Chapter 3 Human Anatomy

Themes: Integumentary, Skeletal, Muscular, Cardiovascular, Nervous, Endocrine, Lymphatic, Respiratory, Digestive, Urinary, Reproductive Systems; their organs and function

Academic Writing Skills: Parallelism

Academic Vocabulary Skills: Latin/Greek Plural, Formation of Medical terms

Note-taking Practice: note-taking from a video about the immune system of the human body

Communication Skills: exchanging ideas with peers about how the immune system works

Academic Writing Skills: Coherence & Cohesion

Academic Writing Skills: Subject – Verb Agreement

follicles, cartilage, keratin

atrium, spleen, dendrites,

medulla oblongata, bronchioles, cervix, womb

Discussion

Task 1

- 1. Name some of the systems of the human body
- 2. In which body systems do the organs in the circle belong to? Ask each other questions to find out.
- 3. How can you make your paragraphs easy to follow and understand?
- 4. What is a prefix/suffix? Can you identify medical terms?
- 5. Can you form plurals of medical terms?

Academic Writing

Parallelism

Parallelism is the method of joining together several words or phrases such as infinitives, verbs, gerunds etc to indicate that the concepts discussed are of similar significance. Parallel structures are joined with coordinated conjunctions such as "and" or "or". This technique is used, to make our sentences or paragraphs clear, academic and easy to follow.

Example: (infinitives, nouns, gerunds) in the row

Three things a woman could do for optimal results during pregnancy are to receive enough nutrients through food, to take adequate supplements and to exercise regularly.

Or

Three ways of achieving optimal results for a woman during pregnancy are good nutrition, adequate supplements and regular exercise.

Or

The ways for optimal results for a woman during pregnancy are receiving enough nutrients through food, taking adequate supplements and exercising regularly.

Tip: Never mix forms

Incorrect: Three things that can help a woman during pregnancy are good nutrition, taking adequate supplements and to exercise regularly.

Task 2Apply parallelism to correct the following sentences:

i) Good health for older adults can be achieved by exercising, healthy food and to think positively

....

ii) Three ways to maintain good relations in the family are patience, to be calm and avoiding fighting

.....

iii) Homeostasis is achieved by keeping the body's electrolyte levels stable and the filtering of waste from the blood

.....

- iv) The skin is the largest organ in the body, which protecting it against infections, fluid balance maintenance and synthesises vitamin D.
- v) The pericardial cavity contains a fluid which serves as a lubricant and allowing the heart to contraction and relax with minimum friction.

.....

The human body and its systems

The human body is a complicated network of cells, tissues and organs that combine together to make life possible. The major systems responsible for its function are: Integumentary, Skeletal, Muscular, Cardiovascular, Nervous, Endocrine, Lymphatic, Respiratory, Digestive, Urinary, Reproductive.

The integumentary, skeletal, muscular, cardiovascular and nervous systems create an **infrastructure** that protects and assists the other systems.

The **integumentary system** surrounds the whole body and protects it against environmental "attacks". It consists of the skin, hair, nails, **sensory receptors** and **exocrine glands**. Skin is the largest organ in the body, which protects it against infection and extreme temperatures, maintains fluid balance and synthesises vitamin D. It comprises three layers: **epidermis, dermis** and **hypodermis/subcutis**. Epidermis is the outer, protective layer. Dermis is underneath and this is where hairs are rooted and sweating, blood circulation and sensations of touch take place. Hair starts growing from the hair **follicles** found in dermis and is made of **keratin**. Hypodermis or subcutis is composed mostly of **adipose and fatty tissue**. Sweat and oil glands secrete sweat and oil, through which waste is excreted from the body.

sebaceous glands	produce oil into the hair follicles
subcutaneous glands	produce an oily secretion called sebum
ceruminous glands	produce wax in the ear canal for its protection
sudoriferous glands	produce sweat
mammary glands	produce milk

