

**МІНІСТЕРСТВО ОХОРОНИ ЗДОРОВ'Я УКРАЇНИ**  
**ОДЕСЬКИЙ НАЦІОНАЛЬНИЙ МЕДИЧНИЙ УНІВЕРСИТЕТ**

Міжнародний факультет

Кафедра філософії, біоетики та іноземних мов

**ЗАТВЕРДЖУЮ**

Проректор з науково-педагогічної роботи

Едуард Бурячківський

02 вересня 2024р.



**МЕТОДИЧНА РОЗРОБКА ДО ПРАКТИЧНИХ ЗАНЯТЬ З НАВЧАЛЬНОЇ ДИСЦИПЛІНИ**

**Рівень вищої освіти:** другий (магістерський)

**Галузь знань:** 22 «Охорона здоров'я»

**Спеціальність:** 226 «Фармація, промислова фармація»

**Освітньо-професійна програма:** Фармація, промислова фармація

Одеса – 2024

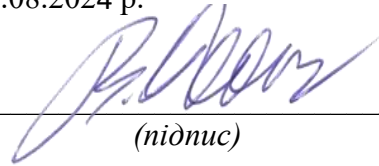
**Затверджено:**

Засіданням кафедри філософії, біоетики та іноземних мов.

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## Практичне заняття № 1

**Тема: Вища медична освіта в Україні**

**Мета:** ознайомити здобувачів вищої освіти з вищою медичною освітою в Україні. Поглибити наративні навички на основі опису навчання у медичному вузі. Вивчити лексичний матеріал даної теми і вміти оперувати цією лексикою. Описувати види роботи вищого медичного навчального закладу.

**Основні поняття:** студент-медик; медичний університет; ОНМедУ; психіатрія; фармакологія; педіатрія; неврологія; акушерство; гінекологія; анестезія; хірургія  
**Обладнання:** методрозробка заняття, навчальний посібник, ноутбук.

### План:

- 1. Організаційні заходи** (привітання, перевірка присутніх, повідомлення теми, мети заняття, мотивація здобувачів вищої освіти щодо вивчення теми).
- 2. Контроль опорного рівня знань.**  
What educational institutions train future doctors and pharmacists?  
Who is a medical university headed by?  
How long does the training course at the medical university last?
- 3. Формування професійних вмінь, навичок:**

**Exercise 1. Match the vocabulary related to higher medical education in Ukraine with their meanings:**

- 1. Accreditation**
  - 2. Curriculum**
  - 3. Entrance exam**
  - 4. Diploma**
  - 5. Scholarship**
- a. A test taken by prospective students to gain admission to a university or college.
  - b. A document awarded by an educational institution certifying the successful completion of a course or program.
  - c. A structured set of courses and academic content offered by an educational institution.
  - d. Official recognition of an educational institution's quality and standards.
  - e. Financial aid awarded to students to support their education.

**Exercise 2. Form nouns from the given verbs:**

- 1. Enroll** - \_\_\_\_\_
- 2. Educate** - \_\_\_\_\_
- 3. Graduate** - \_\_\_\_\_
- 4. Accredited** - \_\_\_\_\_
- 5. Apply** - \_\_\_\_\_

**Exercise 3. Indicate whether the following statements are true or false:**

1. Medical education in Ukraine is primarily conducted in English.
2. Ukrainian medical universities do not require entrance exams for admission.
3. Accreditation ensures that Ukrainian medical universities meet quality standards.
4. International students do not have access to scholarships for studying in Ukraine.
5. The curriculum at Ukrainian medical universities focuses solely on theoretical knowledge.

**Exercise 4. Match the terms with their definitions:**

1. Practicum
2. Residency
3. Elective
4. Thesis
5. Practitioner

**Definitions:**

- a. A period of supervised practical training in a medical setting.
- b. A research project required for completion of a degree program.
- c. A medical professional who provides direct patient care.
- d. A period of specialized training in a medical specialty.
- e. An optional course or rotation chosen by a student.

**Exercise 5. Rewrite the sentences using the words provided, without changing the meaning:**

1. Ukrainian medical universities provide high-quality education. (quality)
2. Students must pass an entrance exam to enroll in a medical program. (required)
3. Accreditation ensures that educational standards are met. (meets)
4. International students apply for scholarships to support their studies. (financial)
5. The curriculum includes both theory and practical training. (comprises)

**Exercise 6. Correct the tense errors in the following sentences:**

1. He studies medicine in Ukraine for the past two years.
2. I go to the lecture if I have time tomorrow.
3. She was going to the conference next month.
4. They have finished their exams last week.
5. By the time she graduates, she will be studying medicine for seven years.
6. She will studies pharmacology at a Ukrainian medical university.
7. They have complete their internships at hospitals in Ukraine.
8. By next year, he will has graduated from medical school.
9. The professor teaching anatomy to the first-year students.
10. I has applied for the scholarship before the deadline.

**Exercise 7. Fill in the gaps with the following words:**

**Ribosomal, Fever, Committed, Antibiotic, Culture, Current, Action, Work, Resistance,**

A 22-year-old student from Ukraine aspiring to pursue a career in medicine is admitted to a prestigious medical university. His primary reason for admission is his passion for (1) \_\_\_\_\_ science and his (2) \_\_\_\_\_ interest in pharmacology. Throughout his academic journey, he experiences occasional moments of (3) \_\_\_\_\_ about his chosen path but remains (4) \_\_\_\_\_ to achieve his goals. During his first semester, he develops a mild fever and a persistent cough, which prompts him to visit the university clinic. His (5) \_\_\_\_\_ reveals the presence of a bacterial infection, and he is prescribed an (6) \_\_\_\_\_ to combat the illness. Despite feeling susceptible to the effects of the infection, he continues to attend classes and actively participates in laboratory (7) \_\_\_\_\_. As his education progresses, he learns about the importance of antibiotic stewardship and the growing concern of antibiotic (8) \_\_\_\_\_. Through his studies, he gains a deeper understanding of the (9) \_\_\_\_\_ mechanisms of antibiotics and their impact on bacterial populations.

#### **4. Підбиття підсумків.**

#### **5. Список рекомендованої літератури**

##### **Основна**

1. ENGLISH FOR PHARMACEUTICAL STUDENTS: Course book for 1st year students of the Faculty of Pharmacy. – Одеса: ОНМедУ, 2023. – 73 с. (комп'ютерна верстка)

##### ***Додаткова***

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1. Одеський національний медичний університет: <https://onmedu.edu.ua/>
2. Інформаційні матеріали: <http://www.info.odmu.edu.ua>

## Практичне заняття № 2

### Тема: Охорона здоров'я та медичні заклади в Україні

**Мета:** ознайомити здобувачів вищої освіти з охороною здоров'я та медичними закладами в Україні. Поглибити наративні навички на основі опису системи охорони здоров'я в Україні. Вивчити лексичний матеріал даної теми і вміти оперувати цією лексикою. Описувати види медичних навчальних закладів.

**Основні поняття:** медична послуга, медична допомога, медичні установи, поліклініка, лікарня, швидка допомога

**Обладнання:** методрозробка заняття, навчальний посібник, ноутбук.

### План:

**1. Організаційні заходи** (привітання, перевірка присутніх, повідомлення теми, мети заняття, мотивація здобувачів вищої освіти щодо вивчення теми).

**2. Контроль опорного рівня знань.**

What are the medical institutions?

What is a polyclinic?

What is a hospital?

What is an EMS?

**3. Формування професійних вмінь, навичок:**

### Exercise 1. Match the terms with their definitions:

1. Primary care
2. Secondary care
3. Tertiary care
4. Polyclinic
5. Hospital
6. Emergency medical service (EMS)
7. Pharmacy

### Definitions:

- a. Health care provided by doctors with specialized training for more complex medical issues.
- b. Health care facility providing examinations and treatment for outpatients, often with various specialists available.
- c. Specialized medical institution for treating the sick, injured, or dying, equipped with medical staff and equipment.
- d. Basic health care services provided by general practitioners or family doctors.
- e. Out-of-hospital medical care and transportation of patients with diseases and injuries to hospitals.
- f. Health care provided by doctors with appropriate specialization, typically in city and district hospitals.
- g. Institution where people can purchase drugs and medical supplies.

### Exercise 2. Indicate whether the following statements are true or false:

1. Primary medical care is the core function of any country's healthcare system.

2. The government of Ukraine initiated medical reform in 2018.
3. Citizens in Ukraine have the right to choose their primary care doctor freely.
4. Secondary care is typically provided by general practitioners or family doctors.
5. Tertiary care is mainly provided at regional medical institutions and centers.

**Exercise 3. Rewrite the sentences using the words provided, without changing the meaning:**

1. Medical care is the generalized term for all types of medical assistance. (aid)
2. Hospitals are aimed at treating sick, injured, or dying people. (treatment)
3. Emergency medical service provides out-of-hospital medical care. (care)
4. The pharmacy is where people can purchase drugs and medical supplies. (institution)
5. Polyclinics provide examinations and treatment for outpatients. (facility)

**Exercise 4. Form nouns from the given verbs:**

**Examine** - \_\_\_\_\_

**Treat** - \_\_\_\_\_

**Rehabilitate** - \_\_\_\_\_

**Provide** - \_\_\_\_\_

**Monitor** - \_\_\_\_\_

**Exercise 5. Choose the correct option to complete each sentence:**

1. Primary care is the main link of the healthcare system, providing \_\_\_\_\_.
  - a. Basic health care services
  - b. Highly specialized care
  - c. Emergency medical services
2. Secondary care is typically provided by doctors with appropriate \_\_\_\_\_.
  - a. Financing
  - b. Specialization
  - c. Legislation
3. Emergency medical service provides out-of-hospital medical care and transportation of \_\_\_\_\_.
  - a. Employees
  - b. Patients
  - c. Doctors
4. A pharmacy is an institution where people can buy different drugs and things for \_\_\_\_\_.
  - a. Entertainment
  - b. Medical care
  - c. Education
5. The government's medical reform in Ukraine aims to improve \_\_\_\_\_.
  - a. Transportation
  - b. Healthcare services
  - c. Communication

**Exercise 6. Complete the sentences with the appropriate conditional form:**

1. If citizens are disappointed with the care provided by their doctor, they \_\_\_\_\_ (have) the right to choose another one.

2. Emergency medical services provide out-of-hospital care and transportation if patients \_\_\_\_\_ (suffer) from diseases or injuries.
3. If the government \_\_\_\_\_ (not initiate) medical reform, the healthcare system \_\_\_\_\_ (not improve) significantly.
4. Patients \_\_\_\_\_ (be) referred to specialists if their condition \_\_\_\_\_ (require) more specialized treatment.
5. If hospitals \_\_\_\_\_ (not have) emergency departments, patients \_\_\_\_\_ (not receive) immediate care for urgent health issues.

