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Посібник “English for Students of Physical Education Department” рекомендований студентам, магістрантам, аспірантам та викладачам.

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ПЕРЕДНЄ СЛОВО

Навчальний посібник з англійської мови “English for Students of Physical Education Department” рекомендований студентам факультету фізичної культури. Матеріал посібника слугує ефективним підґрунтям для аудиторної, самостійної та індивідуальної роботи студентів, сприяє розвитку навичок усного та писемного мовлення з англійської мови за професійним спрямуванням.

Посібник написаний з урахуванням сучасних технологій навчання іноземних мов, містить ефективну систему вправ, спрямованих на забезпечення формування рецептивних і продуктивних видів мовленнєвої діяльності, та сприяє розвитку навичок наукового пошуку.

Бажаємо успіхів!

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PART I
Physical Culture and
Sports

Unit 1
Training and Exercises.
A Day in the Life of an
Athlete



Read and translate the following text.

Training and Exercises.

A Day in the Life of an Athlete

Have you ever wondered what it's like being an elite athlete? Is alcohol banned and what about diet? This week we go behind the scenes to chat to Seb Rodger, Team GB 400m hurdler, about a typical day. In 2013, Seb won a silver medal at the European U23 Championships and reached the semifinals of the World Championships. He also represented Great Britain at the 2016 Olympic Games in Rio de Janeiro, Brazil.

The sacrifices to get to the top

As exciting as the job is, there is also a very different side. Don't get me wrong – traveling the world, seeing amazing cities, meeting some incredible people and getting paid to do it doesn't get boring. But behind every professional athlete there is a total different side, the hours of hard work, the sacrifices, the years of putting your body and mind through everything it throws at you, from the highs of being on the podium to potentially falling over a hurdle, or worse still, injury.

Daily routine

I will be at the track, on the grass or in the gym 6 days a week. Being an athlete our normal routine can be very boring. We are creatures of habit. I usually aim to get 8 hours sleep. Sleeping is so important for us to recover and be able to train at peak level. Sometimes I can struggle with sleep so I have my own sleep routine. I always listen to music, usually pretty chilled-out music to relax my mind and allow me to easily switch off. It sounds silly but I also sleep and travel with a small pillow, which has been all over the world with me. It allows me to have a little home comfort and familiar smell. Sleeping in different beds and hotels can really affect sleep patterns. I have some friends who are elite athletes who have prescribed sleeping tablets. On the rare occasion I've slept with the help of Melatonin, usually only when we have flown a long way and struggling with jet lag. This really is a last resort for me.

Typical breakfast

I start the day with 2 boiled eggs, a banana, green tea and a Vitamin C and Zinc drink. I don't take many supplements but I like the idea that a little bit more Vitamin C can only help. Especially in the winter when we are training in cold, windy, wet conditions.

Most days I train at 10:30 in the morning, I make sure I finish breakfast a good hour before I get to training, it is essential for me to be hydrated and fuelled for my training session. Again I know this can very much vary between people, some of my training partners can't stomach anything before training. Although I personally don't agree with this. I can't see how you're meant to perform at your maximum ability on an empty stomach.

Morning training session

I train 6 days a week, with Sunday being my only full day off. This will of course change in the summer/competition season. We will tend to back off the training and do more quality speed sessions, making sure we are in the best refreshed shape leading into competitions.

Training can consist of many different elements depending on the day, but a normal track day, will start with a two lap slow jog, followed by some static stretches, walking drills, hurdle walk overs and then slowly building into some faster movements.

A typical speed endurance session could consist of 350m/300m/250m/300m. This doesn't sound like much but with short recovery and running at 85% this session can be awful. After we have peeled ourselves off the track, we will have a couple of laps warm down and stretch off. Many coaches and athletes do all sorts of different things. This is just what works well for me.

Typical lunch

I tend to want lunch quite quickly after my morning session; it's a key time where nutrition can play a big part in recovery. I tend to eat a lot of chicken, pasta, salad, and vegetables.

After lunch is where the real action begins, I will often have a 20 minute nap in the afternoon. I find 20 minutes is perfect any longer then I can wake up tired and a bit flat.