The **adult skeletal system** is a framework of over two hundred and six bones. It holds the body together, gives it shape and protects its organs and tissues. Bones are hard outside but at the centre there is a soft substance, where blood cells are made, called **bone marrow**. The place where two bones meet (knees, elbows) is called a joint. Joints contain a smooth material called **cartilage**, which along with **synovial fluid** allows the bones to rub against each other smoothly. Bones are made of living cells that assist them in growing and repairing themselves when injured. The skeleton also provides anchor points for **the muscular system**. It includes three types of muscles, attached to the bones with **tendons**. Skeletal, smooth and cardiac muscles are found throughout the body to facilitate movement. There are about six hundred and forty muscles in the body and they are divided into **voluntary** and **involuntary** ones. The former are under the individual's

conscious control, attached to the bones, helping them to move the body whereas, the latter are not under the individual's conscious control and are found in the stomach, the heart, the intestine etc.

Nestled within these muscles is the cardiovascular system, also called the circulatory system that delivers oxygen, white blood cells, hormones and nutrients throughout the body. It is a pipeline that includes the heart, blood and blood vessels. The heart is a fourchambered pump that propels blood through the vessels. It has two sides, each one consisting of two chambers. The best known function of the circulatory system is the transporting of inhaled oxygen from the lungs to the body's tissues and the removal of carbon dioxide in the opposite direction to be exhaled. Basically, oxygen poor blood returns to the right side of the heart, where it is pumped to the lungs. In the lungs, blood extracts oxygen and releases carbon dioxide. The oxygen enriched blood then returns to the left side of the heart and this part of the system is called the **pulmonary circuit**. The left side of the heart pumps oxygen enriched blood to body tissues where it unloads oxygen and picks up carbon dioxide. The resulting deoxygenated blood then returns to the right side of the heart to complete the cycle. In the heart there are four valves that help to ensure one-way blood flow: aortic, tricuspid, pulmonary and mitral. Oxygen poor blood flows from the right atrium to the right ventricle to the pulmonary arteries; while oxygen-rich blood moves from left atrium to left ventricle to the aorta. The heart is protected in a double-walled protective sac called the pericardium. The pericardial cavity contains a fluid which serves as a lubricant and allows the heart to contract and relax with minimum friction. The heart wall has three layers: a) the outer layer, epicardium, which lines the pericardial cavity, b) the inner layer, endocardium, which lines the heart chambers and valves and is similar to the endothelial cells that line blood vessels and c) myocardium, which is the muscle responsible for the beating of the heart. Other significant organs of the cardiovascular system that act as filtering mechanisms and keep the body pure are: kidneys, liver and spleen. Having filtered the blood, the kidneys gather waste, which is later eliminated through urine. Similarly, liver also filters blood and discards damaged or defective red cells, while the spleen filters and stores red blood cells and immune factors.

The nervous system is a network of nerve cells that the body uses to transmit information and organise bodily functions. It comprises two parts: the **central nervous** system (CNS) and the peripheral nervous system (PNS). The central nervous system comprises the brain, the hub of sensory and intellectual activity, the spinal cord, the brainstem and the many cranial and spinal nerves that emanate from them. The brain lies protected inside the skull and controls all the body functions by receiving and sending messages through the nerves. It has three major parts, the biggest of which is called the cerebellum and consists of two hemispheres: the left and the right. The right hemisphere helps people to realise abstract things like music, shapes and colours whereas the left part is more analytical helping people with mathematics, speech and logic. Between the two systems is the brainstem that connects the brain to the spinal cord and the rest of the body. The peripheral nervous system includes all the nerves that go from the skin, muscles and organs to the spinal cord and brain. It has two functions: some nerves carry messages to the brain (sensory nerves) whereas other nerves carry messages from the brain (motor **nerves**). The peripheral nervous system also controls some automatic actions like breathing, digestion etc. Nerves are made up of **neurons**, which have three parts: **nucleus**, **dendrites** and **axon**. This **infrastructure** created by neurons, blood, muscles and bones allows other systems such as the endocrine, lymphatic, urinary and reproductive to regulate the body's functions.

