ЗАХВОРЮВАННЯ ОКА

Домашні завдання з іноземної мови за професійним спрямуванням (англійської) для студентів ІІ курсу медичного факультету № 1

1. Домашнє завдання до заняття № 14 -15 «ЗАХВОРЮВАННЯ ОКА»

підручник English for Professional Purposes: Medicine: textbook (IV a. l.) / O.O. Pisotska, I.V. Znamenska,V.G. Kostenko, O.M. Bieliaieva = Англійська мова за професійним спрямуванням: Медицина**.**

Lesson 18, p. 181 – 193.

VOCABULARY

Term elements pertaining to eye or eye disorders

ocul(o)LAT.- (denoting an eye)

oculist a *physician who specializes* in *diagnosing and prescribing treatment for defects, injuries, and diseases* of *the eye*

oculomotor *pertaining to or affecting eye movements*

oculofacial *pertaining to the eyes and face*

-opia (denoting a visual disorder)

dipl**opia** *medical term for double vision*

my**opia** *nearsightedness*

hype**ropia** *farsightedness*

ophthalm(o)GR.- (denoting an eye)

ophthalmic nerve *a branch of the trigeminal (fifth cranial) nerve. It is sensory and has lacrimal, frontal, and nasociliary branches*

ophthalmoscope *an instrument for examining the interior of the eye*

ophthalmia *severe inflammation of the eye or of the conjunctiva or deeper structures of the eye*

pupil(lo)LAT.- (denoting a pupil)

pupillary reflex *changing in the size of the pupil according to the amount of light entering the eye*

pupilage *the condition of being a pupil or duration for which one is a pupil*

pupilloplegia *slow reaction of the pupil of the eye*

2. Match the terms and their definitions. ***(in writing*)***

anopia	A. protrusion of the eyeball
oculist	B. visual perception of several images of a single object
dextocular	C. another term for eyepiece
exophthalmos	D.severe inflammation of the eye or of the conjunctiva or deeperstructures of the eye
polyopia	E. dilated pupil due to parasympathetic
pupillatony	F. the recording of pupillary reactions
ocular	G.a blindness resulting from a defect in or the absence of one or both eyes
ophthalmalgia	H. pertaining to the right eye

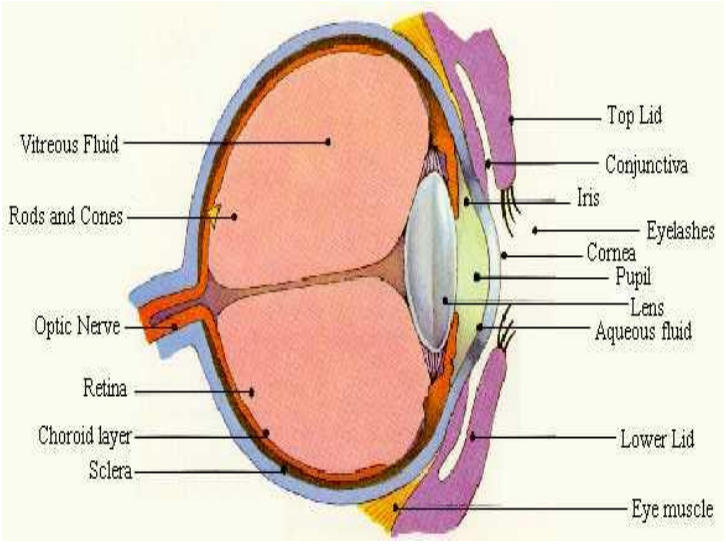
4. Read the VOCABULARY and memorize new words. Compose 3 – 4 sentences using these words ***(in writing*)*.**

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

6. Read the text. Make up the plan for text retelling.

EYE

Vision is our dominant sense as 80% of what we learn is through our eyes and 80% of our memories are determined by what we see. Thousands of times a day, the eyes move and focus on images near and far, forming a visual image and projects it onto the sensory receptors (photoreceptors) of the retina. Our eyes work with our **brain** to tell us the size, shape, color, texture, dimension, and distance of an object.



Eye

The structure of the eye is very complex. The **eyeball**, which is mostly spherical in shape, is housed within and is protected by the bony orbit. Only a small portion of its anterior aspect is exposed to the external environment. Externally, the eye is surrounded by protective **conjunctiva**, the delicate mucous membrane that covers the **eyeball** and the under surface of the **eyelid**. Six muscles, the **extrinsic muscles** of the eye, control the movement of the eye. Internally, the eye is filled with **fluids** (humors) and is divided by the lens into an anterior cavity (segment)containing aqueous humor, and posterior cavity containing the vitreous humor (body).