Afternoon training session

In the winter I tend to train twice a day twice a week. These sessions can consist of many different elements, depending on the time of the year or what we need to do. It could be sled pulls, blocks, acceleration runs, and plyometric. There are so many different things we do in training which ultimately keep me fit and keep my body healthy. It's the small most tedious exercises which are often the most important.

Chocolate and Guinness in moderation

I always feel it is key to enjoy what you eat, my weakness has always been chocolate, but sometimes I good healthy chocolate binge is needed!

I tend to stay hydrated with water throughout the day. I don't tend to drink much alcohol unless I am heading out with friends for a rare night out. Although I do love a pint of Guinness... And it is high in zinc after all! Going out and drinking is something most

professional athletes can't really do. Training hung-over is certainly not good. Trust me – coaches will not be happy. More importantly why would we? We work so hard, commit so hard to get everything right, it would be a total waste to go out get tired, which could have a negative impact on training. Our bodies are so finally tuned and as I mentioned such creatures of habits that even a night out at the wrong time can really affect things.

Having said that, the occasional night out is needed. Letting loose at the occasional party keeps you grounded and helps you to feel more normal. Again, moderation is key. Otherwise we save the going out until the off season.

Whatever your goal, I believe the key is to keep enjoying yourself. Sport has given me so much, so much happiness, a lot of tears a lot of sacrifice but I wouldn't change it for the world. It is where I truly feel free, focused and determined to be the best athlete and person I can be. Every time I step on the track or gym I am looking forward to learning something new about myself, digging deep and seeing how far I can push myself.

Ultimately, whatever your goal, the only thing that matters is to always enjoy yourself.

(Retrieved from: <https://www.iffleyroad.com/blogs/journal/a-day-in-the-life-of-an-athlete>)

I. Check your understanding.

1. Who is Seb Rodger? What is he famous for?
2. What do you know about the daily routine of an average elite athlete?
3. Why is breakfast so important for Seb Rodger? What does it consist of?
4. Describe the typical morning train session of the given athlete.
5. What is the peculiarity of the afternoon training?
6. How does Seb Roger recover after the high season?
7. What is the credo of the given athlete?

II. Provide the appropriate translation for the given expressions from the text.

An elite athlete, a hurdler, an injury, to be on the track, to recover, to train at peak level, to affect sleep patterns, to take many supplements, to be hydrated and fuelled, to perform at maximum ability, a two lap slow jog, static stretches, walking drills, hurdle walk, speed endurance session, sled pulls, blocks, acceleration runs, plyometric, to keep fit, moderation, off season, gym.

III. Are these sentences true (T) or false (F)?

1. Seb Rodger won a silver medal at the European U23 Championships and reached the semifinals of the World Championships.

2. The athlete says that his job is a kind of complete satisfaction and relaxation.

3. A good sleep is an inevitable daily routine of an athlete.

4. Seb takes a lot of supplements because he thinks that he doesn't receive enough vitamins from simple food.

5. He finishes breakfast a good hour before he gets to training, it is essential for him to be hydrated and fuelled for his training session.

6. Despite of the time and season Sab usually trains seven days a week.

7. Lunch is a key time where nutrition can play a big part in recovery.

8. In the winter he tends to train three times a day twice a week.

9. Going out and drinking is something most professional athletes can't really do.

10. The credo of the given athlete is to always enjoy yourself.

IV. Match the name of training with its description.

Interval training, Weight training, Continuous training, Circuit training, Altitude training, Cross training, Fartlek training or 'speed play' training.

Methods of Training

Training can be aerobic or anaerobic.

In aerobic exercise, which is steady and not too fast, the heart is able to supply enough oxygen to the muscles. Aerobic training improves cardiovascular fitness.

Anaerobic exercise is performed in short, fast bursts where the heart cannot supply enough oxygen to the muscles. Anaerobic training improves the ability of the muscles to work without enough oxygen when lactic acid is produced.

Specific training methods can be used to improve each fitness factor.

_____ involves performing a series of exercises in a special order called a circuit. Each activity takes place at a 'station'. It can be designed to improve speed, agility, coordination, balance and muscular endurance.