The endocrine system is a system of glands, all of which use information carried by the nervous system to assist the body's processes. It regulates the function of all cells, tissues and organs and consists of many glands. Each gland of the endocrine system produces chemicals that are called hormones and each hormone has a different job. Glands are spread throughout the body and a lot of them are controlled by a little gland near the base of the brain called the **pituitary gland**, which produces growth hormone that helps the body to develop. Thanks to this neural connection, endocrine glands such as the thyroid, which regulates how the body uses the calories from the food consumed (metabolism), are aware of the amount of hormones and other chemicals they need to produce. These chemicals are then distributed all over the body through the cardiovascular system. The cardiovascular and nervous systems are also utilised by the lymphatic system, a collection of lymph nodes and vessels that help regulate the body's defence mechanism. Other glands are the **adrenal** glands and the pancreas which is an organ acting as a gland. The former, secrete adrenaline along with neurons in the medulla oblongata and the latter has both an endocrine and a digestive, exocrine function. Adrenaline is a hormone that boosts the body's reaction in case of emergency. The pancreas, as an endocrine gland regulates sugar levels in the blood and as an exocrine gland secretes pancreatic juice into the duodenum. The endocrine system is thoroughly analysed in the following chapter.

The lymphatic system, which is a subsystem of the immune system, uses neural circuits to relay information about infected regions of the body and then sends out healing agents such as white blood cells through the bloodstream. It is actually a drainage system that extracts waste fluid from body tissues and returns it to the bloodstream. It is also a subsystem of the circulatory system. The circulatory system's primary function is to provide oxygen and nutrients to body tissues while also eliminating waste. This exchange takes place in the smallest blood vessels, known as capillaries. Blood carrying nutrients exits capillaries at the arterial end of capillary beds, while waste-containing tissue fluid is reabsorbed at the venous end. However, 15% of the fluid is left in the tissues and would cause swelling if allowed to accumulate. This is where the lymphatic system emerges. It collects extra fluid and transports it back to the circulatory system. The lymphatic system is a one-direction, open ended network of vessels that serves as a useful way for large particles to reach the bloodstream. It is used, for example, for dietary fat absorption in the intestine. As soon as it enters lymphatic vessels, the recovered fluid is called **lymph**. On its way to the bloodstream, it passes through a number of lymph nodes, which serve as filters that cleanse it. Lymph nodes comprise macrophages and dendritic cells that directly "swallow up" any infections such as bacteria or viruses that may have been picked up from infected tissue. They also include lymphocytes: T-cells and B-cells, which are active in adaptive immune response, a mechanism that produces activated lymphocytes and antibodies unique to the invading pathogen. These are then transported by the lymph to the

bloodstream and administered as required. Lymphoid organs are also part of the lymphatic system. Thymus and bone marrow are the primary lymphoid organs that produce, grow, and select lymphocytes. Selection is the mechanism by which lymphocytes learn to differentiate between self and non-self in order to recognise and eliminate pathogens without affecting the body's own cells. Mature lymphocytes then move to the **secondary lymphoid organs**: thymus, lymph nodes, spleen and appendix, where they encounter pathogens and become activated.

All of these systems require energy to function and that is where the respiratory and digestive systems come in. **The respiratory system** is a group of passageways and organs that **extract** oxygen from the air we breathe. Air enters the body through the **nasal cavities**, travels down the throat and is then transported to the lungs. The lungs in turn, **extract** oxygen from the body and then **expel** a **by-product** called carbon dioxide while **exhaling**. It consists of the nose (nasal cavity), the mouth (oral cavity) and the pharynx and connects the respiratory openings to the larynx and oesophagus, the trachea and then to the bronchi, which merge into smaller tubes called **bronchioles**. The bronchioles connect to tiny air sacs called **alveoli**, which are surrounded by **capillaries** and finally comes the **diaphragm**. The entire process is called **respiration** and occurs about 16 to 20 times per minute.