The wall of the eye consists of three **layers** (tunics). From outer to inner, they are the fibrous tunic, the vascular tunic, and the sensory tunic. The fibrous tunic is the layer of tough dense connective tissue that surrounds the eye. The two components of the fibrous tunic are the **sclera**, the tough white layer that covers most of the eyeball, and the cornea. The **cornea** is the transparent anterior "window" of the eyeball and is the eye's primary structure for focusing incoming light.

The **vascular tunic** contains numerous blood vessels (vascular), pigments, and the intrinsic muscles of the eye. The components of the vascular tunic are the choroid, ciliary body, and iris, an anterior portion of the vascular tunic. 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. **Choroid** is a multilayered vascular tissue, which lies between the retina and the sclera.

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.

The neural tunic is the inner layer of the eye, the **retina**, containing receptive elements – rods and cones. Retina is located behind the vitreous chamber.The retina processes the light images projected from the cornea and lens. The retina is nourished primarily by the choroids. 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.

8. Answering the following questions will help you understand and remember what you have read in the text above. Add more your questions and practise them with your partner.

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?

9. Define each of the following terms.

1. macula	a) front part or "window" of the eye
2. pupil	b) collection of nerve endings attached to the retina connecting the eyeball to the "seeing" centres of the brain
3. iris	c) mucous membrane that covers the front of the eye and lines the inside of the eyelids
4. cornea	d) that part of the retina responsible for central or "eagle eye" vision
5. retina	e) part of the eye that focuses images onto the retina
6. lens	f) Innermost layer of the eye composed of light sensitive cells which pick up the images seen by the eye
7. optic nerve	g) "coloured" part of the eye
8. conjunctiva	h) dark circular opening in the centre of the iris of the eye, which varies in size to regulate the amount of light reaching the retina

10. Read the text and explain the meaning of the words in bold type. Describe the functions of each component of the eye accessory apparatus.

ACCESSORY STRUCTURES OF THE EYE

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

The eyebrows are made up of several rows of hair above the upper eyelids. The eyebrows forming an arch prevent **perspiration** from entering the eyes and help shade of the eye.

The eyelids are either of the two muscular folds of skin that can be moved to cover the exposed portion of the eyeball. Eyelids consist of skin, muscle, connective tissue (tarsus), and sebaceous glands (meibomian or tarsal glands). Each eyelid is lined with conjunctiva, a mucous membrane, which lines the inner aspect of the eyelids as well as the visible portion of the **cornea** and fringed with eyelashes. Stimulation of the pain receptors in the cornea causes the eyelids to close in a **reflex** action. 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. Eyelashes are the long stiff hairs that form a row projecting outwards from the front edge of the upper and lower eyelids. The eyelashes help keep dust away from the eye.

Lacrimal apparatus is the term used for a group of structures that manufacture and drain away tears. It includes the lacrimal **glands**, the execratory lacrimal ducts, the lacrimal canals, the lacrimal sacs, and the nasolacrimal ducts. A lacrimal gland is located in the upper outer corner of each **orbit**. The lacrimal glands secret lacrimal fluid through small ducts into the space between the external surface of the eyeball and the upper eyelid. 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.

11. Determine whether these statements are true or false. With a partner, discuss why.

1 The conjunctiva functions to protect the eye by providing a site for sensory receptors (pain) and produces lubricating mucus. 2. Lacrimal apparatus consists of the lacrimal gland and the structures which drain the secretions (tears) from the lacrimal apparatus. 3. The lens of an eye is a biconcave structure formed of layers of cells called lens fibers. 4. The eyelids house the eyelashes at their margins and contain numerous sebaceous glands. 5. The cornea is formed from fibrous connective tissue and is continuous with the sclera. 6. The seven muscles which move the eye are collectively called the intrinsic eye muscles.