_____ involves working for a sustained period of time without rest. It improves cardio-vascular fitness.

_____ involves using another sport or activity to improve your fitness. It happens when an athlete trains in a different environment. For example a volleyball player uses the power training for that sport to help with fitness for long jump.

_____ involves varying your speed and the type of terrain over which you run, walk, cycle or ski. It improves aerobic and anaerobic fitness.

_____ involves alternating between periods of hard exercise and rest. It improves speed and muscular endurance.

_____ uses weights to provide resistance to the muscles. It improves muscular strength (high weight, low reps), muscular

endurance (low weight, high reps, many sets) and power (medium weight and reps performed quickly).

_____ is aerobic training high above sea level, where oxygen levels are lower. It is used to increase aerobic fitness quickly.

General methods of training can be applied to specific sports. For example, continuous training might involve swimming, cycling, rowing, aerobics or running.

(Retrieved from <https://www.bbc.co.uk/bitesize/guides/z2b9q6f/revision/2>)

V. Match each expression with its translation. Create the sentences of your own using the given words and expressions as in the example.

Example: Your cardiovascular fitness says a lot about your health and the potential for health outcomes.

- | | |
|----------------------------------|---|
| 1. cardiovascular fitness | a) м'язова витривалість |
| 2. short and fast bursts | b) силові тренування |
| 3. to supply enough oxygen | с) покращувати м'язову витривалість |
| 4. agility | d) територія/місцевість |
| 5. muscular endurance | e) функціональний стан серцево-судинної системи |
| 6. power training | f) короткі та швидкі ривки |
| 7. long jump | g) незначна кількість повторень (вправ) |
| 8. terrain | h) спритність |
| 9. low reps | i) стрибок у довжину |
| 10. to improve muscular strength | j) постачати кисень до |

VI. Read and translate the text. Write out the unknown items of vocabulary.

7 Principles of Exercise and Sport Training

When you approach your multisport training, the best way to answer your questions is to better understand the principles behind the work you are putting in to improve. These are seven basic principles of exercise or sport training you will want to keep in mind:

Individuality

Everyone is different and responds differently to training. Some people are able to handle higher volumes of training while others may respond better to higher intensities. This is based on a combination of factors like genetic ability, predominance of muscle fiber types, other factors in your life, chronological or athletic age, and mental state.

Specificity

Improving your ability in a sport is very specific. If you want to be a great pitcher, running laps will help your overall conditioning but won't develop your skills at throwing or the power and muscular endurance required to throw a fastball fifty times in a game. Swimming will help improve your aerobic endurance but won't develop tissue resiliency and muscular endurance for your running legs.

Progression

To reach the roof of your ability, you have to climb the first flight of stairs before you can exit the 20th floor and stare out over the landscape. You can view this from both a technical skills standpoint as well as from an effort/distance standpoint. In order to swim the 500 freestyle, you need to be able to maintain your body position and breathing pattern well enough to complete the distance. In order to swim the 500 freestyle, you also need to build your muscular endurance well enough to repeat the necessary motions enough times to finish.

Overload

To increase strength and endurance, you need to add new resistance or time/intensity to your efforts. This principle works in concert with progression. To run a 10-kilometer race, athletes need to build up distance over repeated sessions in a reasonable manner in order to improve muscle adaptation as well as improve soft tissue strength/resiliency. Any demanding exercise attempted too soon risks injury. The same principle holds true for strength and power exercises.

Adaptation

Over time the body becomes accustomed to exercising at a given level. This adaptation results in improved efficiency, less effort and less muscle breakdown at that level. That is why the first time you ran two miles you were sore after, but now it's just a warm up for your main workout. This is why you need to change the stimulus via higher intensity or longer duration in order to continue improvements. The same holds true for adapting to lesser amounts of exercise.

Recovery

The body cannot repair itself without rest and time to recover. Both short periods like hours between multiple sessions in a day and longer periods like days or weeks to recover from a long season are necessary to ensure your body does not suffer from exhaustion or overuse injuries. Motivated athletes often neglect this. At the basic level, the more you train the more sleep your body needs, despite the adaptations you have made to said training.