Energy can also come in the form of food. **The digestive system** is an approximately thirty foot series of organs that convert food into fuel. Food enters the system through the mouth then moves into the **esophagus**, the **stomach** and **the intestines**. Nutrients are absorbed into the body while **solid waste** is expelled through the **anal canal**, the end of the digestive tract, as **faeces**. Further knowledge about the digestive system is provided in the following chapter.

Another key regulatory system is the urinary or excretory or renal system, which helps the body to maintain homeostasis by keeping the body's electrolyte levels stable and by filtering wastes from the blood. This waste is sent through the blood vessels into the kidneys and then it is expelled as urine. The system consists of two kidneys, two ureters, the **bladder**, the urethra and the **urinary meatus**. The two bean-shaped kidneys are located on each side of the vertebral column and are protected in the adipose capsule, which is a tough, fibrous layer of perirenal fat. They are suspended, which means that they are not attached to any other organs. Each kidney is divided into two main sections, the cortex and the **medulla.** The cortex is the outer section of the kidney and contains nephrons. It purifies the blood by removing excess water, salt, sugar, metabolic products and other substances so as to maintain the optimal pH and thus, "homeostasis". The medulla is the inner section of the kidney and contains most of the collecting **tubules**, which carry the urine from the nephrons through the kidney, to the ureters. The ureters are two muscular tubes approximately 10 to 12 inches long extending from the kidneys to the bladder. The bladder is a sac, like the stomach, that expands as urine is collected. It typically holds up to one cup of urine or even more. Leading from the bladder is the urethra tube which carries the urine from the bladder outside the body. In females, the urethra is only about one and a half inches long and it is separate from the reproductive system. The male urethra is approximately eight inches long and the urine passes through the prostate, an organ used by both the urinary and the reproductive systems. Urine is the liquid waste product that the

urinary system eliminates from the body. It comprises 95% water and the remaining 5% is urea, uric acid, creatinine, mineral salts, various pigments and sugar.

No matter the role and size of any of the body systems, each began with a **reproductive system**, which is responsible for creating life. The primary organs involved differ between sexes with **ovaries**, **fallopian tubes**, **the uterus and vagina** found in women and **testes and a sperm channel** found in men. As soon as **fertilisation** occurs, the organ systems will be formed and then a child is born. The female reproductive system has two **ovaries** which contain the **egg cells**. One egg cell is released each month out of either of the ovaries. The egg then travels through the **oviducts or fallopian tubes** to the uterus. The uterus or **womb**, is where the baby develops, at the end of which is the **cervix** (a ring of muscle at the entrance to the uterus). Further down is the **vagina**, where the man's **penis** enters during sexual intercourse. The male reproductive system has two **testes**, which produce testosterone and sperm and the penis, which is the organ that carries urine and sperm out of the body. Connecting the testes to the penis is the sperm duct, which is a tube that transports sperm cells from the epididymis out of the body. There are also glands (the largest one is the prostate) that produce fluid and nutrients for sperm.

Humans are complex creatures, and as long as all of their main organ systems function well, they enjoy a healthy life.

Christaki A. (2018) Nutrition & Dietetics. Express Publishing

Panoutsopoulos G. (2018) Αγγλική Ιατρική Ορολογία για Επιστήμες Υγείας. English Medical Terminology for Health Sciences. Disigma Publications

Reading Comprehension

Task 3. Choose the correct answer

- 1. the largest organ(s) of the body
 - a. The heart is b. The brain is c. Skin is d. Muscles are
- 2. The outermost layer of the skin is called
 - a. dermis b. epidermis c. subcutis d. hypodermis
- 3. Marrow is found inside the.....
 - a. brain b. joints c. bones d. stomach
- 4. muscles are found in the stomach, heart and intestine
 - a. Skeletal b. Tendons c. Voluntary d. Involuntary