**Exercise 7. Fill in the blanks in the following text with the appropriate words:**

1. institutions
2. services
3. government
4. medical
5. specialists
6. doctors (x3)
7. reforms (x2)
8. outpatient

Healthcare in Ukraine is undergoing significant (1) \_\_\_\_\_ to improve (2) \_\_\_\_\_ services and accessibility. The (3) \_\_\_\_\_ initiated medical (4) \_\_\_\_\_ to address various challenges in the healthcare system. One of the key aspects of these reforms is the restructuring of (5) \_\_\_\_\_ and the empowerment of citizens in choosing their primary care (6) \_\_\_\_\_.

In Ukraine, primary care is provided by general practitioners or family (7) \_\_\_\_\_ in different settings such as clinics and (8) \_\_\_\_\_. These facilities offer a range of (9) \_\_\_\_\_, including preventive care, diagnosis, and treatment for common ailments. Additionally, primary care (10) \_\_\_\_\_ play a crucial role in coordinating care for patients and referring them to (11) \_\_\_\_\_ when necessary.

**4. Підбиття підсумків.**

**5. Список рекомендованої літератури**

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2. Інформаційні матеріали: <http://www.info.odmu.edu.ua>

## Практичне заняття № 3

### Тема: Фармація

**Мета:** Засвоїти лексичний матеріал пов'язаний з даною темою. Перечислити, що можна придбати в аптеці. Вивчити складову рецепта.

**Основні поняття:** аптека, фармацевт, ліки, рецепт, передозування, етикетка, аптечна шафа, термін придатності

**Обладнання:** методрозробка заняття, навчальний посібник, ноутбук.

### План:

**1. Організаційні заходи** (привітання, перевірка присутніх, повідомлення теми, мети заняття, мотивація здобувачів вищої освіти щодо вивчення теми).

### 2. Контроль опорного рівня знань.

1. What kinds of chemist's shops are there?
2. What can a person buy at the chemist's department?
3. What drugs are sold by prescription only?

### 3. Формування професійних вмінь, навичок:

#### Exercise 1. Match the terms with their definitions:

1. Chemist's shop
2. Prescription
3. Drug cabinets
4. Potent
5. Label
6. Prescription department
7. Overdosage
8. Inscription
9. Signature
10. Latin abbreviations

#### Definitions:

- a. A place where medicines and medical items are supplied to the population.
- b. A written instruction from a medical practitioner for the preparation and use of a medicine.
- c. Cabinets used to store medicines.
- d. Strong and powerful in effect.
- e. A piece of paper on a container indicating its contents and directions for use.
- f. Department where prescription-only drugs are sold.
- g. Taking an excessive amount of a drug.
- h. The part of a prescription containing the ingredients and their quantities.
- i. A person's name written in a distinctive way as a form of identification.
- j. Shortened forms of Latin words or phrases used in prescriptions.

**Exercise 2. Form nouns from the given verbs:**

1. **Dispense** - \_\_\_\_\_
2. **Administer** - \_\_\_\_\_
3. **Prevent** - \_\_\_\_\_
4. **Misunderstand** - \_\_\_\_\_
5. **Prescribe** - \_\_\_\_\_

**Exercise 3 Rewrite the sentences using the words provided, without changing the meaning:**

1. Prescription-only drugs can be sold only with a prescription. (Only)
2. The signature is a necessary part of a complete prescription. (Essential)
3. Reading the label on a medicine container helps prevent overdose. (Prevents)
4. The inscription contains the ingredients and their quantities. (Containing)
5. It is important to follow the prescriber's instructions. (Directions)

**Exercise 4. Indicate whether the following statements are true or false:**

1. Chemist's shop is an institution of health service that supplies only medical equipment.
2. Prescription departments sell over-the-counter medicines.
3. The prescription includes the patient's name, but the prescriber's name is not necessary.
4. All containers of dispensed medicines have warnings or contraindications.
5. Prescription writing in Great Britain is done in Latin abbreviations.

**Exercise 5. Fill in the blanks with the correct tense form of the verbs:**

1. The pharmacist \_\_\_\_\_ (dispense) the medication when the prescription is ready.
2. Patients \_\_\_\_\_ (often/forget) to follow the dosage instructions provided by their doctors.
3. Before taking any new medication, it \_\_\_\_\_ (be) important to consult with a healthcare professional.
4. Yesterday, the chemist's shop \_\_\_\_\_ (run) out of stock for a popular over-the-counter medicine.
5. By the time the doctor arrives, the nurse \_\_\_\_\_ (already/prepare) the patient for the examination.

**Exercise 6. Fill in the blanks with the correct prepositions:**

1. The pharmacist is responsible \_\_\_\_\_ dispensing medication.
2. Patients should always follow the dosage instructions provided \_\_\_\_\_ their doctors.
3. It's essential to consult \_\_\_\_\_ a healthcare professional before starting any new medication.
4. The chemist's shop is located \_\_\_\_\_ the corner of Main Street \_\_\_\_\_ Elm Street.
5. The doctor will be available \_\_\_\_\_ consultation \_\_\_\_\_ 9:00 a.m. \_\_\_\_\_ 5:00 p.m.

**Exercise 7. Fill in the blanks in the following text with the appropriate words or phrases:**

1. **prescription**
2. **pharmacist**
3. **label**
4. **medication**

5. dosage
6. prescription department
7. potent
8. instructions
9. patients
10. chemist's shop

A 1)\_\_\_\_\_ is a crucial document provided by a doctor to obtain specific 2)\_\_\_\_\_. At the 3)\_\_\_\_\_ department of a 4)\_\_\_\_\_ shop, 5)\_\_\_\_\_ drop off their prescriptions to be filled by a 6)\_\_\_\_\_. Each small bottle, tube, or box of medicine has a 7)\_\_\_\_\_ on it, providing important information such as the correct 8)\_\_\_\_\_ to be taken and any warnings. It is important for 9)\_\_\_\_\_ to carefully read and follow the 10)\_\_\_\_\_ on the medicine container to avoid adverse effects.

#### 4. Підбиття підсумків.

#### 5. Список рекомендованої літератури

##### Основна

2. ENGLISH FOR PHARMACEUTICAL STUDENTS: Course book for 1st year students of the Faculty of Pharmacy. – Одеса: ОНМедУ, 2023. – 73 с. (комп'ютерна верстка)

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## Практичне заняття № 4

### Тема: Організм людини

**Мета:** Засвоїти терміни, які стосуються систем організму. Вміти описувати функції кожної системи. Вміти диференціювати органи, що відносяться до кожної системи.

**Основні поняття:** основні частини людського тіла, життєво важливі органи людського тіла, органи чуття

**Обладнання:** методрозробка заняття, навчальний посібник, ноутбук.

### План:

**1. Організаційні заходи** (привітання, перевірка присутніх, повідомлення теми, мети заняття, мотивація здобувачів вищої освіти щодо вивчення теми).

### 2. Контроль опорного рівня знань.

1. What are the principal parts of the human body?
2. What does the face include?
3. What is the organ of taste?
4. What do we breathe through?
5. What are the principal organs in the chest?
6. What organs does the abdomen consist of?

### 3. Формування професійних вмінь, навичок:

#### Exercise 1. Match the terms with their definitions:

1. Skull
2. Limbs
3. Eyelids
4. Palates
5. Neck

#### Definitions:

- a. The upper part of the trunk above the abdomen.
- b. The outer covering of the body.
- c. The bones of the head enclosing the brain.
- d. The upper and lower parts of the mouth.
- e. The parts of the body used for movement, including arms and legs.

#### Exercise 2. Indicate whether the following statements are true or false:

1. The nose is responsible for hearing and balance.
2. The upper extremity consists of the upper arm, the elbow, and the hand.
3. The waist is located below the hips.
4. The mouth contains the tongue, teeth, and lips.
5. The skeleton protects the organs from injury.

#### Exercise 3. Form nouns from the given verbs:

1. Speak - \_\_\_\_\_
2. Connect - \_\_\_\_\_
3. Protect - \_\_\_\_\_
4. Cover - \_\_\_\_\_

5. Allow - \_\_\_\_\_

**Exercise 4. Rewrite the sentences using the words provided, without changing the meaning:**

1. The mouth contains the tongue, teeth, and lips. (Include)
2. The skeleton supports the soft parts of the body. (Framework)
3. Each eye has eyelids and eyelashes. (Consists)
4. The upper extremity consists of the upper arm, the forearm, and the hand. (Composed)
5. The foot is composed of the toes, the heel, and the sole. (Consists)

**Exercise 5. Fill in the blanks with the appropriate prepositions:**

1. The head is connected \_\_\_\_\_ the trunk \_\_\_\_\_ the neck.
2. The upper extremity is connected \_\_\_\_\_ the chest \_\_\_\_\_ the shoulder.
3. The body is covered \_\_\_\_\_ the skin from head \_\_\_\_\_ toe.
4. The mouth contains the tongue, teeth, and lips \_\_\_\_\_ the upper and lower palates.
5. Fingers are intimately associated \_\_\_\_\_ hands.

**Exercise 6. Fill in the blanks with the correct tense form of the verbs:**

1. The human body \_\_\_\_\_ (refer) to the entire structure of a human being.
2. The head \_\_\_\_\_ (consist) of two parts: the skull contains the brain, and the face includes various organs.
3. Each eye \_\_\_\_\_ (serve) as the organ of sight.
4. The lower part of the trunk \_\_\_\_\_ (call) the abdomen and \_\_\_\_\_ (consist) of various organs.
5. Fingers \_\_\_\_\_ (contain) some of the densest areas of nerve endings on the body.

**Exercise 7. Fill in the blanks in the following text with the appropriate words or phrases:**

1. Consists (x3)
2. serve
3. called
4. refers
5. includes (x2)
6. located
7. has

The human body 1) \_\_\_\_\_ to the entire structure of a human being. The principal parts of the human body are the head, the trunk, and limbs (extremities). The head 2) \_\_\_\_\_ of 2 parts: the skull contains the brain, and the face 3) \_\_\_\_\_ various organs such as the forehead, the eyes, nose, mouth, cheeks, ears, and chin. Each eye has the eyelids and eyelashes that grow along the edge of the eyelids. The eyes 4) \_\_\_\_\_ as the organ of sight. The surface of the eye 5) \_\_\_\_\_ of 8 parts: lens, pupil, iris, cornea, conjunctiva, and sclera. The nose is the organ of smell through which we breathe. The ear 6) \_\_\_\_\_ 3 principal parts: the external ear, the middle ear, and the internal ear. The ear is responsible for hearing and

balance. The mouth 7) \_\_\_\_\_ 2 lips: the upper and the lower lip. The tongue, teeth, and hard and soft palates are 8) \_\_\_\_\_ in the mouth. The head is connected with the trunk by the neck. The upper part of the trunk is the chest, which contains the lungs, the heart, and the esophagus. The lower part of the trunk 9) \_\_\_\_\_ the abdomen, which 10) \_\_\_\_\_ the stomach, the liver, the spleen, the intestines, the kidneys, the gallbladder, and the bladder.