Reversibility

If you discontinue application of a particular exercise like running five miles or bench pressing 150 pounds 10 times, you will lose the ability to successfully complete that exercise. Your muscles will atrophy and the cellular adaptations like increased capillaries (blood flow to the muscles) and mitochondria density will reverse. You can slow this rate of loss substantially by conducting

maintenance/reduced program of training during periods where life gets in the way, and is why just about all sports coaches ask their athletes to stay active in the offseason.

The principles of specificity, progression, overload, adaptation, and reversibility are why practicing frequently and consistently are so important if you want to improve your performance. Missed sessions cannot really be made up within the context of a single season. They are lost opportunities for improvement. Skipping your long ride on weekend means you can't or shouldn't go as far as originally planned on weekend (progression & overload). Skipping your Monday swim means your swimming skills and muscles won't be honed or stressed that day (specificity). Missing a week due to a vacation sets you back more than one week (adaptation and reversibility).

(Retrieved from: <https://www.teamusa.org/USA-Triathlon/News/Blogs/Multisport-Lab/2012/August/28/7-Principles-of-Exercise-and-Sport-Training>)

1. Check your understanding.

1. What is the concept of individuality?
2. If you want to be a great pitcher, what should you do to meet the concept of specificity?
3. How can you reach the progression during the trainings?
4. Which principle of training is tightly connected with principle of connection during the training and why?
5. What is adaptation? How does it work?
6. What for sportsmen do need a recovery? How often can they do it?
7. How can appear reversibility?

2. Find the appropriate English correspondents in the text above.

Бігати по-колу, розвивати майстерність/навички, типи м'язових волокон, загальна фізична підготовка, прямий удар, аеробна витривалість, еластичність м'язових тканин,

професійна майстерність/компетентність, тип дихання, вправи які потребують значну витрату сил, ризикувати отримати травму, перенавантаження, руйнування м'язової тканини, розминка, основне тренування, страждати від знемоги та травматичного перенапруження, жим штанги лежачи, залишатися активним в період міжсезоння, приплив крові до м'язів.

VII. Read and translate the text. Write out the unknown items of vocabulary.

The 4 Most Important Types of Exercise

Exercise is the key to good health. But we tend to limit ourselves to one or two types of activity. “People do what they enjoy, or what feels the most effective, so some aspects of exercise and fitness are ignored,” says Rachel Wilson, a physical therapist at Harvard-affiliated Brigham and Women's Hospital. In reality, we should all be doing aerobics, stretching, strengthening, and balance exercises. Here, we list what you need to know about each exercise type.

1. Aerobic exercise

Aerobic exercise, which speeds up your heart rate and breathing, is important for many body functions. It gives your heart and lungs a workout and increases endurance. “If you're too winded to walk up a flight of stairs, that's a good indicator that you need more aerobic exercise to help condition your heart and lungs, and get enough blood to your muscles to help them work efficiently,” says Wilson.

Aerobic exercise also helps relax blood vessel walls, lower blood pressure, burn body fat, and lower blood sugar levels, reduce inflammation, boost mood, and raise “good” HDL cholesterol. Combined with weight loss, it can lower “bad” LDL cholesterol levels, too. Over the long term, aerobic exercise reduces your risk of

heart disease, stroke, type 2 diabetes, breast and colon cancer, depression, and falls.

Aim for 150 minutes per week of moderate-intensity activity. Try brisk walking, swimming, jogging, cycling, dancing, or classes like step aerobics.

2. Strength training

As we age, we lose muscle mass. Strength training builds it back. “Regular strength training will help you feel more confident and capable of daily tasks like carrying groceries, gardening, and lifting heavier objects around the house. Strength training will also help you stand up from a chair, get up off the floor, and go upstairs,” says Wilson.

Strengthening your muscles not only makes you stronger, but also stimulates bone growth, lowers blood sugar, assists with weight control, improves balance and posture, and reduces stress and pain in the lower back and joints.