13. Translate into Ukrainian *(in writing*)*.

1. Зоровий аналізатор – складна система, яка складається з очного яблука, із придаткового апарату ока, із зорових шляхів та зорового центру. 2. Очне яблуко знаходиться в кістковому утворенні – орбіті. 3. Рогівка є передньою частиною фіброзної оболонки ока. Вона прозора і має сферичну форму, завдяки чому виконує роль оптичної лінзи. 4. Основною функцією райдужної оболонки є регуляція кількості світла, яке потрапляє в око. 5. Зміна форми зіниці вказує на запалення райдужки або порушення симпатичної і парасимпатичної іннервації. 6. Сітківка сприймає світлове подразнення і перетворює його в нервовий імпульс, який через зорові шляхи досягає потиличної долі кори головного мозку, де формується зоровий образ.

14. Read the text. Write out the key words and phrases. Retell the text.

VISION DISORDERS

The most common vision problems are refractive errors, more commonly known as nearsightedness, farsightedness, astigmatism and presbyopia. Refractive errors occur when the shape of the eye prevents light from focusing directly on the retina. The length of the eyeball (either longer or shorter), changes in the shape of the cornea, or aging of the lens can cause refractive errors. Most people have one or more of these conditions. Nearsightedness (myopia) is a condition where objects up close appear clearly, while objects far away appear blurry. With nearsightedness, light comes to focus in front of the retina instead of on the retina. Myopia is a risk factor for retinal detachment

Farsightedness (hyperopia) is a common type of refractive error where distant objects may be seen more clearly than objects that are near. However, people experience farsightedness differently. Some people may not notice any problems with their vision, especially when they are young. For people with significant farsightedness, vision can be blurry for objects at any distance, near or far. Astigmatism is a condition in which the eye does not focus light evenly onto the retina, the light-sensitive tissue at the back of the eye. This can cause images to appear

blurry and stretched out. Presbyopia is an age-related condition in which the ability to focus up close becomes more difficult. As the eye ages, the lens can no longer change shape enough to allow the eye to focus close objects clearly.

Blurred vision is the most common symptom of refractive errors. Other symptoms may include: double vision, haziness, glare or halos around bright lights, squinting, headaches, eye strain.

An eye care professional can diagnose refractive errors during a comprehensive dilated eye examination. People with a refractive error often visit their eye care professional with complaints of visual discomfort or blurred vision. However, some people don't know they aren't seeing as clearly as they could. Refractive errors can be corrected with eyeglasses, contact lenses, or surgery.

Another example of vision disorders is colour blindness, which is not a form of blindness at all, but a deficiency in the way you see colour. With this vision problem, you have difficulty distinguishing certain colours, such as blue and yellow or red and green. Colour blindness (or, more accurately, colour vision deficiency) is an inherited condition that affects males more frequently than females. According to Prevent Blindness America, an estimated 8 percent of males and less than 1 percent of females have colour vision problems. Red-green colour deficiency is the most common form of colour blindness. Much more rarely, a person may inherit a trait that reduces the ability to see blue and yellow hues. This blue-yellow colour deficiency usually affects men and women equally.

Meanwhile, there is no cure for colour blindness. But some coping strategies may help you function better in a colour-oriented world. Most people are able to adapt to color vision deficiencies without too much trouble. But some professions, such as graphic design and occupations that require handling various colours of electrical wiring, depend on accurate colour perception.

15. Complete the questions an oculist can put while checking patient's vision (use the words in the box below). Work in pairs and use the questions to make up the dialogue "At the oculist, examination" *(in writing*)*.

1. Did you have any _____ with your eyes? 2. When did you have your eyes _____ last? 3. Can you see any letters at _____? 4. Can you read fine _____? 5. Well, with the right eye, can _____ you _____? 6. When did you notice _____ of vision? 7. When did you begin _____ vision? 8. At what age did you start wearing _____ ? 9. When did you realize you _____ glasses? 10. Do these _____ bars look to be in order from darkest to lightest? 11. Do you see any _____ between these colours?

difference, trouble, all, eye glasses / lenses, anything, need, examined, colour, print, see, impairment, losing

18. What type of diseases do you know? Read the text and identify the commonest types of diseases affecting eyes.

TYPES OF EYE DISEASES

Nature has many ways of making it hard for people to see. Many of the viruses, bacteria, parasites, and fungi that can invade the human body are also capable of attacking the surface or interior of the eye. Infectious eye diseases can be categorized in two ways.

Firstly, doctors normally talk about the part of the eye that's infected or inflamed. Conjunctivitis, for example, is an inflammation of the conjunctiva, the membrane of

the inner eyelid and the inner corner of the eye's surface. Other possible locations of inflammation include the eyelid (blepharitis), the cornea (keratitis), the liquid inside the eye (vitritis), the retina and the blood vessels that feed it (chorioretinitis), or the optic nerve (neuroretinitis). These are just a few examples – the eye is a complex organ of many parts.

