малярія

male [meɪl] чоловік

malignant [mq'lɪgnqnt] злоякісний

malleus ['mxlɪqs] молоточок (вушна кісточка)

margin ['ʻma:Gɪn] край; грань

mark [ma:k] знак; слід; позначка; відзначати; помічати

markedly ['ma:ktlɪ] помітно; явно

masseter [mx'sɪ:tq] жувальний

match [mxC] підходити, відповідати

matrix ['meɪtrɪks] матрикс, міжклітинний матеріал; основна речовина цитоплазми

mature [mq'tjuq] дозрівати, розвиватися

mean [mɪ:n] означати; призначати(ся); мати намір; думати

measure ['ʻmeZq] міра; мірка; міряти, вимірювати

medial ['mɪ:djql] медіальний, серединний

mediastinum ["mɪ:dɪqs'taɪnqm] середостіння

medicinal [me'dɪsɪnl] лікарський; цілющий

medicine ['medsɪn; 'medɪsɪn] медицина; ліки

medulla oblongata [me'dAlq "OblON'geɪtq] довгастий мозок

measles ['mɪ:zlz] кір

measure ['meZq] вимірювати

meninx (pl. meninges) ['menɪNks] мозкова оболонка

mental [‘mentl] розумовий; психічний

mercury ['mq:kjurl] ртуть

microbe [‘ma1kroub] мікроб

microscope [‘ma1krqskoup] мікроскоп

midbrain ['m1dbre1n] середній мозок

middle [m1dl] середина; середній

mild [ma1ld] м’який; слабкий

mind [ma1nd] розум; пам’ять; думка; погляд; мати на увазі; пам’ятати

minor ['ma1nq] незначний, другорядний; менший

minute [ma1'nju:t] неістотний, незначний; дрібний; крихітний

mix [m1ks] змішувати, перемішувати

modify ['mOd1fa1] зм'якшувати; ослаблювати

moisten [mO1sn] зволожувати

moisture ['mO1sCq] волога

mold [mquld] пліснява; пліснявий грибок

molecule ['mOl1:kjul] молекула

mortality [mO:'txl1tl] смертність

morbidity [mO:'b1:d1tl] захворюваність

motion [‘mouSn] рух

mouth [mauT] рот; вхід

move [muv] рухати(ся)

mumps [mAmps] інфекційний паротит

muscular ['mAskjulq] м’язовий

murmur ['mq:mq] шум (серцевого або судинного походження)

N

nail [ne1l] ніготь

narrow ['nxrqu] звужувати(ся); вузький; обмежений

nausea ['nOsjq] нудота

nearby ['n1qba1] близький, суміжний

neck [nek] шия

need [n1:d] потреба; нужда; потребувати; мати потребу

needle [n1:dl] голка

neighbour [‘ne1bq] сусід; межувати

nerve [nq:v] нерв

nervous ['nq:vqs] нервовий

network [‘netwq:k] сітка, мережа

neural [‘njuqrql] нервовий; що стосується нервової системи

neuron ['njuqrqn] нейрон

nevertheless ["neveD(q)'lqs] проте, одначе, однак

norepinephrine ['nourepl'nefr1n] норепінефрин, норадреналін

nose [nouz] ніс

note [nout] записувати; помічати, звертати увагу; примітка, посилання

notice ['nqutIs] відзначати, помічати

noticeable ['nqutIsqbl] примітний

notify ['nqutIfaI] сповіщати, повідомляти

nourish ['nArIS] живити; годувати

nourishment ['nArISmqnt] годування, харчування; підтримка

nucleus (pl. nuclei) ['njHklIqs] ядро (клітини)

numbness ['nAmnIs] нечутливість, оніміння

nurse [nq:s] медична сестра

nutrient ['nju:trIqnt] поживний; поживна речовина

O

obesity [qu'bI:sItI] ожиріння

object ['ɔbGIkt] предмет, річ; об'єкт; мета

oblique [q'bII:k] косий, похилий

obscure [qb'skjuq] неясний

observation ["ɔbzq(:)'veIS(q)n] обстеження, нагляд; спостереження

Obstetrics [ɔb'stetrIks] акушерство

obstruct [qb'strAkt] блокувати, ускладнювати прохідність

obtain [qb'teIn] отримувати; одержувати; здобувати; домагатися

obvious ['ɔbvIqs] очевидний; явний

occipito-frontal [ɔ'ksIpItO'frAntqI] потилично-лобовий

occupy ['ɔkjupaI]займати (місце і т. ін.)