A physical therapist can design a strength training program that you can do two to three times a week at a gym, at home, or at work. It will likely include body weight exercises like squats, push-ups, and lunges, and exercises involving resistance from a weight, a band, or a weight machine. “Remember, it's important to feel some muscle fatigue at the end of the exercise to make sure you are working or training the muscle group effectively,” Wilson says.

3. Stretching

Stretching helps maintain flexibility. We often overlook that in youth, when our muscles are healthier. But aging leads to a loss of flexibility in the muscles and tendons. Muscles shorten and don't function properly. That increases the risk for muscle cramps and pain, muscle damage, strains, joint pain, and falling, and it also makes it tough to get through daily activities, such as bending down to tie your shoes. Likewise, stretching the muscles routinely makes them longer and more flexible, which increases your range of motion and reduces pain and the risk for injury.

Aim for a program of stretching every day or at least three or four times per week. Warm up your muscles first, with a few minutes of dynamic stretches – repetitive motion such as marching in place or arm circles. That gets blood and oxygen to muscles, and makes them amenable to change. Then perform static stretches (holding a stretch position for up to 60 seconds) for the calves, the hamstrings, hip flexors, quadriceps, and the muscles of the shoulders, neck, and lower back. “However, don't push a stretch into the painful range. That tightens the muscle and is counterproductive,” says Wilson.

4. Balance exercises

Improving your balance makes you feel steadier on your feet and helps prevent falls. It's especially important as we get older, when the systems that help us maintain balance – our vision, our inner ear, and our leg muscles and joints – tend to break down. “The good news is that training your balance can help prevent and reverse these losses,” says Wilson.

Many senior centers and gyms offer balance-focused exercise classes, such as tai chi or yoga. It's never too early to start this type of exercise, even if you feel you don't have balance problems. You can also go to a physical therapist, who can determine your current balance abilities and prescribe specific exercises to target your areas of weakness. “That's especially important if you've had a fall or a near-fall, or if you have a fear of falling,” explains Wilson.

Typical balance exercises include standing on one foot or walking heel to toe, with your eyes open or closed. The physical therapist may also have you focus on joint flexibility, walking on uneven surfaces, and strengthening leg muscles with exercises such as squats and leg lifts. Get the proper training before attempting any of these exercises at home.

(Retrieved from: <https://www.health.harvard.edu/exercise-and-fitness/the-4-most-important-types-of-exercise>)

1. Check your understanding.

1. Who is a physical therapist?
2. What are the benefits of aerobic exercises?
3. Why is strengthening so important for us?
4. Enumerate all the weight exercises from the text and if it is possible name out some of your own.
5. What types of stretching do you know? What are their peculiarities?
6. What are the typical balance exercises?

2. Match the name of definition with its definition.

Inner ear, Injury, Tendon, Joint, Diabetes, Inflammation, Physical therapist, Posture, Blood pressure, Flexibility, Stroke, Heart rate.

1. _____ how fast your heart is beating.
2. _____ the pressure of blood as it travels around the body.
3. _____ a condition in which a part of the body becomes red, painful and swollen because of infection or injury.
4. _____ a sudden serious illness when a blood vessel (= tube) in the brain bursts or is blocked, which can cause death or the loss of the ability to move or to speak clearly.
5. _____ a medical condition in which the body cannot produce enough insulin to control the amount of sugar in the blood.
6. _____ the position in which you hold your body when standing or sitting.

7. _____ a place where two bones are joined together in the body in a way that enables them to bend and move.

8. _____ a person whose job is to treat disease, injury or weakness in the joints or muscles by exercises, massage and the use of light and heat.

9. _____ the ability to bend easily without breaking.

10. _____ a strong band of tissue in the body that joins a muscle to a bone.

11. _____ harm done to a person's or an animal's body, for example in an accident.

12. _____ the parts of the ear that form the organs of balance and hearing, including the cochlea.

3. Fill in the given table using the data from the text, as in the example.

№	Type of exercise	Possible Illnesses	Benefits of the given type of exercises	Exercises can be used
1.	Aerobic exercise	Shortness of breath, plumpness	Speed up heart rate and breathing, help condition your heart and lungs...	Try brisk walking, swimming, jogging, cycling, dancing, or classes like step aerobics.
2.				
3.				
4.				