Secondly, eye infections are also classified according to what's causing them. Ocular histoplasmosis syndrome (OHS), for example, is caused by a fungus (the condition is also called chorioretinitis). It generally attacks the blood supply of the retina, on the inner rear surface of the eye.

The most common eye infection is conjunctivitis caused by an adenovirus (a type of common cold virus**)**. This type of infectious conjunctivitis is sometimes called pinkeye and is most common in children. Viral conjunctivitis is contagious because the virus can be spread from the eye to hands that then touch doorknobs and other surfaces that other people use. There are other causes of infectious conjunctivitis, such as bacteria like Staphylococcus aureus. Bacterial infections occur most commonly in children and tend to result in longer-lasting cases of pinkeye.

Ophthalmologists and optometrists are trained to recognize various eye infections by the appearance of the surface of the eye and the retina, the progress of the disease, whether it's in one eye or both, and your medical history. There's a wide range of lighted devices for looking at the cornea and retina.

Viral conjunctivitis usually improves in a few days without treatment. Broad-spectrum antibiotics will deal with most cases of bacterial conjunctivitis or keratitis, while particular antibiotics are used to treat gonorrhea and hlamydia. All of these diseases can be cured. Most fungal and parasitic infections are also treatable by various medications.

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 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.

19. Identify vision disorders and eye diseases *(in writing*)*.

1. Opacity of the lens of the eye.
2. An error of refraction in which objects can be seen clearly only when very close to the eye.
3. Pinkeye, inflammation of conjunctive.
4. A disease caused by increased intraocular pressure that damages the optic disk and causes loss of vision.
5. There is no actual blindness but there is a deficiency of colour vision.
6. Age-related changes when the lens loses the ability to accommodate for near vision.
7. An error of refraction in which objects can be seen clearly only when far from the eye.

21. Scan the texts of the Lesson and choose the best answer (a-d) for each question *(in writing*)*.

1. Which orbital bone is most likely to fracture with blunt trauma to the eye?
a. zygomatic
b. maxillary
c. ethmoid
d. sphenoid

2. What is glaucoma?
a. retinal damage from high intraocular pressure
b. optic nerve death caused by mechanical stretching forces
c. ischemic nerve damage from decreased blood perfusion gradients
c. none of the above

3. Which of the following is a risk factor for retinal detachment?
a. black race
b. male sex
c. presbyopia
d. myopia

4. A man calls the office complaining of splashed bleach in his eye. You should instruct him to:
a. patch the eye and immediately go to the office
b. irrigate the eye for 15 minutes and then go to the office
c. immediately apply lubricating ointment and then go to the office
d. immediately wash the eye with contact saline solution and go to the office if he notices any change in vision

5. A woman presents to you complaining of a red, watering eye for the past two days with stinging and some photophobia. Her vision has dropped slightly to 20/30. She has a history of diabetes and taking drops for glaucoma, but is otherwise healthy. The most likely cause of her

redness is:
a. angle-closure glaucoma
b. viral conjunctivitis
c. diabetic retinopathy

6. A myopic eye focuses images:
a. in front of the lens
b. In front of the retina
c. behind the retina
d. Behind the cornea

ЗАХВОРЮВАННЯ ВУХА

Домашні завдання з іноземної мови за професійним спрямуванням (англійської) для студентів ІІ курсу медичного факультету № 1

1. Домашнє завдання до заняття № 16 -17 «ЗАХВОРЮВАННЯ ВУХА»

підручник English for Professional Purposes: Medicine: textbook (IV a. l.) / O.O. Pisotska, I.V. Znamenska,V.G. Kostenko, O.M. Bieliaieva = Англійська мова за професійним спрямуванням: Медицина**.**

Lesson 19, p. 194 – 202.