occur [q'kq:] виникати, відбуватися; траплятися

occurrence [q'kAr(q)ns] наявність

offer ['ɔfq] пропонувати; траплятися; пропозиція; спроба

ointment ['ɔIntmqnt] мазь

opposite ['ɔpqzIt] протилежний; протилежність; проти, напроти

orbicular [ɔ:'bIkjulq] круговий, коловий

orbit ['ɔ:bIt] очна западина

order ['ɔ:dq] замовляти; приводити до ладу; призначати; порядок; наказ, розпорядження; замовлення

ordinary ['ɔ:dnrI] звичайний

organ ['ɔ:gqn] орган

organic [ɔ:'gxnIk] органічний

origin ['ɔrIGIn] джерело; початок; походження

originate [q'rIGIneIt] брати початок, походити, виникати

ossicle ['ɔ:sIkl] кісточка

otherwise ['ADqwaIz] інакше; або ж, у протилежному разі

ounce [auns] унція (= 28.3 г)

outbreak [autbreIk] спалах; раптова поява, початок

outburst ['autbq:st] вибух, спалах

outcome ['autkAm] наслідок

outlook ['autluk] вид; точка зору; перспектива

out-patient department ["aut'peISnt] амбулаторне відділення

output ['autput] об'єм; викид, вихід

ovary ['quvqrl] яєчник

over ['ouvq] над, на, через; понад, більше

overwhelm ["quvq'welm] перевищувати; вражати

oxygen ['OksIG(q)n] кисень

P

pad [pxd]подушечка; м'яка прокладка

pain [peIn] біль

palate ['pxlIt] піднебіння

pale [peIl] блідий; бліднути

palm [pa:m] долоня

palpation [pxl'peIS(q)n] пальпація

pancreas ['pxNkrIqs] підшлункова залоза

pandemic [pxn'demIk] пандемічний

papilla [pq'pIlq] (pl. papillae) сосочок

parasite ['pxrqsQIt] паразит

parathyroid (gland) ["pxrq'TaIrO:Id] прищитоподібна залоза

parietal [pe'raIItl] парієтальний, пристінковий; тім'яний

parotid [pq'rOtId] привушний

part [pa:t] частина; частка; сторона

partial ['pa:Sql] частковий

participate [pa'tIsIpeIt] брати участь

particular [pq'tIkjulq] окремий; особливий

pass [pAs] проходити; здавати

passage ['pxsIG] прохід, протока

passageway ['pxsIGweI] прохід

patient ['peIS(q)nt] паціент

pattern ['pxtqn] зразок, модель

pectoral ['pektqrql] грудний

peculiarity [pI"kju:lI'xrItI] особливість

pediatrician ["pI:dIq'trIS(q)n] педіатр

pelvic ['pelvIk] тазовий

pelvis [pelvIs] таз

penetrate ['penItreIt] проникати всередину, проходити скрізь, пронизувати; просочувати(ся)

perceive [pq'sI:v] сприймати, розуміти

per cent [pq'sent] процент, відсоток

percentage [pq'sentIG] процентне відношення

percussion [pq'kAS(q)n] вистукування, перкусія

perform [pq'fO:m] виконувати; здійснювати

persist [pq'sIst] утримуватись, зберігатися

peritoneal ["perItqu'nI:ql] очеревинний

peritoneum ["perItqu'nI:qm] очеревина

permeability ["pq:mjq'blltl] проникність

permeable ['pq:mjebl] проникний, прохідний, негерметичний

persist [pq'slst] зберігати, утримувати; продовжувати

pharmacist ['fa:mqslst] фармацевт

pharmacy ['fQ:mqsl] аптека

pharmaceutical [famq'sju:tlkql] фармацевтичний

phlegm [flem] мокротиння, мокрота, слиз

physician [fl'zlS(q)n] лікар

pia mater ['paIq 'melIq] м'яка мозкова оболонка

pineal gland ['plnlql] шишкоподібна залоза

pinna ['plnq] вушна раковина

pint [paint] пінта (0,568 л)