4. Translate the sentences into English.

1. Зміцнення м'язів не тільки робить вас сильнішими, але і стимулює ріст кісток, знижує рівень цукру в крові, допомагає контролювати вагу, покращує рівновагу та поставу, зменшує біль у попереку та суглобах.

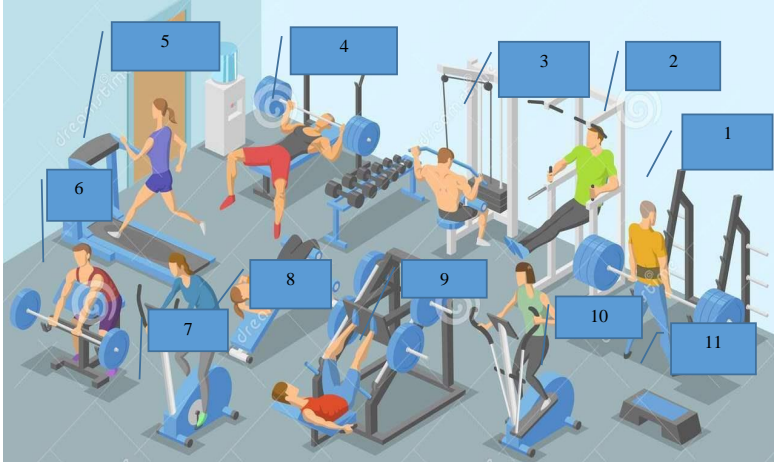
2. Аеробні вправи допомагають розширити стінки судин, знизити артеріальний тиск, знизити рівень цукру в крові, зменшити запалення, а також знижують ризик серцевих захворювань, інсульту, діабету 2 типу, раку молочної залози та товстої кишки, депресії та падінь.

3. Старіння призводить до втрати гнучкості м'язів і сухожилів, а це збільшує ризик виникнення м'язових спазмів і болю, пошкодження м'язів, перенапружень, болю в суглобах і падіння, а також ускладнює виконання повсякденних занять.

4. Типові вправи на рівновагу включають стояння на одній нозі або ходьбу з п'ятки на носок, з відкритими або закритими очима. Фізіотерапевт може також запропонувати вам зосередити увагу на гнучкості суглобів, за допомогою ходьби по нерівних поверхнях та зміцненню м'язів ніг за допомогою таких вправ, як присідання та піднімання ніг з упору лежачи.

5. Націльтесь на програму розтяжок щодня або хоча б тричотири рази на тиждень. Спершу розігрійте м'язи, за допомогою декількох хвилин динамічних розтяжок – повторюваних рухів, таких як марширування на місці або круговими обертами руками. Потім виконайте статичні розтяжки (утримуючи положення розтягування до 60 секунд) для литок, підколінних суглобів, квадрицепсів, м'язів плечей, шиї та попереку.

5. Match the pictures with the types of exercises.



Bench Press, Triceps Dip, Bent Over Row, Inclined Dumbbell Press, Chin Up, Back Squat, Horizontal seated leg press, Abdominal bench press, Lat Pulldown, Biking, Treadmill, Elliptical stepper trainer exercising.

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____

Unit 2

Olympic Games



Read and translate the following text.

First Modern Olympic Games

On April 6, 1896, the Olympic Games, a long-lost tradition of ancient Greece, are reborn in Athens 1,500 years after being banned by Roman Emperor Theodosius I. At the opening of the Athens Games, King Georgios I of Greece and a crowd of 60,000 spectators welcomed athletes from 13 nations to the international competition.

The first recorded Olympic Games were held at Olympia in the Greek city-state of Elis in 776 B.C., but it is generally accepted that the Olympics were at least 500 years old at that time. The ancient Olympics, held every four years, occurred during a religious festival honoring the Greek god Zeus. In the eighth century B.C., contestants came from a dozen or more Greek cities and by the fifth century B.C. from as many as 100 cities from throughout the Greek empire. Initially, Olympic competition was limited to foot races, but later a number of other events were added, including wrestling, boxing, horse and chariot racing, and military competitions. The pentathlon, introduced in 708 B.C., consisted of a foot race, the long jump, discus and javelin throws, and wrestling. With the rise of Rome, the Olympics declined, and in 393 A.D. the Roman Emperor Theodosius I, a Christian, abolished the Games as part of his efforts to suppress paganism in the Roman Empire.