#### **4. Підбиття підсумків.**

#### **5. Список рекомендованої літератури**

##### **Основна**

3. ENGLISH FOR PHARMACEUTICAL STUDENTS: Course book for 1st year students of the Faculty of Pharmacy. – Одеса: ОНМедУ, 2023. – 73 с. (комп'ютерна верстка)

##### *Додаткова*

4. Medical English for Academic Purposes, Ю.В. Лисанець, О.М.Беляєва, М.П. Мелашенко 2018, Видавництво Медицина. - 312 с.
2. English for medical students, Англійська мова для студентів-медиків / А.Н. Sabluk, L.V. Levandovska, 2018, Видавництво Медицина 576 ст.
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5. Practical English Usage, Michael Swan, Видавництво Oxford University Press, 201. - 768 с.

##### **Електронні інформаційні ресурси**

1. Одеський національний медичний університет: <https://onmedu.edu.ua/>
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## Практичне заняття № 5

### Тема: Мікроорганізми частина 1

**Мета:** Визначити терміни, що стосуються цієї теми. Вміти описувати функції різних видів мікроорганізмів. Вміти відповідати на запитання до тексту.

**Основні поняття:** водорості, археї, бактерії, гриби, віруси, дріжджі

**Обладнання:** методрозробка заняття, навчальний посібник, ноутбук.

#### План:

**1. Організаційні заходи** (привітання, перевірка присутніх, повідомлення теми, мети заняття, мотивація здобувачів вищої освіти щодо вивчення теми).

#### **2. Контроль опорного рівня знань.**

1. What is a microorganism?
2. What are the major groups of microorganisms?
3. What shapes may all bacteria have?
4. What is the major characteristic of bacteria?

#### **4. Формування професійних вмінь, навичок:**

#### **Exercise 1. Match the terms with their definitions:**

1. Microorganism
2. Prokaryote
3. Eukaryote
4. Bacteria
5. Archaea

#### **Definitions:**

- a. A unicellular organism without a nucleus or membrane-bound organelles.
- b. A small organism too small to be seen by the naked eye.
- c. Organisms with cells containing a nucleus and membrane-bound organelles.
- d. Microbes lacking a true nucleus, often found in extreme environments.
- e. Single-celled organisms with genetic material floating freely in the cell.

#### **Exercise 2. Indicate whether the following statements are true or false:**

1. All microorganisms are visible to the naked eye.
2. Prokaryotes are organisms with cells containing a nucleus.
3. Bacteria reproduce sexually through meiosis.
4. Eukaryotic cells typically lack membrane-bound organelles.
5. Archaea are evolutionarily related to bacteria.

#### **Exercise 3. Form nouns from the given verbs:**

1. Evolve - \_\_\_\_\_
2. Reproduce - \_\_\_\_\_
3. Breakdown - \_\_\_\_\_
4. Discover - \_\_\_\_\_
5. Decompose - \_\_\_\_\_

**Exercise 4. Rewrite the sentences using the words provided, without changing the meaning:**

1. Bacteria are small one-celled organisms without a true nucleus. (Lacks)
2. Eukaryotes contain a nucleus enclosed within membranes. (Have)
3. Archaea are similar to bacteria but are evolutionarily distinct. (Differ)
4. Microorganisms may exist in single-celled or multicellular forms. (Could)
5. The cell wall of archaea is more stable in extreme conditions. (Considered)

**Exercise 5. Complete the sentences with the appropriate conditional form:**

1. If microorganisms \_\_\_\_\_ (not exist), life on Earth would be very different.
2. \_\_\_\_\_ (Eukaryotes/not contain) membrane-bound organelles, they would lack many essential cellular functions.
3. Without bacteria, \_\_\_\_\_ (organic matter/not decompose), leading to a buildup of waste.
4. If archaea \_\_\_\_\_ (not thrive) in extreme environments, many ecological niches would remain unoccupied.
5. \_\_\_\_\_ (Microorganisms/not play) important roles in ecosystems, the balance of nature would be disrupted.

**Exercise 6. Fill in the blanks with the appropriate prepositions:**

1. Microorganisms differ \_\_\_\_\_ each other not only in size, but also in structure.
2. Bacteria are important members \_\_\_\_\_ ecosystems due to their ability to break down dead organic matter.
3. Some archaea can live \_\_\_\_\_ many of the most hostile environments on Earth.
4. The cell wall of archaea differs \_\_\_\_\_ structure \_\_\_\_\_ that of bacteria.
5. Microorganisms are prevalent \_\_\_\_\_ all environments and play vital roles \_\_\_\_\_ maintaining ecological balance.

**Exercise 7. Fill in the blanks with the correct tense form of the verbs:**

Microorganisms, also known as microbes, (1) \_\_\_\_\_ (play) crucial roles in various ecological processes. They (2) \_\_\_\_\_ (be) found everywhere in the environment and (3) \_\_\_\_\_ (play) essential roles in maintaining ecosystem balance. Bacteria, for example, (4) \_\_\_\_\_ (help) break down organic matter and (5) \_\_\_\_\_ (cycle) nutrients in ecosystems. Archaea, another group of microorganisms, (6) \_\_\_\_\_ (be) found in extreme environments and (7) \_\_\_\_\_ (play) important roles in biogeochemical cycles.

Fungi (8) \_\_\_\_\_ (be) a diverse group of microorganisms that include yeasts, molds, and mushrooms. They (9) \_\_\_\_\_ (break) down organic matter and (10) \_\_\_\_\_ (recycle) nutrients in ecosystems. Fungi also (11) \_\_\_\_\_ (form) symbiotic relationships with plants, (12) \_\_\_\_\_ (help) them absorb water and nutrients from the soil.

**4. Підбиття підсумків.**

**5. Список рекомендованої літератури**

**Основна**

4. ENGLISH FOR PHARMACEUTICAL STUDENTS: Course book for 1st year students of the Faculty of Pharmacy. – Одеса: ОНМедУ, 2023. – 73 с. (комп'ютерна верстка)

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2. English for medical students, Англійська мова для студентів-медиків / А.Н. Sabluk, L.V. Levandovska, 2018, Видавництво Медицина 576 ст.
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### **Електронні інформаційні ресурси**

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## Практичне заняття № 6

### Тема: Мікроорганізми частина 2

**Мета:** Визначити терміни, що стосуються цієї теми. Вміти описувати функції різних видів мікроорганізмів. Вміти відповідати на запитання до тексту.

**Основні поняття:** Водорості, грибки, віруси, гельмінти

**Обладнання:** методрозробка заняття, навчальний посібник, ноутбук.

#### План:

**1. Організаційні заходи** (привітання, перевірка присутніх, повідомлення теми, мети заняття, мотивація здобувачів вищої освіти щодо вивчення теми).

**2. Контроль опорного рівня знань.**

1. What are fungi?

2. What beneficial uses do some yeasts have?

3. What does a virus consist of?

**3. Формування професійних вмінь, навичок:**

**Exercise 1. Choose the correct word:**

**Molds, water, mycelium, thrush, yeasts, navel, pathogens**

1. Unicellular algae occur most frequently in \_\_\_\_\_.

2. Yeasts are found in many different environments, from the deep sea to the human \_\_\_\_\_.

3. Some \_\_\_\_\_ have beneficial uses, noted for their ability to ferment carbohydrates.

4. Some even cause diseases, such as vaginal yeast infections and oral \_\_\_\_\_.

5. Other fungi of interest to microbiologists are multicellular organisms called \_\_\_\_\_.

6. Individually, hyphae are microscopic in size. However, when large numbers of hyphae accumulate, they form a fuzzy mass called a \_\_\_\_\_.

7. Most protozoa are harmless, but some are \_\_\_\_\_ that can cause disease in animals or humans.

**Exercise 2. Rewrite the sentence using the correct form of the verb:**

1. Phytoplankton \_\_\_\_\_ (be) the population of free-floating microorganisms composed primarily of unicellular algae.

2. Some protozoa \_\_\_\_\_ (move) with help from hair-like structures called cilia or whip-like structures called flagella.

3. Yeasts \_\_\_\_\_ (be) found in many different environments, from the deep sea to the human navel.

4. A virus \_\_\_\_\_ (replicate) only inside the living cells of an organism.

5. Multicellular parasitic worms called helminthes \_\_\_\_\_ (not be) technically microorganisms.

**Exercise 3. Fill in the blanks with the appropriate prepositions:**

1. Yeasts are found in many different environments, \_\_\_\_\_ the deep sea \_\_\_\_\_ the human navel.

2. Some protozoa are oval or spherical, others elongated. Cells can be as small \_\_\_\_\_ 1  $\mu\text{m}$  diameter and as large \_\_\_\_\_ 2 mm.
3. A virus consists of proteins and genetic material \_\_\_\_\_ DNA or RNA, but never both.
4. Helminthes fall \_\_\_\_\_ the field of microbiology because diseases caused \_\_\_\_\_ helminthes involve microscopic eggs and larvae.

**Exercise 4. Indicate whether the following statements are true or false:**

1. Algae can only be unicellular.
2. Fungi carry out photosynthesis.
3. Yeasts are exclusively multicellular fungi.
4. Protozoa can cause diseases in animals or humans.
5. Helminthes are not considered microorganisms.

**Exercise 5. Match the term with its definition:**

- a) Phytoplankton:
- b) Flagella:
- c) Helminthes:
- d) Microorganisms:
- e) Photosynthesis:

**Definitions:**

1. Multicellular parasitic worms.
2. Population of free-floating microorganisms primarily composed of unicellular algae.
3. Process carried out by algae using chlorophyll.
4. Whip-like structures some protozoa use for movement.
5. Organisms too small to be seen without a microscope.

**Exercise 6. Identify the type of microorganism described in each sentence:**

**Yeasts, Protozoa, Algae, Viruses, Helminthes, Fungi, Bacteria**

1. \_\_\_\_\_ such as tapeworms and roundworms, are multicellular parasitic worms.
2. \_\_\_\_\_ which can be multicellular or unicellular, contain chlorophyll and other pigments for photosynthesis.
3. \_\_\_\_\_ are unicellular fungi that have many forms, from spherical to filamentous.
4. \_\_\_\_\_ which do not have a true nucleus, come in three main shapes: bacilli, cocci, and spirilla.
5. \_\_\_\_\_ which have rigid cell walls, may be either unicellular or multicellular.
6. \_\_\_\_\_ are acellular microorganisms composed of proteins and genetic material, capable of replicating only inside living cells.
7. \_\_\_\_\_ are single-celled, eukaryotic microorganisms that may be oval or elongated in shape.

**Exercise 7. Choose the correct modal verb to complete each sentence:**

**May, might (x2), can (x2), must**

1. Algae \_\_\_\_\_ be multicellular or unicellular, depending on environmental conditions.
2. Protozoa \_\_\_\_\_ move with the help of hair-like structures called cilia or whip-like structures called flagella.
3. Yeasts \_\_\_\_\_ reproduce asexually through budding or fission.

4. Fungi \_\_\_\_\_ absorb dissolved nutrients from the environment.
5. Helminthes \_\_\_\_\_ cause diseases in humans and animals.
6. Bacteria \_\_\_\_\_ play important roles in nutrient cycling and decomposition.