- 5. Heart is surrounded by the
- a. myocardium b. endocardium c. pericardium d. epicardium
- 6. nerves carry messages from the brain to several organs
 - a. Motor b. Sensory c. Voluntary d. Involuntary
- 7. All glands produce chemicals called
 - a. tissues b. cells c. thyroxin d. hormones
- 8. The endocrine gland that controls metabolism is called the
 - a. pancreas b. pituitary gland c. adrenal gland d. thyroid gland
- 9. are used to cure diseases
 - a. Lymphocytes b. Red blood cells c. White blood cells d. Capillaries
- 10. Ureters connect the
 - a. kineys to the bladder b. kidneys to the urethra c. vagina to the urethta d.uterus to the bladder

Vocabulary

Task 4 Match the words to their definitions

1	Pipeline	a.	Breathe in
2	Lubricant	b.	The underlying base or foundation of a system
3	Friction	с.	Fatty
4	Exocrine	d.	The act of impregnating an animal or vegetable
5	Drainage	e.	A substance used to reduce friction between two objects or surfaces
6	Swelling	f.	A natural or artificial removal of (sub) surface water from a given area
7	Tubule	g.	To eject, to remove
8	Fertilization	h.	to come from a source
9	Infrastructure	i.	Breathe out
10	Emanate	j.	the rubbing of an object or surface

		against another
11	Adipose	k. a channel or a system through which something is conducted or transmitted
12	Eliminate	l. bloating
13	Hub	m. producing external secretions that are released through a duct
14	Exhale	n. a small pipe
15	Inhale	o. the central part where many routes meet

Task 5. Write each word under the proper heading

Blood vessels, uterus, hair, cerebellum, pituitary gland, pulmonary circuit, intestine, alveoli, cartilage, tendons, spinal cord, muscles, capillaries, lymph, nephrons, anal canal, fallopian tubes, nasal cavity, adrenal glands, bladder, brain, dermis

1. Integumentary system	
2. Cardiovascular system	
3. Nervous system	
4. Urinary system	
5. Respiratory system	
6. Digestive system	
7. Reproductive system	
8. Lymphatic system	
9. Skeletal system	
10. Muscular system	
11. Endocrine system	



Task 6 Watch the video twice and fill in the blanks in the text about the immune system <u>https://www.youtube.com/watch?v=PSRJfaAYkW4</u>

1. What does the immune system consist of?

1)..... 2)..... and 3).....

- 2. Leukocytes are defensive 4)..... blood 5)..... and are formed in our bone 6).....
- 3. Leukocytes are divided into 7)..... and 8).....
- 4. Antibodies are special 9).....
- 5. Each antigen connects only to one 10) to destroy the invading cells
- 6. Fever and swelling are processes that help the 11) response because bacteria and viruses do not reproduce and 12)..... in warm environments.
- 7. Swelling attracts 13)..... that consume the invaders and the damaged cells
- 8. By developing long term immunity when B and T cells identify antigens, they "remember" it so when a threat occurs again, the cells produce the right 14) to tackle it immediately
- 9. Autoimmune diseases trick the immune system and make it 15)..... its own healthy cells
- 10. Some autoimmune diseases are 16), 17)...... & 18)
- 11. Why is the immune system important?

19)

Speaking

Task 7. Use your notes to discuss with your classmates:

- i) What are leukocytes?
- ii) What are antibodies?
- iii) What is fever? Why do people have fever?
- iv) Why is swelling caused? What might it indicate?

v) How do autoimmune diseases sabotage one's organism?

Academic Vocabulary Latin/Greek Plural

Many nouns related to medical terms come from Latin and Greek; thus, they do not follow the rules for pluralisation applied to English words. Below are some rules to help you deal with medical term plurals. As with every rule, there are some exceptions.