With the Renaissance, Europe began a long fascination with ancient Greek culture, and in the 18th and 19th centuries some nations staged informal sporting and folkloric festivals bearing the name “Olympic Games.” However, it was not until 1892 that a young French baron, Pierre de Coubertin, seriously proposed reviving the Olympics as a major international competition that would occur every four years. At a conference on international sport in Paris in June 1894, Coubertin again raised the idea, and the 79 delegates from nine countries unanimously approved his proposal. The International Olympic Committee (IOC) was formed, and the first Games were planned for 1896 in Athens, the capital of Greece.

In Athens, 280 participants from 13 nations competed in 43 events, covering track-and-field, swimming, gymnastics, cycling, wrestling, weightlifting, fencing, shooting, and tennis. All the competitors were men, and a few of the entrants were tourists who stumbled upon the Games and were allowed to sign up. The track-and-field events were held at the Panathenaic Stadium, which was originally built in 330 B.C. and restored for the 1896 Games. Americans won nine out of 12 of these events. The 1896 Olympics also featured the first marathon competition, which followed the 25-mile route run by a Greek soldier who brought news of a victory over the Persians from Marathon to Athens in 490 B.C. In 1924, the marathon was standardized at 26 miles and 385 yards. Appropriately, a Greek, Spyridon Louis, won the first marathon at the 1896 Athens Games.

Pierre de Coubertin became IOC president in 1896 and guided the Olympic Games through its difficult early years, when it lacked much popular support and was overshadowed by world’s fairs. In 1924, the first truly successful Olympic Games were held in Paris, involving more than 3,000 athletes, including more than 100 women, from 44 nations. The first Winter Olympic Games were also held that year. In 1925, Coubertin retired. The Olympic Games have come to be regarded as the foremost international sports

competition. At the 2000 Summer Olympics in Sydney, more than 10,000 athletes from 200 countries competed, including nearly 4,000 women. In 2004, the Summer Olympics returned to Athens, with more than 11,000 athletes competing from 202 countries. In a proud moment for Greeks and an exciting one for spectators, the shot-put competition was held at the site of the classical Games in Olympia.

(Retrieved from: <https://www.history.com/this-day-in-history/first-modern-olympic-games>)

I. Check your understanding.

1. When and where was the first Olympic Games held?
2. Which types of sports were initially introduced to the Olympics?
3. Why was the Olympics abolished and by whom?
4. Who did propose to revive the Olympic Games?
5. What sports were included in the first modern Olympic Games held in 1896?
6. Who could take part and watch the first modern Olympic Games?
7. What do you know about the first winners of the Olympics?
8. Dwell upon the history of marathon.
9. What is IOS? How was it formed?
10. What do you know about the later history of the Olympics starting from 1924?

II. Matching.

A chariot

to decide or say officially that something is not allowed

A pentathlon

a person competes in sports such as running, jumping and throwing

A contestant

a person who takes part in a contest or competition

<i>To ban</i>	an open vehicle with two wheels, pulled by horses, used in ancient times in battle and for racing
<i>An athlete</i>	a sporting event in which people compete in five different sports (running, riding, swimming, shooting and fencing)
<i>Track and field</i>	a sport in which two people fight by holding each other and trying to throw or force their opponent to the ground
<i>Wrestling</i>	sports such as running, jumping and throwing that people compete in
<i>Marathon</i>	enlarge image the sport of fighting with long thin swords
<i>Fencing</i>	a long running race of about 42 kilometers or 26 miles
<i>A spectator</i>	a person who is watching an event, especially a sports event

III. Fill in the blank with the appropriate word or expression.

Be formed, held, discus and javelin throws, featured, to suppress, honoring, competed in, route run, a foot race, abolished, shot-put.

1. In Athens, 280 participants from 13 nations _____43 events, covering track-and-field, swimming, gymnastics, cycling, wrestling, weightlifting, fencing, shooting, and tennis.