#### **4. Підбиття підсумків.**

#### **5. Список рекомендованої літератури**

##### **Основна**

5. ENGLISH FOR PHARMACEUTICAL STUDENTS: Course book for 1st year students of the Faculty of Pharmacy. – Одеса: ОНМедУ, 2023. – 73 с. (комп'ютерна верстка)

##### *Додаткова*

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4. Lippincott Illustrated Reviews: Pharmacology, Автор Karen Whalen Видавництво Lippincott Williams & Wilkins, 2018, 576 ст.
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## Практичне заняття № 7

### Тема: Тканини

**Мета:** Засвоїти терміни, що відносяться до цієї теми. Знати основні тканини органи людського організму. Вивчити класифікацію епітелію.

**Основні поняття:** порожнина, епітелій, волокно, глія, тканина

**Обладнання:** методрозробка заняття, навчальний посібник, ноутбук.

### План:

**1. Організаційні заходи** (привітання, перевірка присутніх, повідомлення теми, мети заняття, мотивація здобувачів вищої освіти щодо вивчення теми).

### 2. Контроль опорного рівня знань.

1. What is a tissue?
2. What are the main tissues in the human body?
3. What differs a muscle tissue from other tissue types?
4. What are the main three kinds of muscle tissues?

### 3. Формування професійних вмінь, навичок:

#### 1. Exercise 1. Match each word on the left with its antonym:

- Soft
- Liquid
- Hard
- Develops
- Rigid

Antonyms: a) Soft b) Grows c) Flexible d) Gas e) Soft

#### Exercise 2. Rearrange the words to form a coherent sentence:

1. System / forms / the / nervous / tissue / the
2. Body / overall / the / health / and / maintenance / contribute / to / tissues
3. The / heart / contract / the / muscle / allowing / cardiac / up / to / makes / wall / most / of
4. Layer / a / cells / thin / tissue / of / is / membrane / that / covers
5. Synovial / the / water / readily / exchanges / fluid / with / blood

#### Exercise 3. Match the tissue type with its description:

1. Epithelial tissue
2. Connective tissue
3. Muscle tissue
4. Nervous tissue

#### Descriptions:

- a) Provides movement
- b) Provides structure and support
- c) Covers or lines internal and external surfaces
- d) Coordinates activities and movements of the body

**Exercise 4. Choose the correct answer for each question:**

1. Which germ cell layer develops into nervous tissue and epithelial tissue?  
a) Mesoderm b) Ectoderm c) Endoderm
2. What kind of muscle tissue makes up most of the heart wall?  
a) Skeletal muscle tissue b) Cardiac muscle tissue c) Smooth muscle tissue
3. What is the function of loose connective tissue?  
a) Provides structure and support to the body b) Holds structures together c) Encapsulates organs and lines movable joints

**Exercise 5. Match the words on the left with their definitions:**

1. Histology
2. Endoderm
3. Epithelial tissue
4. Loose connective tissue
5. Neurons
6. Synovial membrane
7. Cutaneous membrane

**Definitions:**

- a. The study of tissues
- b. Develops into nervous tissue and epithelial tissue
- c. Forms the nervous system
- d. A thin layer of cells that covers the organs
- e. Holds structures together, like skin to muscle tissue
- f. Covers or lines almost all internal and external surfaces
- g. Resting on top of connective tissue, protects from desiccation and pathogens

**Exercise 6. Indicate whether the following statements are true or false based on the text:**

1. Epithelial tissue provides a covering for deeper body layers.
2. Fibrous connective tissue is found in ligaments, tendons, cartilages, and bones.
3. The skin is an example of a connective tissue membrane.
4. Nervous tissue forms the digestive and urogenital tracts.
5. The synovial membrane lines the cavity of a freely movable joint.

**Exercise 7. Fill in the blanks with the appropriate tense of the verbs given in brackets:**

1. The term tissue \_\_\_\_\_ (use) to describe an aggregation of cells that \_\_\_\_\_ (be) similar in structure and \_\_\_\_\_ (perform) a specific function.
2. All tissues of the body \_\_\_\_\_ (develop) from the three primary germ cell layers that \_\_\_\_\_ (form) the embryo.
3. Muscle tissue \_\_\_\_\_ (contract) forcefully when excited, providing movement.
4. The skin \_\_\_\_\_ (be) an epithelial membrane also called the cutaneous membrane.
5. Fibroblasts in the inner layer of the synovial membrane \_\_\_\_\_ (release) hyaluronan into the joint cavity.

6. Some protozoa \_\_\_\_\_ (move) with help from hair-like structures called cilia or whip-like structures called flagella.
7. The synovial fluid \_\_\_\_\_ (enable) the bones of a joint to move freely against one another without much friction.
8. Tissues \_\_\_\_\_ (be) organized into four broad categories based on structural and functional similarities.
9. Protozoa \_\_\_\_\_ (be) single-celled, eukaryotic microorganisms.
10. The helminthes \_\_\_\_\_ (be) invertebrates characterized by elongated, flat, or round bodies.

#### **4. Підбиття підсумків.**

#### **5. Список рекомендованої літератури**

##### **Основна**

6. ENGLISH FOR PHARMACEUTICAL STUDENTS: Course book for 1st year students of the Faculty of Pharmacy. – Одеса: ОНМедУ, 2023. – 73 с. (комп'ютерна верстка)

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4. Lippincott Illustrated Reviews: Pharmacology, Автор Karen Whalen Видавництво Lippincott Williams & Wilkins, 2018, 576 ст.
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## **Практичне заняття № 8**

### **Тема: Метаболізм**

**Мета:** Вивчити терміни, які стосуються метаболізму. Ознайомитися з двома типами метаболізму. Вміти розповідати про основні типи поживних речовин.

**Основні поняття:** вуглевод, з'єднання, жир, білок, джерело

**Обладнання:** методрозробка заняття, навчальний посібник, ноутбук.

### **План:**

**1. Організаційні заходи** (привітання, перевірка присутніх, повідомлення теми, мети заняття, мотивація здобувачів вищої освіти щодо вивчення теми).

### **2. Контроль опорного рівня знань.**

1. What is metabolism?

2. How does metabolism act?

3. What is anabolism?

4. What is catabolism?

### **3. Формування професійних вмінь, навичок:**

#### **Exercise 1. Indicate whether the following statements are true or false:**

1, Metabolism refers to the physical movement of the body.

2, Anabolism involves breaking down substances.

3, Catabolism releases energy needed for cell activity.

4, Thyroxine is a hormone produced by the pancreas.

5, Insulin increases anabolic activities in cells.

#### **Exercise 2. Choose the correct answer for each question:**

1. What is the role of thyroxine in metabolism?

- a) To control blood sugar levels
- b) To regulate the rate of metabolic reactions
- c) To produce energy for cell activity
- d) To build up body tissues

2. What happens during catabolism?

- a) Energy is released for cell activity
- b) Cells grow and multiply
- c) Food is broken down into amino acids
- d) Energy is stored for future use

3. Which gland secretes insulin?

- a) Thyroid gland
- b) Pituitary gland
- c) Pancreas
- d) Adrenal gland

4. What is the primary function of BMR?

- a) To measure the body's weight
- b) To regulate blood pressure
- c) To burn energy while at rest
- d) To store excess calories

5. How does exercise affect BMR?

- a) It decreases BMR
- b) It has no effect on BMR
- c) It increases BMR
- d) It slows down metabolic reactions

**Exercise 3. Write down three words or phrases that you associate with each of the following terms:**

1. Metabolism
  - Chemical reactions
  - Energy conversion
  - Body functions
2. Anabolism
  - Building up
  - Growth
  - Storage
3. Catabolism
  - Breaking down
  - Energy release
  - Fuel production
4. Thyroxine
  - Thyroid hormone
  - Metabolic rate
  - Regulation
5. Insulin
  - Pancreatic hormone
  - Blood sugar control
  - Anabolic effects

**Exercise 4. Fill in the blanks with the appropriate tense form of the verbs:**

1. Last week, Sarah (research) \_\_\_\_\_ the effects of exercise on metabolism.
2. By the time I (arrive) \_\_\_\_\_, the nutritionist (finish) \_\_\_\_\_ explaining the basics of metabolic processes.
3. The doctor (recommend) \_\_\_\_\_ a diet rich in protein to boost metabolic rate.
4. Before the seminar, the participants (review) \_\_\_\_\_ the role of hormones in regulating metabolism.
5. After the lecture, the students (discuss) \_\_\_\_\_ the significance of metabolic balance in maintaining health.
6. By the end of the week, most participants (understand) \_\_\_\_\_ the importance of balanced nutrition for optimal metabolism.
7. Before the experiment, the researchers (prepare) \_\_\_\_\_ the necessary equipment for measuring metabolic activity.
8. Throughout the study, scientists (observe) \_\_\_\_\_ how various factors influence metabolic pathways.
9. When the results (analyze) \_\_\_\_\_, they (reveal) \_\_\_\_\_ unexpected correlations between diet and metabolic health.

10. By next month, the team (hope) \_\_\_\_\_ to publish their findings on the journal of metabolism.

**Exercise 5. Fill in the blanks with the appropriate prepositions:**

1. The process of metabolism involves the conversion of nutrients \_\_\_\_\_ energy.
2. Enzymes play a crucial role \_\_\_\_\_ speeding up metabolic reactions.
3. Glucose is absorbed \_\_\_\_\_ the bloodstream and transported \_\_\_\_\_ cells for energy production.
4. The pancreas releases insulin \_\_\_\_\_ response to increased glucose levels \_\_\_\_\_ the blood.
5. Excess calories are stored \_\_\_\_\_ the body primarily \_\_\_\_\_ fat cells.
6. Metabolism is regulated \_\_\_\_\_ a variety of hormones produced \_\_\_\_\_ glands.
7. The rate \_\_\_\_\_ which metabolism occurs can vary depending \_\_\_\_\_ factors such as diet and physical activity level.

**Exercise 6. Fill in the blanks with the appropriate forms of the words in brackets:**

1. \_\_\_\_\_ (metabolize) is the process by which the body converts food into energy.
2. Enzymes play a vital role in \_\_\_\_\_ (regulate) metabolic reactions.
3. Glucose is a primary \_\_\_\_\_ (source) of energy for cells during metabolism.
4. The pancreas secretes insulin to \_\_\_\_\_ (control) blood sugar levels.
5. Excessive calorie intake can lead to the \_\_\_\_\_ (develop) of metabolic disorders.
6. Regular exercise can help \_\_\_\_\_ (boost) metabolic rate and promote weight loss.
7. Hormones such as thyroxine \_\_\_\_\_ (influence) the speed of metabolism in the body.