pituitary gland [pl'tju(:)lt(q)rl] гіпофіз

plague [plelg] чума

plasma ['plxzmq] плазма

platelet ['pleltlqt] тромбоцит, кров'яна пластинка

plaque [pla:k] бляшка

plexus ['pleksqs] сплетіння

pleura ['pluqrq] плевра

pneumonia [nju'mounjq] пневмонія

pons [pOnz] міст

porta ['pO:tq] ворота органа

portion ['pO:Sn] частина; частка; доля

possess [pq'zes] мати, володіти

posterior [pOs'tlqrlq] задній

posture ['pOsCq] постава

potassium [pq'txsjqm] калій

powder ['paudq] порошок

practitioner [prxk'tlSnq] практикуючий лікар

pressure ['preSq] тиск

pregnancy ['pregnqnsl] вагітність

pregnant ['pregnqnt] вагітна

preliminary [prl'llmlnqrl] попередній

premature ["premq'tjuq] передчасний

prepare [prl'pFq] готувати(ся), підготовлювати(ся)

prescribe [prls'kralb] призначати; прописувати; приписувати

preserve [prl'zq:v] зберігати

pressure ['preSq] тиск

prevalence ['prevlqns] поширення

prevent [prlvent] запобігати; перешкоджати

prevention [prl'venSn] запобігання

previous ['prl:vjqs] попередній; передчасний

primarily ['praɪmərɪlɪ] здебільшого, головним чином

primary [‘praɪmərɪ] первинний; початковий; основний

principal [‘prɪnsəpl] головний, основний

private ['praɪvɪt] приватний

procedure [prə'sɪGə] процедура

proceed [prɪ'si:d] розвиватися

process ['prəusəs] відросток, виріст; процес; обробляти; переробляти

processed ['prəusest] оброблений, перероблений

produce [prə’dju:s] виробляти; створювати

prohibit [prə’hɪbɪt] забороняти

project [prə'Gekt] проектувати

prolong [prə’lON] продовжувати

promote [prə'məut] сприяти, допомагати, підтримувати

propel [prə’pel] просувати вперед; приводити в рух

proper ['prOpə] належний, необхідний; відповідний; власний; правильний

properly ['prOpelɪ] відповідним чином, відповідно

prophylactic [prOfɪ'lxktɪk] профілактичний

protect [prə'tekt] захищати; охороняти; оберігати

protein ['prəutɪ:n] білок, протеїн

protuberance [prə’tju:brəns] опуклість; пухлина

prove [pru:v] доводити; засвідчувати; виявлятися

provide [prə'vaɪd] забезпечувати

psychiatric ["saɪkɪ'xtrɪk] психіатричний

puffy [‘pʌfɪ] одутлий; що має задишку

pull [pul] притягувати, втягувати; тягти; натягувати; смикати; витягувати; розтягувати; розривати

pulse [pʌls] пульс

pump [pʌmp] нагнітати

puncture [‘pʌNkCə] укол; пункція

pupil ['pju:pl] зіниця

pure [‘pjuə] чистий; бездоганний

purpose [‘pə:pəs] намір; мета; мати за мету; мати намір

purulent ['pjuərulənt] гнійний

pus [pʌs] гній

push [puS] проштовхувати, штовхати; поштовх; тиск, напір; зусилля; спонукання

put [put] покласти, класти; поставити, ставити; приводити (в певний стан); визначати

pyloric [paɪ'lOrɪk] пілоричний

Q

quality [‘kwOlɪtɪ] якість; характерна особливість

quantity [‘kwOntɪtɪ] кількість

quarantine ['kwOr(ə)ntɪ:n] карантин

quick [kwɪk] швидкий; жвавий

quinsy ['kwɪnzɪ] ангіна

R

raise [relz] підвищувати; піднімати

range [relnG] коливатися (в певних межах); ряд; лінія; сфера; коло; межа; діапазон

rare [‘rFq] рідкісний; незвичайний

rash [rxS] висип

rate [relt] норма; темп; розряд, сорт; швидкість; частота; відношення; оцінювати

rather ['rRDq] досить; дещо; до деякої міри; краще

ratio [‘relSou] (спів)відношення

rawness ['rO:nls] хворобливість

reach [rl:C] досягати; простягатися; доходити; діапазон; різноманітність

react [rl:’xkt] реагувати

reason [‘rl:zn] причина; підстава; міркувати; переконувати

receipt [rl’sl:t] рецепт

receive [rl'sl:v] отримувати; знаходити; приймати, акумулювати, вміщувати, збирати