Singular	Plural
When the word ends in –a	Keep the – a and add –e
Vertebra	Vertebrae
When the word ends in –ex, -ix, -ax or	Change the –x to –c and add -es
-yx	Cortices
Cortex	Appendi ces
Appendix	Thoraces
Thorax	Calyces
calyx	
When the word ends in –nx	Drop the –nx and add –ges
Larynx	Larynges
When the word ends in -ma	Keep the -ma and add -ta
Sarcoma	Sarcomata
When the word ends in -on	Drop the –on and add –a
Spermatozoon	Spermatozoa
	But clorion - clorions
When the word ends in –us	Drop the –us and add –i
Bronchus	Bron chi
	But

	Fetus – fetus
	Ductus – ductus
	virus-viruses
	corpus-corpora
When the word ends in –um	Drop the –um and add –a
bacterium	Bacteria
When the word ends in -y	Drop the –y and add –ies
Colonoscopy	Colonoscopies
When the word ends in –is	Drop the –is and add –es
Diagnosis	Diagnos es
When the word ends in –itis	Drop the –itis and add –ides
Arthritis	Arthriti des

Task 8 Form the plural form of the following nouns

Singular	Plural
Cervix	
Gaglion	
Datum	
Lipoma	
Testis	
Pleura	
dermatitis	
alveolus	
Larynx	
Fetus	

Academic Skills Formation of Medical Terms

Precision and specificity are important in medicine. Medical or physical conditions and diseases must be thoroughly described in order for communication among doctors all over the world to be effective. Morphology of medical terminology consists of a **prefix**, a **root word** and a **suffix** most of which are of Greek or Latin origin

A **Prefix** is a word or a group of letters that is placed before the word root to change or modify its meaning. Each prefix has a different meaning.

Prefix	Definition
A-, an-, in, -un	No, not, without involuntary, unload
Aut-	Self automatic
End(o)-	Inside endocrine
Epi-	Over epidermis
Exo-	Outside exocrine
Hyper-	Above hypertension
Нуро-	Insufficient, inadequate
	hypodermis, hypothyroidism
Inter	Between intercourse
Per-	Around pericardium
Poly-	Many polyunsaturated
Post-	After, at the back of posterior
Pro-, pre-	Before, in front of premature
Sub-	Under, below, less than normal,
	secondary subcutis
Ultra-	Excess ultrasound

Task 9

Use prefixes to form medical terms. Some root (word/letters) are underlined to help you.

1.	High amount of <u>gl</u> ucose in the blood ha
2.	Low amount of <u>gl</u> ucose ha
3.	He has thyroid deficiency. He has hm
4.	Low body temperature ha
5.	High body temperature ha
6.	Within the <u>vein</u> is
7.	Around the bone pm
8.	Low/Lack of red blood cells aa
9.	Within the <u>cranium</u> em
10.	Having many cysts pc

A **Suffix** is a letter or a group of letters that is placed after the word root to change its meaning or function.

Suffix	Definition
-ac, -al, -ar, -ary, -ic, -ose, -ous	Relevant, pertaining to
	cardiac, abdominal, neurological
-emia	Blood condition leukaemia
-it is	Condition, inflammation gastritis
-ology	Study of epidimiology
-oma	Tumor lymphoma
-pathy	Disease cardiopathy
-is	State of, condition, infection
	Homeostasis
-therapy	Treatment chemotherapy

Task 10Use suffixes to form medical terms.

- 1. He had an <u>inflammation</u> on the tendons. He developed t.....
- 2. She studies Nutrition and Dietetics or D.....
- 3. <u>Treatment</u> with aromata is called a.....
- 4. He developed a <u>tumour</u> on the glands, an a.....
- 5. He developed an <u>infection</u> in the urethra. He developed u.....
- 6. He developed a psychic <u>disease</u>. He has a p.....
- 7. Glands that secrete saliva are called s..... glands
- 8. Alcoholics may develop c..... in the liver after years of excessive drinking
- 9. He developed an inflammation of the lining of the colon. He has c.....
- 10. He studies about the endocrine system. He studies e.....