**Exercise 7. Fill in the blanks with the appropriate words:**

**energy, cells, metabolism, enzymes, glucose, hormones, regulate, breakdown, tissues, chemical**

1. \_\_\_\_\_ is the process by which the body converts food into \_\_\_\_\_.
2. Specific proteins called \_\_\_\_\_ control the \_\_\_\_\_ reactions of metabolism.
3. Thousands of \_\_\_\_\_ reactions happen at the same time in our \_\_\_\_\_.
4. After we eat, the digestive system uses \_\_\_\_\_ to break down food into simple sugars like \_\_\_\_\_.
5. The body can use \_\_\_\_\_, amino acids, and fatty acids as \_\_\_\_\_ sources.
6. Other \_\_\_\_\_ act to speed up or \_\_\_\_\_ the \_\_\_\_\_ reactions involved in metabolizing these compounds.
7. Anabolism involves the \_\_\_\_\_ of substances, supporting the growth of new \_\_\_\_\_ and energy storage.
8. Catabolism, on the other hand, is the \_\_\_\_\_ of substances, producing the \_\_\_\_\_ needed for cell activity.
9. The \_\_\_\_\_ system helps control the rate and direction of \_\_\_\_\_ in the body.
10. \_\_\_\_\_, such as thyroxine, play a key role in determining the speed of metabolic reactions.

#### **4. Підбиття підсумків.**

#### **5. Список рекомендованої літератури**

##### **Основна**

7. ENGLISH FOR PHARMACEUTICAL STUDENTS: Course book for 1st year students of the Faculty of Pharmacy. – Одеса: ОНМедУ, 2023. – 73 с. (комп'ютерна верстка)

##### ***Додаткова***

8. Medical English for Academic Purposes, Ю.В. Лисанець, О.М.Беляєва, М.П. Мелашенко 2018, Видавництво Медицина. - 312 с.
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5. Practical English Usage, Michael Swan, Видавництво Oxford University Press, 201. - 768 с.

##### **Електронні інформаційні ресурси**

1. Одеський національний медичний університет: <https://onmedu.edu.ua/>
2. Інформаційні матеріали: <http://www.info.odmu.edu.ua>

## Практичне заняття № 9

### Тема: Вітаміни та мінерали

**Мета:** Визначити терміни, що стосуються цієї теми. Вивчити функції вітамінів та мінералів у життєдіяльності організму. Визначити взаємодію вітамінів та мінералів.

**Основні поняття:** мідь, йод, залізо, поживна речовина, калій, натрій, сірка, олово

**Обладнання:** методрозробка заняття, навчальний посібник, ноутбук.

#### План:

**1. Організаційні заходи** (привітання, перевірка присутніх, повідомлення теми, мети заняття, мотивація здобувачів вищої освіти щодо вивчення теми).

#### **2. Контроль опорного рівня знань.**

1. What vitamins can be synthesized in the body?
2. How are vitamins classified?
3. How many vitamins are universally recognized?
4. How many minerals are there?

#### **3. Формування професійних вмінь, навичок:**

##### **Exercise 1. Choose the correct answer:**

1. How many universally recognized vitamins are there?  
a) 8 b) 13 c) 20
2. Which vitamin can be synthesized in the skin when exposed to sunlight?  
a) Vitamin C b) Vitamin D c) Vitamin A
3. Which type of vitamins need to be ingested frequently for optimal health?  
a) Water-soluble b) Fat-soluble c) Both a and b

##### **Exercise 2. Indicate whether the following statements are true or false:**

1. Vitamins are inorganic compounds required as nutrients in large amounts by an organism.
2. Vitamin D can be synthesized in the body when exposed to sunlight.
3. Water-soluble vitamins can be stored in the body's fatty tissue.
4. Vitamin A helps to develop and maintain body tissues such as bone and skin.
5. Minerals are not essential for transmitting nerve impulses.

##### **Exercise 3. Complete the sentences with the correct prepositions:**

1. Vitamin C helps form tissues, cells, bones, and teeth, and improves the immune system's performance.
2. Minerals are essential \_\_\_\_\_ transmitting nerve impulses.
3. Fat-soluble vitamins are stored \_\_\_\_\_ the body's fatty tissue.
4. The body absorbs iron through \_\_\_\_\_ the help of vitamin C.
5. A diet naturally high \_\_\_\_\_ vitamins and minerals can be the best defense against many diseases.

##### **Exercise 4. Fill in the blanks with the appropriate verb form:**

1. Calcium and phosphorus \_\_\_\_\_ (build) bones and teeth.
2. Vitamin D \_\_\_\_\_ (help) the body absorb phosphorus and calcium.
3. Minerals \_\_\_\_\_ (be) used to perform many different functions in the body.

4. The body \_\_\_\_\_ (absorb) iron through the help of vitamin C.
5. A diet naturally high in vitamins and minerals \_\_\_\_\_ (be) the best defense against many diseases.
6. If you do not get enough of a particular vitamin, you \_\_\_\_\_ (develop) health problems.
7. It \_\_\_\_\_ (be) good to know that fat-soluble vitamins should be taken before meals.
8. Water-soluble vitamins \_\_\_\_\_ (not need) to be ingested every day.
9. Copper \_\_\_\_\_ (be) needed by enzymes for metabolizing.
10. The body \_\_\_\_\_ (use) minerals to perform many different functions.

**Exercise 5. Complete the sentences by adding the correct form of the word:**

1. Vitamin C is essential for the \_\_\_\_\_ (develop) and maintenance of healthy skin.
2. Calcium and phosphorus are vital for strong bone \_\_\_\_\_ (structure).
3. Iron plays a crucial role in the \_\_\_\_\_ (deliver) of oxygen to body cells.
4. A diet rich in fruits and vegetables provides a variety of essential \_\_\_\_\_ (nutrient).
5. Vitamin D aids in the absorption of \_\_\_\_\_ (calcium) and phosphorus.
6. Water-soluble vitamins are easily \_\_\_\_\_ (excrete) through urine.
7. The body requires a certain amount of \_\_\_\_\_ (copper) for enzyme function.
8. Vitamin A is important for maintaining good \_\_\_\_\_ (vision).
9. A balanced diet is necessary for optimal \_\_\_\_\_ (health) and well-being.
10. Lack of certain vitamins and minerals can lead to various \_\_\_\_\_ (ill) and health problems.

**Exercise 6. Fill in the blanks with the appropriate words:**

**vitamins, minerals, body, nutrients, deficiency, functions, health, essential, absorb, balanced**

1. Our \_\_\_\_\_ needs a variety of \_\_\_\_\_ to function properly.
2. A \_\_\_\_\_ diet should include a mix of fruits, vegetables, and whole grains.
3. Iron is an \_\_\_\_\_ mineral needed to prevent anemia.
4. Vitamin D helps the body \_\_\_\_\_ calcium for strong bones.
5. A \_\_\_\_\_ of certain vitamins and minerals can lead to health problems.
6. Calcium and phosphorus are \_\_\_\_\_ for building strong bones and teeth.
7. Vitamins and minerals play key \_\_\_\_\_ in maintaining overall \_\_\_\_\_.
8. Potassium is an \_\_\_\_\_ mineral that regulates blood pressure.
9. Leafy greens like spinach are rich sources of essential \_\_\_\_\_ and minerals.
10. It's important to consume a \_\_\_\_\_ diet to ensure you get all the necessary nutrients.

**Exercise 7. Rewrite the following sentences in the passive voice:**

1. The body absorbs iron through the help of vitamin C.
2. Vitamin D helps the body absorb phosphorus and calcium.
3. A diet naturally high in vitamins and minerals can be the best defense against many diseases.
4. Some minerals are even used to make hormones or maintain a normal heartbeat.
5. The body uses minerals to perform many different functions — from building strong bones to transmitting nerve impulses.
6. Calcium and phosphorus build bones and teeth.
7. Copper is needed by enzymes for metabolizing.

8. Iron delivers oxygen to the body's cells.
9. The body absorbs iron through the help of vitamin C.
10. It is good to know that fat-soluble vitamins should be taken before meals, and water-soluble ones should be taken after meals.

#### **4. Підбиття підсумків.**

#### **5. Список рекомендованої літератури**

##### **Основна**

8. ENGLISH FOR PHARMACEUTICAL STUDENTS: Course book for 1st year students of the Faculty of Pharmacy. – Одеса: ОНМедУ, 2023. – 73 с. (комп'ютерна верстка)

##### *Додаткова*

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##### **Електронні інформаційні ресурси**

1. Одеський національний медичний університет: <https://onmedu.edu.ua/>
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## Практичне заняття № 10

### Тема: Рослини. Їх будова та функції

**Мета:** Засвоїти лексичний матеріал за темою. Знати будову рослини. Вміти відповідати на запитання до тексту.

**Основні поняття:** хлорофіл, гамета, водорості, мохоподібні, покритонасінні

**Обладнання:** методрозробка заняття, навчальний посібник, ноутбук.

### План:

**1. Організаційні заходи** (привітання, перевірка присутніх, повідомлення теми, мети заняття, мотивація здобувачів вищої освіти щодо вивчення теми).

### 2. Контроль опорного рівня знань.

1. What does plant kingdom include?
2. What is the classification of algae based on?
3. What are Bryophytes?
4. What is the main plant body of a bryophyte?

### 3. Формування професійних вмінь, навичок:

#### Exercise 1. Choose the correct answer to complete the sentence:

1. Gymnosperms are called naked-seeded plants because:  
a. They lack seeds. b. Their seeds remain exposed after fertilization. c. They have enclosed seeds.
2. The female gametophyte in angiosperms is found in:  
a. The anther. b. The ovary. c. The filament.
3. The naming of plants is governed by:  
a. The International Code of Nomenclature for Animals.  
b. The International Code of Nomenclature for Algae, Fungi, and Plants.  
c. The International Code of Nomenclature for Viruses.
4. Bryophytes depend on water for \_\_\_\_\_ reproduction.  
a. Asexual b. Sexual c. Both
5. Gymnosperms are called naked-seeded plants because:  
a. Their seeds are enclosed by an ovary wall b. Their seeds remain exposed after fertilization c. Their seeds are not produced
6. The main plant body in pteridophytes is the \_\_\_\_\_.  
a. Gametophyte b. Sporophyte c. Rhizoid

#### Exercise 2. Decide if the following statements are true or false:

1. Algae are mostly terrestrial organisms.
2. Bryophytes have well-differentiated vascular tissues.
3. Pteridophytes reproduce via seeds.
4. Gymnosperms produce seeds enclosed in an ovary.
5. Angiosperms include monocotyledons and dicotyledons.

#### Exercise 3. Match the plant kingdom terms with their definitions:

1. Algae
2. Bryophytes
3. Pteridophytes

4. Gymnosperms
5. Angiosperms

**Definitions:**

- a. Plants with seeds not enclosed in an ovary
- b. Simple, thalloid, chlorophyll-bearing organisms
- c. Depend on water for sexual reproduction, lack true roots
- d. Plants with true roots, stems, and leaves; reproduce via spores
- e. Flowering plants with seeds enclosed in an ovary

**Exercise 4. Fill in the blanks with the correct verb forms:**

1. Plants (provide) \_\_\_\_\_ a substantial proportion of the world's molecular oxygen.
2. Gymnosperms (produce) \_\_\_\_\_ microspores and megaspores.
3. The naming of plants (be) \_\_\_\_\_ governed by international codes.
4. Angiosperms (be) \_\_\_\_\_ divided into two classes.
5. Green plants (be) \_\_\_\_\_ the basis of most of Earth's ecosystems.
6. Plants that (produce) \_\_\_\_\_ grain and fruit have been domesticated for millennia.
7. The anther (produce) \_\_\_\_\_ pollen grains after meiosis.
8. The male gamete (fuse) \_\_\_\_\_ with the egg cell during double fertilization.
9. Algae usually (reproduce) \_\_\_\_\_ vegetatively by fragmentation.
10. Water (be) \_\_\_\_\_ required for the transfer of male gametes in bryophytes.