recognition [‘rekqg’nlSn] (роз)пізнання; визнання

record [rl'kO:d] реєструвати

recover [rl'kAvq] відновлювати, видужувати

recovery [rl'kAvqri] видужання, одужання

recur [rlkq:] повторюватися, відбуватися знову, рецидивувати

reduce [rl'dju:s] послаблювати, знижувати, скорочувати, зменшувати

refer [rl'fq:] відносити, приписувати; належати; стосуватися; посилатися

reflect [rl’flekt] відображати, відбивати

reflux ['rl:flAks] відтікання, відплив, рефлюкс

refract [rl'frxkt] заломлювати

regenerate [rl’Genqrelt] відроджуватися

regime [rel’Zl:m] режим

relapse [rl’lxps] рецидив; знову захворіти

relay [rl'lel] передавати

release [rl'll:s] виділяти, випускати; звільняти; звільнення

relief [rl’ll:f] полегшення; допомога

relieve [rl’ll:v] полегшувати; звільняти

renal [rl:'n(q)l] нирковий

remain [rl'meln] залишатися, перебувати, знаходитися

remedy ['remldl] ліки

remind [rl’malnd] нагадувати

removal [rl'mu:v(q)l] видалення; усунення

remove [rl'mu:v] видаляти; усувати

renal [rl:'n(q)l] нирковий

repair [rl'pFq] відновлення, регенерація

replace [rl'plels] заміщати

replenish [rl'plenlS] поповнювати(ся), оновлювати

represent ["reprl'zent] означати; символізувати, зображувати; являти (собою), бути