3. Read VOCABULARY and memorize new words. Compose 3 – 4 sentences with them *(in writing*)*.

VOCABULARY

ear ['Iq] вухо
deliver [dI'lIvq] передавати
auricle ['O:rIkl] вушна раковина
pinna ['pInq] вушна раковина
wax [wxks] сіра
process ['prqu''ses] обробляти; переробляти
eardrum ['IqdrAm] барабанна перетинка
ossicle ['O:sIkl] кісточка
hammer ['hxmq] молоточок
malleus ['mxlIqs] молоточок (вушна кісточка)
anvil ['xnvIl] коваделко
incus ['INkqs] коваделко (у внутрішньому вусі)
stirrup ['stIrqp] стремінце (слухова кісточка середнього вуха)
stapes ['steIpI:z] стремінце
hearing ['hIqrIN] слух
link [lINk] з'єднувати, зв'язувати
Eustachian tube [ju:s'teISjqn] євстахієва труба
yawn ['jO:n] позіхати; позіхання
equalize ['I:kwqlaIz] вирівнювати
labyrinth ['lxbIrInT] лабіринт
cochlea ['kOklIq] равлик (вуха)
tiny ['taInI] дуже маленький, крихітний
curve [kq:v] вигин, округлення, кривизна
strike [straIk] вдаряти(ся)
disseminate [dI'semIneIt] розповсюджувати(ся), розсіювати
auditory ['O:dIt(q)rI] слуховий

5. Join the words into word combinations *(in writing*)*.

1. tympanic	a. nerve
2. auditory	b. sounds
3. Eustachian	c. wax
4. to convert	d. electric impulses
5. to suppress	e. tube
6. to deliver	f. membrane
7. to secret	g. apparatus
8. vestibular	h. ossicles
9. vestibulocochlear	i. yawns

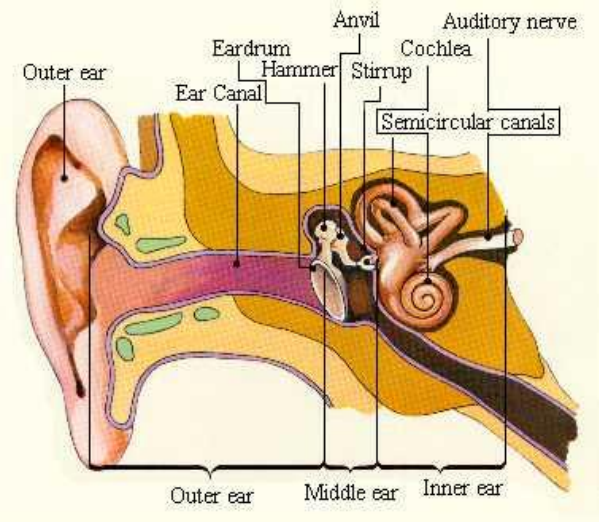
6. Arrange the following in pairs of absolute synonyms *(in writing*)*.

Hearing, Eustachian tube, malleus, auricle, anvil, dizziness, sound waves, nasopharynx, response, external auditory canal, stapes, equilibrium, eardrum, audition, pinna, incus, sense of balance, auditory tube, stirrup, throat, vertigo, reaction, hammer, acoustic waves.

7. Read the text. Make up the plan for text retelling.

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. The soft lower part of the external ear is an **earlobe** (lobulus auriculae). It has a large blood supply and may help to warm the ears and maintain balance. Piercing the earlobes is a commonplace activity in many cultures in many historical eras. Within the outer ear wax-producing glands and hairs that protect the middle ear are located.



Ear

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** (tympanic membrane), 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 intercommunicating parts of the hearing mechanism. They are two chambers called the **vestibular labyrinth** that serves both hearing and equilibrium, and the **cochlea** that functions in hearing. 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.

9. Match the term with its definition.

1. auricle	a. the bony and membranous labyrinth of the inner ear
2. auditory ossicle	b. middle of the three ossicles in the middle ear
3. eardrum	c. cellular membrane that separates the outer from the middle ear; it vibrates in response to sound waves
4. malleus	d. smallest of the three auditory ossicles
5. incus	e. bone of the middle ear: includes the malleus, incus, and stapes
6. stapes	f. largest of the three auditory ossicles
7. labyrinth	g. part of the outer ear that protrudes from the side of the head

10. Check yourself by answering the following questions.

1. What parts does the ear consist of? 2. What are the portions of the outer ear? 3. How is the ear protected from entering dust and any foreign particles inside?
4. What does the middle ear consist of? 5. What is the function of the auditory ossicles? 6. Explain the function of Eustachian tube. 7. What intercommunicating chambers does the inner ear consist of?