**Exercise 5. Fill in the blanks with the correct prepositions:**

1. Algae are largely aquatic organisms, depending \_\_\_\_\_ the type of pigment possessed.
2. Bryophytes are dependent \_\_\_\_\_ water for sexual reproduction.
3. Pteridophytes require cool, damp places to grow their gametophytes, which develop \_\_\_\_\_ spores.
4. Gymnosperms are plants \_\_\_\_\_ which ovules are not enclosed by an ovary wall.
5. The seeds of gymnosperms remain exposed \_\_\_\_\_ fertilization.
6. In angiosperms, the male and female sex organs are borne \_\_\_\_\_ a flower.
7. The pollen tube enters the embryo sac, where the male gametes fuse \_\_\_\_\_ the egg cell.
8. Plants are the source \_\_\_\_\_ medicines and psychoactive drugs.
9. The naming \_\_\_\_\_ plants is governed by international codes.
10. The International Code of Nomenclature provides guidelines \_\_\_\_\_ naming cultivated plants.

**Exercise 6. Fill in the blanks with the correct form of the words:**

1. Algae are \_\_\_\_\_ (chlorophyll) organisms that play a crucial role in aquatic ecosystems.
2. Bryophytes have a \_\_\_\_\_ (differentiate) plant body compared to algae.
3. Pteridophytes have well-differentiated vascular tissues in their roots, stems, and \_\_\_\_\_ (leaf).
4. Gymnosperms are known as "naked-seeded" plants because their seeds are not enclosed by an \_\_\_\_\_ (ovary).
5. Angiosperms produce flowers, where male and female sex organs are \_\_\_\_\_ (bear).
6. The process of double fertilization is unique to \_\_\_\_\_ (angiosperm).

7. Plants have been extensively studied for their \_\_\_\_\_ (medicinal) properties and potential therapeutic uses.

**Exercise 7. Unscramble the words to form coherent sentences:**

1. kingdom / algae / includes / the / Plant /.
2. water / but / Bryophytes / are / dependent / for / sexual / on / reproduction.
3. ferns / differentiate / and / vascular / organs / well / tissues / have / their / Pteridophytes /.
4. ovules / enclosed / by / any / are / not / Plants / in / gymnosperms /.
5. sex / organs / borne / are / in / a / flower / The / male / stamen / and / female / pistil /.
6. produce / the / green / majority / plants / of / molecular / world's / oxygen /.
7. Uses / many / of / plants / have / been / medicines / and / source / the / a / of / psychoactive / drugs /.

**4. Підбиття підсумків.**

**5. Список рекомендованої літератури**

**Основна**

1. ENGLISH FOR PHARMACEUTICAL STUDENTS: Course book for 1st year students of the Faculty of Pharmacy. – Одеса: ОНМедУ, 2023. – 73 с. (комп'ютерна верстка)

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**Електронні інформаційні ресурси**

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## Практичне заняття № 11

### Тема: Лікарські рослини

**Мета:** Засвоїти терміни, що відносяться до цієї теми. Ознайомитися з різними видами рослин. Вивчити терміни, які стосуються теми

**Основні поняття:** кора, ботанік, чистота, вологість, порошок, синтез, настойка

**Обладнання:** методрозробка заняття, навчальний посібник, ноутбук.

### План:

**1. Організаційні заходи** (привітання, перевірка присутніх, повідомлення теми, мети заняття, мотивація здобувачів вищої освіти щодо вивчення теми).

### 2. Контроль опорного рівня знань.

1. What plants are considered to be medicinal?
2. What parts of a plant are drugs made from ?
3. What are the special conditions for the storage of plants?

### 3. Формування професійних вмінь, навичок:

#### Exercise 1. Decide if the following statements are true or false:

1. All plants can be used for therapeutic purposes.
2. Over 50% of medicines prescribed in the U.S. come from plants.
3. Medicinal plant materials should be stored in the same area as food.
4. Flowers should be collected after pollination.
5. Roots are the least preferred part of medicinal plants.

#### Exercise 2. Form a new word using the root word provided:

1. **Medicine (noun)** - \_\_\_\_\_ (verb)
2. **Chemistry (noun)** - \_\_\_\_\_ (adjective)
3. **Prefer (verb)** - \_\_\_\_\_ (noun)
4. **Pollinate (verb)** - \_\_\_\_\_ (adjective)
5. **Proper (adjective)** - \_\_\_\_\_ (adverb)

#### Exercise 3. Choose the correct option to complete each sentence:

1. Leaves are collected when they are fully \_\_\_\_\_.  
a) developed b) developing c) develops
2. The time of the day is also important in the collection of medicinal plants. Flowers are collected before the time of \_\_\_\_\_.  
a) pollinates b) pollinated c) pollination
3. Drugs are made from fruits, leaves, flowers, roots, seeds of the plants, and even \_\_\_\_\_.  
a) petal b) bark c) stem
4. The plant parts most preferred in medicinal plants are \_\_\_\_\_.  
a) stems b) flowers c) roots
5. Medicinal plant materials should be stored in separate areas to prevent \_\_\_\_\_.  
a) contamination b) preservation c) cultivation

**Exercise 4. Reconstruct the following sentences using the words provided:**

1. plants / in / played / an / important / role / throughout / history / medicine.
2. the / storing / of / plants / should / be / carefully / done.
3. attention / to / should / storage / cleanliness / paid / be / special.
4. are / many / drug / and / cultivated / plants / collected / today.
5. without / you / plants / take / medicines / would / most / exist.

**Exercise 5. Fill in the blanks with the appropriate prepositions to complete each sentence:**

1. Medicinal plants are rich \_\_\_\_\_ essential nutrients and compounds.
2. Scientists extract active ingredients \_\_\_\_\_ plants to create medicines.
3. Over 40% of medicines prescribed in the U.S. contain chemicals derived \_\_\_\_\_ plants.
4. The bark of a willow tree contains salicylic acid, the active ingredient \_\_\_\_\_ aspirin.
5. It is important to collect plants \_\_\_\_\_ proper timing to ensure their potency.
6. Leaves are collected \_\_\_\_\_ they are fully developed to maximize their medicinal properties.
7. Flowers are harvested \_\_\_\_\_ the time of pollination to preserve their therapeutic qualities.
8. The storage area should be well ventilated to protect \_\_\_\_\_ insects and rodents.
9. Special conditions of humidity and temperature are required to preserve plants \_\_\_\_\_ spoilage.
10. Effective measures should be taken to prevent cross-contamination \_\_\_\_\_ different plant materials.

**Exercise 6. Choose the correct tense (present simple, present continuous, past simple, past continuous, or present perfect) to complete each sentence:**

1. Historically, plants (play) an important role in medicine.
2. Our ancestors (discover) many plant medicines by trial and error.
3. Over 40% of medicines now prescribed in the U.S. (contain) chemicals derived from plants.
4. Scientists (find) that willow bark contains salicylic acid, the active ingredient in aspirin.
5. Today, many drug plants (cultivate) in specialized farms.
6. Leaves (collect) when they are fully developed to maximize their medicinal properties.
7. Flowers (harvest) before the time of pollination to preserve their therapeutic qualities.
8. Special attention (pay) to the cleanliness of the storage areas to prevent contamination.
9. The storage area (be) well ventilated and equipped to protect against insects and rodents.
10. Effective measures (take) to limit the spread of animals and microorganisms introduced with the plant material.

**Exercise 7. Decide whether to use a gerund (-ing form) or an infinitive (to + base form of the verb) in each sentence:**

1. It is important \_\_\_\_\_ (understand) the properties of medicinal plants before using them.
2. She prefers \_\_\_\_\_ (prepare) herbal remedies from fresh plant materials.
3. They decided \_\_\_\_\_ (plant) medicinal herbs in their garden next spring.
4. His favourite hobby is \_\_\_\_\_ (research) the uses of different medicinal plants.

5. The villagers agreed \_\_\_\_\_ (collect) herbs from the forest for traditional medicine.
6. It is essential \_\_\_\_\_ (dry) the herbs thoroughly to prevent mold growth.
7. The herbalist taught her students \_\_\_\_\_ (identify) different medicinal plants in the wild.
8. We hope \_\_\_\_\_ (discover) new medicinal properties in the plants we're studying.
9. The government plans \_\_\_\_\_ (promote) the cultivation of medicinal plants to support traditional medicine.
10. He offered \_\_\_\_\_ (share) his knowledge of medicinal plants with the local community.

#### **4. Підбиття підсумків.**

#### **5. Список рекомендованої літератури**

#### **Електронні інформаційні ресурси**

1. Одеський національний медичний університет: <https://onmedu.edu.ua/>
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## Практичне заняття № 12

### Тема: Хімія та її галузі

**Мета:** Ознайомитися з галузями хімії. Вміти відповідати на запитання до тексту. Розвинути діалогічне мовлення.

**Основні поняття:** ланцюжок, склад, дисоціація, речовина, вимірювання, спостереження, походження, властивість, якість

**Обладнання:** методрозробка заняття, навчальний посібник, ноутбук.

### План:

**1. Організаційні заходи** (привітання, перевірка присутніх, повідомлення теми, мети заняття, мотивація здобувачів вищої освіти щодо вивчення теми).

### 2. Контроль опорного рівня знань.

1. What is pharmacy?
2. What does chemistry study?
3. What does analytical chemistry study?
4. What does biochemistry study?

### 3. Формування професійних вмінь, навичок:

#### Exercise 1. Match the terms with their definitions:

1. Chemistry
2. Analytical chemistry
3. Biochemistry
4. Inorganic chemistry
5. Neurochemistry
6. Nuclear chemistry
7. Organic chemistry
8. Pharmaceutical chemistry

- a. The study of chemicals, chemical reactions, and chemical interactions in living organisms.
- b. The analysis of material samples to understand their chemical composition and structure.
- c. The study of the properties and reactions of inorganic compounds.
- d. The study of how subatomic particles come together to form nuclei.
- e. The study of the structure, properties, composition, mechanisms, and reactions of organic compounds.
- f. The branch of chemistry that focuses on the development and testing of pharmaceuticals.
- g. The branch of chemistry dealing with the chemical processes within and relating to the nervous system.
- h. The science that studies the composition, properties, and behavior of matter.

#### Exercise 2. Decide if the statements are true or false:

1. Chemistry primarily focuses on the interaction of atoms with other atoms.
2. Biochemistry is closely related to organic chemistry.
3. Nuclear chemistry mainly studies the reactions of organic compounds.
4. Analytical chemistry is used in all sub-disciplines of chemistry.

5. Pharmaceutical chemistry is not important in the field of pharmacy.
6. Organic chemistry deals with compounds based on a carbon skeleton.
7. Neurochemistry studies the chemical processes within the nervous system.
8. Inorganic chemistry focuses on the properties and reactions of organic compounds.