request [rɪ'kwest] прохання; запит; просити; запитувати

require [rɪ'kwaɪq] вимагати

research [rɪ'sɜ:C] (наукове) дослідження; ретельні пошуки

resemble [rɪ'zɑmbl] бути схожим, подібним, походити, мати схожість

respect [rɪs'pekt] відношення; повага; поважати

respective [rɪs'pektɪv] відповідний

respiration [respɑ'reɪS(ɑ)n] дихання

respiratory [rɪs'paɪrɑtɑrɪ] дихальний

respond [rɪs'pOnd] реагувати; відповідати

resist [rɪ'zɪst] чинити опір; протидіяти

rest [rest] решта

restraint [rɪs'treɪnt] обмеження; стримувати; утримувати

result [rɪ'sAlt] випливати; виходити; результат

result in [rɪ'sAlt] мати результатом; призводити до; закінчуватися

result from [rɪ'sAlt] відбуватися в результаті, бути наслідком

retain [rɪ'teɪn] утримувати; зберігати

retard [rɪ'tɑ:d] уповільнювати; затримувати

retina ['retɪnɑ] сітківка, сітчаста оболонка

retraction [rɪ'trxkSn] стягування, скорочення; утягування

return [rɪ'tɑ:n] вертатися, йти назад

reveal [rɪ'vɪ:l] показувати, виявляти; відкривати

rib [rɪb] ребро

rib cage ['rɪb 'keɪG] грудна клітка

rigid ['rɪGɪd] жорсткий, твердий, негнучкий

rigidity [rɪ'GItI] задубіння, ригідність

rinse [rɪns] полоскати; полоскання

rough [rAf] нерівний; шершавий; грубий; приблизний

route [ru:t] шлях, напрям

row [rou] ряд

rubella [ru:'belɑ] краснуха

rudiment ['rU:dɪmɑnt] рудимент, зачаток

runny nose ['rAnɪ 'nɑuz] нежить

S

sac [sxk] мішечок, мішок

safe [seɪf] захищений; безпечний; неушкоджений

saliva [sɑ'laɪvɑ] слина

salivary gland ['sxlɪvɑrɪ 'glxnd] слинна залоза

salve [sRv] цілюща мазь

same [seɪm] той самий, однаковий

sample [sa:mpl] мазок

save [seɪv] рятувати; берегти

scar [skɑ:] шрам, рубець; залишати рубці, шрами; зарубцьовуватися

scarlet fever ['skɑ:lɪt 'fi:vq] скарлатина

scientist ['saɪqntɪst] учений

sclera ['sklɪrq] склера, білкова оболонка ока

scapula ['skxpjulq] лопатка

segment ['segment] ділянка, сектор

sedative [‘sedqtɪv] заспокійливий засіб; заспокійливий

seem [sɪ:m] здаватися

segment [‘segmqnt] частина; частка; сегмент

seizure ['sɪ:Zq] напад, епілепсія

seldom [‘seldqm] рідко

select [sɪ’lekt] вибирати, відбирати, добирати

senior ['sɪ:njq] старший; старшокурсник

sense [sens] чуття; почуття; відчуття; свідомість; здоровий розум; почувати, відчувати; розуміти

sensitive ['sensɪtɪv] чутливий; уразливий

separate ['seprɪt] окремий; ізольований; ['sepqreɪt] відділяти(ся), розділяти(ся); роз’єднувати; розкладати

serum ['sɪqrqm] сироватка

serve [sq:v] служити; виконувати; сприяти

service [‘sq:vɪs] служба; сфера діяльності; обслуговування, сервіс; послуга

set [set] ставити, класти; розміщувати; визначати, установлювати; ставити; подавати; стискувати, зціплювати; приводити в певний стан; вправляти (суглоб, кістку)

severe [sɪ'vɪq] тяжкий, серйозний

severity [sɪ'verɪtɪ] тяжкість

sex [seks] стать

shape [SeIp] форма, обрис; вигляд; образ; надавати форми; утворювати, робити

sharp [Sa:p] гострий, різкий

sheath [SI:T] оболонка

shortage ['SO:tIG] нестача, недолік; дефіцит

shoulder ['Squldq] плече; плечовий суглоб

sick [sɪk] хворий; що почуває нудоту

sight [saɪt] зір

sign [saɪn] ознака, прикмета

significance [sɪg’nɪfɪkqns] значення; важливість

similar [‘sɪmɪlq] схожий, подібний

simultaneously [ˌsɪm(q)l'teɪnjqsɪlɪ] разом, одночасно, спільно

since [sɪns] з, після

skilled [skɪld] кваліфікований

skin [skin] шкіра

sleep [slI:p] сон

smell [smel] запах; нюх; відчувати запах; нюхати

smooth [smu:D] гладенький, рівний

soak [squk] просякнути; вимочувати; поглинати(ся)

sodium ['squdjqm] натрій

solid ['sOlId] твердий

soluble ['sOljubl] розчинний

solute ['sOlju:t] розчинена речовина

solution [sq'lu:Sn] розчин

solvent ['sOlv(q)nt] розчинник

soreness ['sO:nls] біль, болісність

sore throat ['sO: 'Trqut] хворе горло

sound [saund] звук; шум; міцний; здоровий

spastic ['spxstlk] спастичний, спазматичний

spasticity ["spqs'tlsltl] спастика, спастичність

specialize ['speSqlalz] адаптуватися, пристосовуватися

sphincter ['sflNktq] сфінктер

spinal ['spalnl] спинний

spinal cord ['spalnl 'kO:d] спинний мозок

spine [spaln] хребет

spleen [spll:n] селезінка

spongy bone ['spAnGl] губчаста кісткова речовина

spot [spOt] пляма; ділянка ураження; місце

sprain [spraln] розтягнення зв'язок; розтягувати зв'язки

spread [spred] поширювати(ся); простягатися, розкинутися; поширення

sputum ['spju:tqm] мокротиння

squamous ['skwelmqs] сквамозний, покритий лусочками

stapes ['stelpl:z] стремінце

stature ['stxCq] зріст; статура

steady ['‘stedl] стійкий; міцний; постійний, сталий; рівномірний

sterilizing drum ['sterllalzlN 'drAm] стерилізаційний бікс

sticky ['‘stlkl] липкий

stiffness ['stlfnls] нерухливість; жорсткість

stirrup ['stlrqp] стремінце (слухова кісточка середнього вуха)

stomach ['stAmqk] шлунок

storage ['stO:riG] накопичення; акумулювання; зберігання

store [stO:] берегти, зберігати; запас

strain [strel n] штам

strand [strxnd] ланцюг, нитка; молекулярний ланцюжок

strengthen ['streNT(q)n] зміцнювати

streptococcus (pl. streptococci**)** ["streptqu'kOkqs] стрептокок

striated [stral'eltld] посмугований

strike [stralk] вдаряти(ся)