13. Translate into English *(in writing*)*.

1. Приблизно 10 % інформації людина отримує через слух. 2. Завдяки слуху люди можуть визначати напрям звуку, джерело звуку; без слуху неможливе звукове і мовне спілкування між людьми. 3. Вухо – орган слуху, складається із трьох частин: зовнішнього, середнього та внутрішнього вуха. 4. Зовнішнє вухо складається із вушної раковини та зовнішнього слухового ходу. 5. Зовнішній слуховий хід виглядає як трубка завдовжки 2,5 – 3 см. 6. Зовнішня частина слухового ходу утворена еластичним хрящем, а внутрішня – кісткою. 7. На межі з порожниною середнього вуха лежить барабанна перетинка. 8. Середнє вухо складається з барабанної порожнини, слухових кісточок та слухової трубки. 9. У барабанній порожнині містяться три слухові кісточки: молоточок, коваделко і стремінце. 10. Евстахієва труба – це канал, що сполучає носоглотку з порожниною середнього вуха, служить для вирівнювання тиску повітря в середньому вусі по відношенню до довкілля.

14. Read the text and comment upon it. Retell it.

EAR DISORDERS

The ear is a biological marvel. Its complexity makes the ear susceptible to infections, congenital disorders, and damage due to accident or occupational exposure. There are many causes of hearing loss, including infections, tumors, structural problems, exposure to certain chemicals and pharmaceuticals (ototoxins), ageing, injuries, and exposure to loud noise.

Occupational hearing loss is one of the most common work-related illnesses in the United States. Approximately 22 million U.S. workers are exposed to hazardous noise levels at work, and an additional 9 million are exposed to ototoxic chemicals. High levels of noise are particularly common in industries where metal-on-metal impacts occur, such as primary metals and metal fabrication, but are also characteristic of food processing, textiles, lumber and wood, and many other industries.

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.

Otitis externa (commonly known as swimmer's ear) is an infection of the ear canal, the passage that carries sounds from the outside of the body to the eardrum. It can be caused by many different types of bacteria or fungi. The infection commonly occurs in kids who spend a lot of time in the water. Too much moisture in the ear can irritate and break down the skin in the canal, allowing bacteria or fungi to penetrate. For this reason, otitis externa occurs more often in summertime, when swimming is common. The primary symptom of otitis externa is ear pain, which can be severe and gets worse when the outer part of the ear is pulled or pressed on. It also may be painful for someone with otitis externa to chew. Sometimes the ear canal itches before the pain begins.

Infections of the middle ear known as **otitis media** are common in young children. These infections usually result from the spread of primary 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. The middle ear is linked to the mastoid. Therefore, an infection in the middle ear can extend into the mastoid.

15. Match the terms and their definitions *(in writing*)*.

1. age-related hearing loss	a. reduced ability in a person to detect sound
2. audiometry	b. loss of hearing that progresses with age (also known as

3. decibel 4. hearing loss 5. hearing threshold level 6. occupational noise 7. personal hearing protectors 8. tinnitus	presbycusis) c. devices worn over the ears or inserted into the ear canals with the aim of protecting a person's hearing against noise d. a test to measure an individual's hearing threshold level e). the unit used to indicate the relative magnitude of sound pressure level and other acoustical quantities, abbreviated as 'DB' f. ringing, buzzing or other noises in the ear or head in the absence of any external sound source g. the quietest sound a person can detect at a particular frequency relative to young people with normal hearing h. noise experienced in the workplace

16. Choose the proper suffixes to make the words precise and correct for this context. Playing a part of otologist, give some tips of advice on communicating with hearing-impaired persons. <u>Write out the words with chosen suffixes only</u>.

COMMUNICATING WITH A HEARING-IMPAIRED PERSON

Here are a few suggest- *(-ive / -ion)*s for communicating effective- *(-ness / -ly)* with a hearing-impaired person:

- Speak at a normal conversation- *(-al / -ally)* level if the person is wearing a hearing aid. If the person is not, speak a little loud- *(- er / -est)* than normal but do not shout, it is irritating and unnecess- *(-ary / -ity)*.
- Speak natur-(*-al /-ally*) but more slow- *(-ed / -ly)* than you usual- *(-ly / -ness)* 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 attent- *(-ive / -ion)*. 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.
- Patients tend to agree with their health work- *(-shop / -er)*s, sometimes without understanding what has been said to them. After every important point or message, ask the patient if he/she has understood you and, if necessary, ask him/her to repeat the message or instruct- *(-ion / -ive)*s back to you (this is especially import- *(-ance / -ant)* if the patient is unaccompanied.