**Exercise 3. Choose the correct answer for each question:**

1. What is pharmaceutical chemistry primarily concerned with?
  - a) Studying the properties of inorganic compounds
  - b) Testing the quality of drugs
  - c) Analyzing material samples
  - d) Understanding the chemical interactions in living organisms
2. Which branch of chemistry deals with the chemical processes within the nervous system?
  - a) Analytical chemistry
  - b) Inorganic chemistry
  - c) Biochemistry
  - d) Neurochemistry
3. What is organic chemistry focused on?
  - a) Inorganic compounds
  - b) Material samples
  - c) Carbon-based compounds
  - d) Nuclei formation

**Exercise 4. Associate each term with the branch of chemistry it is related to:**

1. Chemical bonds
  2. Organic compounds
  3. Material samples
  4. Living organisms
  5. Subatomic particles
- a) Analytical chemistry
  - b) Biochemistry
  - c) Inorganic chemistry
  - d) Nuclear chemistry
  - e) Organic chemistry

**Exercise 5. Choose the correct tense (present simple, present continuous, past simple, or future simple) to complete each sentence:**

1. Analytical chemistry (focus/focuses/focused) on the analysis of material samples to gain an understanding of their chemical composition.
2. Biochemistry (is studying/studies/studied) the chemicals, chemical reactions, and chemical interactions that take place in living organisms.
3. Inorganic chemistry (dealt/deals/is dealing) with the properties and reactions of inorganic compounds.
4. Nuclear chemistry (was/will be/is) the study of how subatomic particles come together and make nuclei.
5. Organic chemistry (is defined/defines/was defined) as the study of the structure, properties, and reactions of organic compounds.
6. Pharmaceutical chemistry (plays/played/will play) a leading role in testing the quality of drugs.
7. Chemistry (is sometimes calling/is sometimes called/was sometimes called) "the central science" because it bridges other natural sciences.
8. Analytical chemistry incorporates standardized experimental methods that (may be used/might have been used/will be used) in all sub-disciplines of chemistry.

9. Biochemistry and organic chemistry (are/is/was) closely related fields, particularly in areas like medicinal chemistry.
10. Chemistry (will have/had/has) a different impact on the career of each individual, but it plays an important role in everyday life.

**Exercise 6. Complete the sentences with the correct form of the words in brackets:**

1. Analytical chemistry involves the \_\_\_\_\_ (analyze) of material samples to determine their composition.
2. Biochemistry explores the \_\_\_\_\_ (chemical) processes that occur within living organisms.
3. Inorganic chemistry focuses on the properties of \_\_\_\_\_ (inorganic) compounds.
4. Nuclear chemistry investigates the \_\_\_\_\_ (combine) of subatomic particles to form nuclei.
5. Organic chemistry deals with the \_\_\_\_\_ (structural) and reactions of carbon-based compounds.
6. Pharmaceutical chemistry plays a crucial role in ensuring the \_\_\_\_\_ (qualify) of drugs.
7. Chemistry has a profound \_\_\_\_\_ (impact) on various aspects of everyday life.

**Exercise 7. Fill in the blanks with the appropriate words:**

**properties, reactions, compounds, analysis(x2), organic, pharmaceutical, biochemistry, inorganic, analytical**

1. \_\_\_\_\_ chemistry focuses on the study of carbon-based \_\_\_\_\_, including their structure, \_\_\_\_\_, and reactions.
2. \_\_\_\_\_ chemistry plays a vital role in ensuring the quality and safety of drugs through rigorous testing and \_\_\_\_\_.
3. \_\_\_\_\_ chemistry deals with the properties and \_\_\_\_\_ of non-carbon-containing compounds and elements.
4. \_\_\_\_\_ chemistry involves the \_\_\_\_\_ of material samples to determine their chemical composition and structure.
5. \_\_\_\_\_ explores the chemical processes that occur within living organisms, including metabolism and molecular interactions.

**4. Підбиття підсумків.**

**5. Список рекомендованої літератури**

**Основна**

9. ENGLISH FOR PHARMACEUTICAL STUDENTS: Course book for 1st year students of the Faculty of Pharmacy. – Одеса: ОНМедУ, 2023. – 73 с. (комп'ютерна верстка)

**Додаткова**

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5. Practical English Usage, Michael Swan, Видавництво Oxford University Press, 201. - 768 с.

### **Електронні інформаційні ресурси**

1. Одеський національний медичний університет: <https://onmedu.edu.ua/>
2. Інформаційні матеріали: <http://www.info.odmu.edu.ua>

## Практичне заняття № 13

### Тема: Органічна та неорганічна хімія

**Мета:** Освоїти основні положення органічної та неорганічної хімії. Вміти відповідати на запитання до тексту. Вивчити терміни, які стосуються теми

**Основні поняття:** кислота, альбумін, вуглець, вуглевод, з'єднання, гідроліз, ліпід, осад, білок

**Обладнання:** методрозробка заняття, навчальний посібник, ноутбук.

### План:

**1. Організаційні заходи** (привітання, перевірка присутніх, повідомлення теми, мети заняття, мотивація здобувачів вищої освіти щодо вивчення теми).

### 2. Контроль опорного рівня знань.

1. What does organic chemistry study?
2. What is the difference between organic and inorganic chemistry
3. What is the simplest organic compound?

### 3. Формування професійних вмінь, навичок:

#### Exercise 1. Match the terms with their definitions.

1. Organic chemistry
2. Inorganic chemistry
3. Proteins
4. Carbohydrates
5. Lipids
6. Hydrocarbons
7. Amino acids

- a. Science dealing with carbon-containing compounds
- b. Science focusing on chemical elements and their compounds excluding carbon
- c. Organic compounds composed of carbon and hydrogen
- d. Essential molecules made up of amino acids
- e. Important energy sources classified by the number of carbon atoms
- f. Greasy compounds insoluble in water found in all living things
- g. Building blocks of proteins with amine and acid properties

#### Exercise 2. Indicate whether the following statements are true or false:

1. Organic compounds always contain carbon.
2. Inorganic chemistry deals with carbon-containing compounds.
3. Proteins are composed of nucleotides.
4. Carbohydrates are classified by their solubility.
5. Lipids are primarily composed of carbohydrates.
6. Hydrocarbons are the simplest organic compounds.
7. Amino acids are not essential for human nutrition.

#### Exercise 3. Choose the correct answer for each question:

1. Which branch of chemistry deals with carbon-containing compounds?  
a) Inorganic chemistry b) Organic chemistry c) Biochemistry

2. What are proteins made of?  
a) Nucleotides b) Fatty acids c) Amino acids
3. What are carbohydrates classified by?  
a) Number of carbon atoms b) Number of hydrogen atoms c) Number of oxygen atoms
4. What are lipids primarily composed of?  
a) Carbohydrates b) Proteins c) Triglycerides
5. What does inorganic chemistry primarily deal with?  
a) Carbon-containing compounds b) Chemical elements excluding carbon c) Biological reactions

**Exercise 4. Fill in the blanks with the appropriate preposition: in, on, at, from, of, to, for, with:**

1. Organic chemistry deals \_\_\_\_\_ carbon-containing compounds.
2. The main difference \_\_\_\_\_ organic and inorganic chemistry lies in their focus.
3. Many breakthroughs \_\_\_\_\_ organic chemistry have led to the development of new drugs.
4. Inorganic chemistry is concerned \_\_\_\_\_ chemical elements and their compounds.
5. The study \_\_\_\_\_ inorganic chemistry provides insights into the behavior of metal ions.
6. Researchers are working \_\_\_\_\_ new methods to synthesize complex organic molecules.
7. The properties \_\_\_\_\_ organic and inorganic compounds are often compared.
8. This reaction is characteristic \_\_\_\_\_ organic chemistry.
9. The laboratory is equipped \_\_\_\_\_ state-of-the-art instruments for chemical analysis.
10. The field \_\_\_\_\_ chemistry continues to evolve rapidly with advancements in technology.

**Exercise 5. Complete each sentence with the correct form of the verb provided in brackets:**

1. Organic chemistry \_\_\_\_\_ (play) a crucial role in drug development.
2. Researchers \_\_\_\_\_ (study) the properties of inorganic compounds for centuries.
3. By the end of this year, scientists \_\_\_\_\_ (discover) new applications for organic materials.
4. Inorganic chemistry \_\_\_\_\_ (focus) on chemical elements and their reactions.
5. Over the past decade, significant advancements \_\_\_\_\_ (occur) in organic synthesis techniques.
6. By the time you graduate, you \_\_\_\_\_ (learn) about various branches of chemistry.
7. Many pharmaceutical companies \_\_\_\_\_ (invest) heavily in organic chemistry research.

**Exercise 6. Rewrite each sentence in passive voice:**

1. Organic chemists study the properties of carbon-based compounds.
2. Scientists have synthesized thousands of new organic molecules in recent years.
3. Inorganic chemistry explores the behavior of elements and their compounds.
4. Researchers are investigating the reactivity of inorganic substances under various conditions.
5. Organic synthesis techniques have revolutionized drug discovery and development.
6. Chemists use spectroscopic methods to analyze organic compounds.
7. The lab technician will perform the synthesis of the new inorganic material tomorrow.
8. Organic reactions often proceed via complex mechanisms.

9. The company has patented a novel method for producing inorganic nanoparticles.
10. Students are learning about the applications of organic and inorganic chemistry in industry.

**Exercise 7. Fill in the gaps in each sentence with the appropriate word or phrase:**

**Organic, energy, chemical, greasy, inorganic(x2), industry**

1. \_\_\_\_\_ chemistry focuses on compounds containing carbon atoms, while \_\_\_\_\_ chemistry deals with elements and their compounds excluding carbon.
2. Carbohydrates, such as sugars and starches, are essential sources of \_\_\_\_\_ for both plants and animals.
3. Lipids, including fats and oils, are important for energy storage and cell structure due to their \_\_\_\_\_ nature.
4. The study of inorganic compounds has applications in various fields, including \_\_\_\_\_ and medicine.
5. New materials with unique properties are being developed through advances in \_\_\_\_\_ chemistry.
6. The interactions between organic and inorganic compounds play a crucial role in many natural and synthetic \_\_\_\_\_ processes.

**4. Підбиття підсумків.**

**5. Список рекомендованої літератури**

**Основна**

10. ENGLISH FOR PHARMACEUTICAL STUDENTS: Course book for 1st year students of the Faculty of Pharmacy. – Одеса: ОНМедУ, 2023. – 73 с. (комп'ютерна верстка)

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## Практичне заняття № 14

**Тема:** Періодична система хімічних елементів

**Мета:** Засвоїти новий лексичний матеріал. Робити лексико-граматичний аналіз тексту. Робити усне повідомлення про вченого

**Основні поняття:** розташування, величина, молекула, співвідношення, валентність, вага

**Обладнання:** методрозробка заняття, навчальний посібник, ноутбук.

### План:

**1. Організаційні заходи** (привітання, перевірка присутніх, повідомлення теми, мети заняття, мотивація здобувачів вищої освіти щодо вивчення теми).