stroke [strouk] інсульт, порушення мозкового кровообігу

stuffy ['stAfl] утруднюючий дихання, закладений

subcutaneous ['sAbkju:'telnjqs] підшкірний

subdivision [sAbdl'vlG(q)n] послідовне ділення

subject ['sAbGlkt] предмет

sublingual [sʌb'lɪNgw(ɑ)l] під'язиковий

successfully [s(ɑ)k'sesfʊlɪ] удачно

sudden [sʌdn] раптовий

suffer (from) ['sʌfɑ] хворіти, страждати

suggest [sɑ'ʤest] пропонувати; наводити на думку; натякати

suitable ['sju:tɑbl] підхожий, придатний, відповідний

superficial [ˌsjuːpɑ'fɪʃl] зовнішній; поверховий, неглибокий

superior [sju'pɪɑrɪɑ] верхній, розташований вище

support [sɑ'pO:t] підтримувати

suppository [sɑ'pOzɪt(ɑ)rɪ] супозиторій

suppress [sɑ'pres] припиняти; стримувати

surface ['sɑ:fɪs] поверхня

surgeon ['sWG(ɑ)n] хірург

surgery ['sɑ:ʤerɪ] хірургія; хірургічне втручання

surround [sɑ'raʊnd] оточувати

survive [sɑ'vaɪv] вижити; пережити

suspect [sɑs'pekt] підозрювати, робити припущення; вважати

susceptible [sɑ'septɑbl] сприйнятливий, вразливий

susceptibility [sɑˌsepтɑ'bɪlɪtɪ] схильність; сприйнятливість, чутливість

suspect [sɑs'pekt] підозрювати

suspend [sɑs'pend] висіти, плавати; підвішувати, схилятися; удержуватися, утримуватися

suture ['sju:Cɑ] шов

sweat [swet] потовиділення; піт; пітніти

swallow ['swOlou] ковтати

swell [swel] опуклість; пухлина; збільшуватися; пухнути

swollen ['swɑʊlɑn] запалений; припухлий

syllabus ['sɪlɑbɑs] програма

synapse ['saɪnxps] синапс

syringe ['sɪrɪnG] шприц

systole ['sɪstɑlɪ] систола

T

take [teɪk] брати, взяти; оволодівати; споживати, приймати (їжу тощо)

target ['ta:gɪt] мішень

taste ['teɪst] смак; проба; пробувати на смак

tear [tFɑ] сльоза

temple [templ] скроня

temporal ['temp(ɑ)r(ɑ)l] скроневий

tendon ['tendɑn] сухожилля

term [tɑ:m] період, строк, термін; семестр; термін, слово

testicle ['testɪkl] яєчко

thalamus ['Txlɑmɑs] таламус

therapeutist (therapist) ['Terɑ'pjutist] терапевт

therapy ['Terqpl] терапія

thereby [‘DFq’bal] за допомогою цього; таким чином; у зв’язку з цим; поблизу

therefore [‘DFqfO:] тому, отже

thick [Tlk] товстий; густий

thigh [TQl] стегно (частина нижньої кінцівки)

thin [Tln] тонкий; рідкий, розріджений; робитися тонким, тоншати

thirst [Tq:st] спрага

thoracic [TO:'rxslk] грудинний

thorax ['TLrxks] грудна клітина

though [Dou] все-таки, однак, проте; хоч, хоча

threat [Tret] погроза, загроза

throat ['Trqut] горло

thrombocyte ['TrOmbousalt] тромбоцит

through [Tru:] через, крізь

throughout [Tru:’aut] у всіх відношеннях; усюди

thumb [TAm] великий палець (руки)