Paragraph Coherence & Cohesion

Each paragraph has a separate main idea, stated in the topic sentence, which needs to be analysed and exemplified within its limits. All ideas should be closely related to each other and logically and progressively sequenced (coherence). Additionally, the transition from one concept to the next should be smooth (cohesion). Coherence and cohesion can be achieved with the use of appropriate cohesive devices (to enhance clarity and indicate the relationship between sentences) along with pronouns, synonyms and /or explanations (to avoid repetition). Check "paragraph writing" in chapter 2 for the table with cohesive devices (linking words).

Example

<u>Fertilisers</u>, used in agriculture, are rich in carbon, nitrogen, and phosphorus. Farmers use them on crops such as grains, fruits, and vegetables. Fertiliser not absorbed by plants accumulates in the <u>soil</u>. Nutrients from fertiliser can **also** leach into ground water <u>or runoff</u>. Nutrient-rich runoff flows into <u>creeks</u>, rivers, and bays. **Similarly**, ponds, lakes, and even the ocean can absorb huge amounts of nutrients, especially nitrogen and phosphorus.

Task. 11 Find the ways coherence and cohesion are achieved in the following paragraphs

i) Nutrients such as carbon, oxygen, and nitrogen make all life possible. Nutrient-poor areas cannot support much biodiversity. Bogs, for instance, are nutrient-poor wetlands found in cool climates. The soil of bogs is much more acidic than fertile, or nutrient-rich, soil. Few species of plants can grow in the nutrient-poor soil of bogs. As a result, with fewer species of plants available, the ecosystem is unable to support a large variety of other organisms, such as animals and fungi.

ii) Algal blooms can die off as quickly as they form. The dead algae and other microbes sink to the bottom of the body of water. Thus, sunlight and nutrients can once again enter the ecosystem. However, bacteria that help decay the algal bloom now absorb most of these nutrients. It can take weeks or even months for an ecosystem to recover from an algal bloom.

Paragraphs retrieved from <u>https://www.nationalgeographic.org/encyclopedia/nutrient/</u> (accessed on 15/05/2021)

Academic Writing Subject – Verb Agreement

The verb of a sentence must agree with the subject.

Some tips:

1. When the subject comprises two or more nouns or pronouns joined by "and", <u>use a plural verb.</u>

e.g. Calcium, copper and magnesium <u>promote</u> metabolism regulation She and her associates <u>are</u> working on ways to prevent iron deficiency

2. When the compound subject comprises two or more singular nouns or pronouns joined by "or", <u>use a singular verb.</u>

e.g. Bulimia nervosa or binge eating is the eating disorder she suffers from.

3. When the compound subject comprises one singular and one plural noun or pronoun joined by "or", the verb should agree with the part of the subject that is closer to the verb.

e.g. Anorexia nervosa or severe medical issues <u>are</u> the cause of her excessive weight loss.

Severe medical issues or anorexia nervosa is the cause of her excessive weight loss.

4.if there is a phrase or expression such as "with", "together with", "accompanied by", "in addition to", or "as well" between the subject and the verb, <u>the verb agrees</u> with the subject.

e.g. The clinical nutritionist with his assistants <u>is</u> making the dietary plan for the hospital

The assignment, including the references, has several inconsistencies

5. With words that indicate portions such as percent, part, majority, fractions, some, all, none, remainder etc, <u>the use of a singular or a plural verb depends on the object</u> <u>of the prepositional "of phrase".</u>

Thirty percent of the liquid is water

Thirty percent of the dietary fibres are soluble

One third of the liquid is water

One third of the experiments have not been completed yet

None of the liquid has evaporated during the experiment.

Of all his articles, none were published

Task 12. Circle the correct form of the verb

- 1. Exercise and healthy nutrition keeps / keep the body in good condition.
- 2. Nutritionist or therapist is / are the expert that people suffering from eating disorders should consult.
- 3. Either his tendons or a muscle was /were pulled.
- 4. The skeletal system together with its organs **supports /support** the body.
- 5. 70% of the human body is / are made up of water.