**2. Контроль опорного рівня знань.**

1. Who was D. Mendeleev?

2. What is the periodic table?

3. Why are there vacant places in the periodic table?

4. How many elements does the periodic table consist of?

**3. Формування професійних вмінь, навичок:**

**Exercise 1. Match the terms with their definitions:**

**1. Periodic table**

**2. Dmitri Mendeleev**

**3. Atomic mass**

**4. Chemical periodicity**

**5. Vertical groups**

**6. Horizontal periods**

**7. Nuclear charges**

a. A Russian chemist credited with inventing the periodic table in 1869.

b. The mass of an atom, typically measured in atomic mass units.

c. A tabular display of the chemical elements organized by atomic number and electron configuration.

d. Recurrent trends in the properties of elements based on their atomic masses.

e. Columns in the periodic table representing elements with similar properties.

f. Rows in the periodic table indicating the number of electron shells in an atom.

g. The positive charge of an atomic nucleus.

**Exercise 2. Decide whether the following statements are true or false:**

1. Dmitri Mendeleev discovered the periodic table in 1869.

2. Mendeleev classified elements based on their atomic numbers.

3. The periodic table helps predict the properties of new elements.

4. The periodic table contains 118 elements.

5. Vertical groups in the periodic table represent elements with similar properties.

6. The layout of the periodic table has remained unchanged since its invention.

7. The periodic table is only used in the field of chemistry.

**Exercise 3. Choose the correct answer for each question:**

1. Who is generally credited with inventing the periodic table?  
a) Dmitri Mendeleev b) Albert Einstein c) Marie Curie d) Isaac Newton
2. How did Mendeleev classify elements?  
a) Based on their atomic numbers b) Based on their physical and chemical properties  
c) Based on their location in space d) Based on their alphabetical order
3. What is the periodic table used for?  
a) Predicting the weather b) Classifying chemical behavior c) Analyzing geological formations  
d) Studying human anatomy
4. How many elements does the periodic table contain as of January 2008?  
a) 100 b) 118 c) 150 d) 200
5. What are the vertical columns in the periodic table called?  
a) Rows b) Groups c) Periods d) Blocks
6. What did Mendeleev observe about the properties of elements?  
a) They are random and unrelated b) They recur in a cyclic fashion c) They are determined by their colors  
d) They are constant over time
7. Which term refers to the positive charge of an atomic nucleus?  
a) Atomic mass b) Atomic number c) Nuclear charge d) Chemical property

**Exercise 4. Rearrange the words to form a coherent sentence:**

1. of the chemical elements / display / is a tabular method / The periodic table / of the /.
2. based on / Mendeleev classified / their physical and chemical properties / elements /.
3. occur / properties / cyclic fashion / Mendeleev observed / elements with similar / in a /.
4. been discovered / layout / has been refined / The periodic table / as new elements / over time / have /.
5. extremely useful framework / provides / to classify / The periodic table / chemical behavior / an /.
6. applications / also / found / wide / The periodic table / in physics, biology, engineering, and industry /.
7. 117 elements / contains / table / The / as of January 2008 /.

**Exercise 5. Read the following sentences and choose the correct verb tense for each sentence:**

1. Dmitri Mendeleev \_\_\_\_\_ (invent) the periodic table in 1869.
2. Mendeleev \_\_\_\_\_ (classify) elements based on their physical and chemical properties.
3. Properties of elements \_\_\_\_\_ (recur) in a cyclic fashion.
4. The layout of the periodic table \_\_\_\_\_ (be) refined and extended over time.
5. The periodic table \_\_\_\_\_ (contain) 117 elements as of January 2008.
6. The periodic table \_\_\_\_\_ (be) used within the academic discipline of chemistry.
7. Properties of elements \_\_\_\_\_ (recur) in a random fashion.

**Exercise 6. Read the following sentences and choose the correct modal verb to complete each sentence:**

1. Scientists \_\_\_\_\_ predict the possibility of discovering new elements.  
a) can  
b) could

- c) should
- d) would

2. Mendeleev \_\_\_\_\_ arrange all the elements in a table consisting of vertical groups and horizontal periods.

- a) can
- b) could
- c) should
- d) would

3. The layout of the periodic table \_\_\_\_\_ be refined and extended over time.

- a) can
- b) could
- c) should
- d) would

4. The periodic table \_\_\_\_\_ now used within the academic discipline of chemistry.

- a) can
- b) could
- c) should
- d) would

5. Mendeleev's periodic table \_\_\_\_\_ provide an extremely useful framework to classify and systematize elements.

- a) can
- b) could
- c) should
- d) would

6. Scientists \_\_\_\_\_ compare all the different forms of chemical behavior using the periodic table.

- a) can
- b) could
- c) should
- d) would

7. The periodic table \_\_\_\_\_ found wide application in physics, biology, engineering, and industry.

- a) can
- b) could
- c) should
- d) would

**Exercise 7. Choose the correct preposition to complete each sentence:**

1. The periodic table consists \_\_\_\_\_ vertical groups and horizontal periods.

2. Mendeleev classified 56 elements \_\_\_\_\_ the basis of their physical and chemical properties.

3. The periodic table is used \_\_\_\_\_ the academic discipline of chemistry.

4. The layout of the table has been refined and extended \_\_\_\_\_ time.

5. The periodic table provides a framework \_\_\_\_\_ classifying and comparing elements.
6. The periodic table has also found wide application \_\_\_\_\_ physics and industry.
7. Scientists use the periodic table \_\_\_\_\_ predict new elements.

#### **4. Підбиття підсумків.**

#### **5. Список рекомендованої літератури**

##### **Основна**

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##### **Електронні інформаційні ресурси**

1. Одеський національний медичний університет: <https://onmedu.edu.ua/>
2. Інформаційні матеріали: <http://www.info.odmu.edu.ua>

## Практичне заняття № 15

### Тема: Хімічні реакції

**Мета:** Описувати основні властивості хімічних реакцій. Знати терміни, що відносяться до теми. Робити монологічне повідомлення за темою.

**Основні поняття:** додавання, виключення, швидкість, термін придатності

**Обладнання:** методрозробка заняття, навчальний посібник, ноутбук.

#### План:

**1. Організаційні заходи** (привітання, перевірка присутніх, повідомлення теми, мети заняття, мотивація здобувачів вищої освіти щодо вивчення теми).

**2. Контроль опорного рівня знань.**

1. What is a chemical reaction?
2. What is the mechanism of a reaction?
3. Why is it necessary to know the mechanisms of a reaction?
4. What kind of reactions can you name?

**3. Формування професійних вмінь, навичок:**

**Exercise 1. Match the words/phrases on the left with their definitions:**

1. Chemical change
2. Reaction rate
3. Shelf-life
4. Mechanism
5. Nucleophilicity
6. Electrophilicity
7. Kinetics

- a) The duration for which a drug remains usable before it deteriorates.
- b) The study of how substances transform chemically.
- c) The speed at which a chemical reaction occurs.
- d) The detailed steps involved in a chemical reaction.
- e) The tendency of a chemical species to donate electron pairs.
- f) The tendency of a chemical species to accept electron pairs.
- g) The study of reaction rates and mechanisms.

**Exercise 2. Indicate whether each statement is true or false:**

1. The study of chemical change is not a major focus in chemistry.
2. Mechanism refers to a vague description of a reaction pathway.
3. Classification of reactions is the final step in developing a mechanism.
4. Kinetics is not useful for studying reaction mechanisms.
5. Shelf-life is not important in pharmacy.
6. Nucleophilicity and electrophilicity are unrelated to reaction classifications. (False)
7. Kinetics experiments involve precise control of temperature and reactant concentrations.

**Exercise 3. Choose the correct option to complete each sentence:**

1. The \_\_\_\_\_ of a reaction provides a detailed description of the pathway.
  - a) product
  - b) mechanism
  - c) catalyst
  - d) substrate
2. Kinetics is important for studying \_\_\_\_\_.
  - a) reaction rates
  - b) physical properties
  - c) molecular structure
  - d) atomic masses
3. The study of \_\_\_\_\_ is crucial for designing chemical plants.
  - a) reaction rates
  - b) mechanism
  - c) kinetics
  - d) experimental data
4. Experimental data are important for \_\_\_\_\_ the shelf-life of a drug.
  - a) reducing
  - b) estimating
  - c) increasing
  - d) eliminating
5. The \_\_\_\_\_ provides a framework for understanding various forms of chemical behavior.
  - a) experiment
  - b) mechanism
  - c) periodic table
  - d) substrate
6. Classification of reactions into types helps in understanding \_\_\_\_\_.
  - a) mechanism
  - b) kinetics
  - c) nucleophilicity
  - d) electrophilicity
7. \_\_\_\_\_ are common reaction classifications.
  - a) Substitutions
  - b) Hydrocarbons
  - c) Proteins
  - d) Lipids

**Exercise 4. Form nouns from the following verbs:**

1. Measure- \_\_\_\_\_
2. Classify - \_\_\_\_\_
3. Estimate- \_\_\_\_\_
4. Mechanize - \_\_\_\_\_
5. Transform - \_\_\_\_\_

6. Decompose - \_\_\_\_\_

7. Develop - \_\_\_\_\_

**Exercise 5. Fill in the blanks with the appropriate prepositions:**

**Between, behind, of(x2), for, in, into**

1. The study of chemistry involves investigating the interactions \_\_\_\_\_ various substances.
2. Experimental data are crucial \_\_\_\_\_ understanding the mechanisms of chemical reactions.
3. Chemists aim to develop a detailed understanding \_\_\_\_\_ the processes involved.
4. The reaction rates provide insights \_\_\_\_\_ the kinetics of chemical transformations.
5. Classification into reaction types is the first step \_\_\_\_\_ understanding chemical mechanisms.
6. The development \_\_\_\_\_ a mechanism requires careful consideration of the experimental evidence.
7. The application of kinetics helps scientists uncover the underlying processes \_\_\_\_\_ chemical reactions.

**Exercise 6. Fill in the blanks with the appropriate forms of the verbs in brackets:**

1. Chemists [study] the properties of various substances for centuries.
2. In recent years, there [be] a significant increase in research on nanomaterials.
3. Scientists [investigate] new methods to enhance the efficiency of chemical reactions.
4. By the end of this year, researchers [conduct] numerous experiments on catalysts.
5. Last week, the team [present] their findings at an international conference.
6. Next month, they [analyze] the data collected from the experiments.
7. In the future, advancements [continue] to revolutionize the field of chemistry.

**Exercise 7. Rewrite the following sentences using the passive voice:**

1. Chemists have studied the properties of various substances for centuries.
2. Researchers are investigating new methods to enhance the efficiency of chemical reactions.
3. Scientists conducted numerous experiments on catalysts by the end of last year.
4. The team presented their findings at an international conference last week.
5. They will analyze the data collected from the experiments next month.
6. Advancements in chemistry continue to revolutionize the field.
7. The book explains the principles of organic chemistry in a clear manner.

**4. Підбиття підсумків.**

**5. Список рекомендованої літератури**

**Основна**

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