thymus gland ['TQlmqs 'glxnd] тимус, загруднинна залоза, тимус

thyroid (gland) ['TalrO:ld] щитоподібна залоза

tiny ['talnl] дуже маленький, крихітний

tissue ['tlsju; 'tlSu:] тканина

toe [tou] палець на нозі

tongue [tAN] язик

tonsil ['tOnsl] мигдальовидна залоза

top [tOp] верхівка; вершина; вищий ступінь; верхній

tough [tAf] щільний

trace [trels] слідкувати

trachea [trq'klq; 'trelklq] трахея

transfusion [trxns'fjuZ(q)n] переливання

transparent [trxns'pFqr(q)nt] прозорий

treat [trl:t] лікувати; обробляти, піддавати дії

treatment ['trltmqnt] лікування; обробка

tremor ['tremq] тремтіння, тремор

trial ['tral(q)l] випробування, дослід

trouble [trAbl] турбувати

trunk [trANk] тулуб

tube [tju:b] труба

Eustachian tube [ju:s'telSjqn] євстахієва труба

tuberculosis [tju(:)bWkju'lqusls] туберкульоз

tubule ['tju:bul] судина, канадець

tuft [tAft] пучок

tumor ['tjumq] неоплазма, новоутворення; пухлина

tunic [‘tjunlk] покриття; оболонка

tunica [ˈtjunɪkq] оболонка

tunica adventitia [ˈtjunɪkq ˌxdvenˈtɪSɪq] адвентиціальна оболонка

tunica intima [ˈtjunɪkq ˈɪntɪmq] внутрішня оболонка

typhus [ˈtaɪfqs] висипний тиф

typical [ˈtɪpɪkq(ɪ] типовий

U

ulcer [ˈʌlsq] язва

underlying [ˌʌndqˈlaɪɪN] лежачий, розташований

unevenly [ʌnˈɪːv(q)nlɪ] нерівно, нерівномірно

upset [ʌpˈset] порушення, розлад

urea [ˈjuqrɪq] сечовина

ureter [juqˈrɪtq] сечовід

urethra [juqˈrɪːTrq] уретра, сечівник

urinary [ˈjurɪnqrɪ] сечовий

urinary bladder [ˈjurɪnqrɪ ˈblxdq] сечовий міхур

urination [ˌjuqrɪˈneɪS(q)n] сечовипускання

urine [ˈjuqrɪn] сеча

utilize [ˈjuːtɪlaɪz] використовувати, вживати

V

vary [ˈvFqrɪ] відрізнятись, змінювати(ся)

vault [vOːlt] склепіння

vein [veɪn] вена

ventricular [venˈtrɪkjulq] шлуночковий, відносящийся до шлуночку, вентрікулярный

vernix [ˈvqːnɪks] сировидна змазка, першородна змазка

vessel [ˈvesl] судина

via [ˈvaɪq] через, крізь

villus (pl. villi) [ˈvɪlqs] ворсинка

virus [ˈvaɪrqs] вірус, збудник захворювання

viscera [ˈvɪsqrq] внутрішні органи

visceral [ˈvɪsqr(q)l] вісцеральний, внутрішній

vitamin [ˈvɪtqmɪn; ˈvaɪtqmɪn] вітамін

volume [ˈvOljum] обсяг, об’єм

voluntary [ˈvOlqnt(q)rɪ] довільний

vomiting [ˈvOmɪtɪN] блювання

vulnerable [ˈvʌlnqrqbl] уразливий

W

ward [wOːd] палата

warning [ˈwOːnɪN] попередження; застереження

waste [weɪst] непотрібний, зайвий, непридатний, некорисний

watch [wOC] спостереження; спостерігати; стежити

wave [weɪv] хвиля; хвилястість; колихатися

wax [wxks] сіра

way [wel] дорога; шлях; засіб; відстань; характерна риса

weakness ['wl:knls] слабкість

weight [welt] вага

wet [wet] мокрий, вологий; зволожувати

whooping cough ['hu:plN 'kOf] кашлюк

wink [wlNk] моргання; кліпання; моргати; кліпати

wipe [walp] витирати; утирати

within [wl'Dln] в, у межах, всередині; протягом

wound [wu:nd] рана

wrinkle ['rlNkl] зморшка; морщити(ся)

wrist [rlst] зап'ясток

X

X-ray ['eks'rel] рентген; рентгенівське випромінювання

Y

yawn ['jO:n] позіхати; позіхання

yeast [jl:st] дріжджі

yellow ['jelou] жовтий

yolk [jouk] жовток

Z

zinc [ziNk] цинк

zone [zoun] зона, пояс; смуга; район; поділяти на зони; оточувати

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