2. The ancient Olympics, _____every four years, occurred during a religious festival _____the Greek god Zeus.

3. The International Olympic Committee (IOC)_____, and the first Games were planned for 1896 in Athens, the capital of Greece.

4. The pentathlon, introduced in 708 B.C., consisted of_____, the long jump,_____, and wrestling.

5. In a proud moment for Greeks and an exciting one for spectators, the _____competition was held at the site of the classical Games in Olympia.

6. In 393 A.D. the Roman Emperor Theodosius I, a Christian, _____the Games as part of his efforts _____paganism in the Roman Empire.

7. The 1896 Olympics also _____the first marathon competition, which followed the 25-mile_____by a Greek soldier who brought news of a victory over the Persians from Marathon to Athens in 490 B.C.

IV. Read and translate the text. Do the exercises based on the given text.

Olympic Symbols

The flag of the Olympic Games

In the stadium and its immediate surroundings, the Olympic flag is flown freely together with the flags of the participating countries. The Olympic flag presented by Coubertin in 1914 is the prototype: it has a white background, and in the center there are five interlaced rings – blue, yellow, black, green, and red. The blue ring is farthest left, nearest the pole. These rings represent the “five parts of the world” joined together in the Olympic movement.

The motto

In the 19th century, sporting organizations regularly chose a distinctive motto. As the official motto of the Olympic Games, Coubertin adopted “Citius, altius, fortius,” Latin for “Faster, higher, stronger,” a phrase apparently coined by his friend Henri Didon,

a friar, teacher, and athletics enthusiast. Equally well known is the saying known as the “credo”: “The most important thing in the Olympic Games is not to win but to participate.” Coubertin made that statement on a day when the British and Americans were bitterly disputing who had won the 400-metre race at the 1908 London Games.

The flame and torch relay

Contrary to popular belief, the torch relay from the temple of Hera in Olympia to the host city has no predecessor or parallel in antiquity. A perpetual fire was indeed maintained in Hera’s temple, but it had no role in the ancient Games. The Olympic flame first appeared at the 1928 Olympics in Amsterdam. The torch relay was the idea of Carl Diem, organizer of the 1936 Berlin Games, where the relay made its debut. The 2004 relay reached all seven continents on its way from Olympia to Athens. The relay is now one of the most splendid and cherished of all Olympic rituals; it emphasizes not only the ancient source of the Olympics but also the internationalism of the modern Games. The flame is now recognized everywhere as an emotionally charged symbol of peace.

Mascots

The organizers of the 1968 Winter Olympics in Grenoble, France, devised as an emblem of their Games a cartoonlike figure of a skiing man and called him Schuss. The 1972 Games in Munich, West Germany, adopted the idea and produced the first “official mascot,” a dachshund named Waldi who appeared on related publications and memorabilia. Since then each edition of the Olympic Games has had its own distinctive mascot, sometimes more than one. Typically the mascot is derived from characters or animals especially associated with the host country. Thus, Moscow chose a bear, Norway two figures from Norwegian mythology, and Sydney three animals native to Australia.

(Retrieved from: <https://www.britannica.com/sports/Olympic-Games/Olympic-symbols>)

1. Are these sentences true (T) or false (F)?

1. The five rings on the Olympic flag represent the “five parts of the world” joined together in the Olympic movement.



2. Henri Didon adopted “Citius, altius, fortius,” as the motto of the Olympics.



3. The torch relay from the temple of Hera in Olympia to the host city has a predecessor in antiquity.



4. The Olympic flame first appeared at the 1928 Olympics in Amsterdam.



5. The flame is now recognized everywhere as an emotionally charged symbol of war.



6. Typically the mascot is derived from characters or animals especially associated with the host country.



2. Find the appropriate correspondents in the text.

Країни-учасники, олімпійський рух, спортивні організації, гасло, “Швидше, Вище, Сильніше!”, брати участь у, перегони, естафета олімпійського вогню, символ миру, талісман, символ/емблема, атрибутіка/символіка, країна-господар олімпійських ігор.

V. Read and translate the given text and do the exercises following it.

Types of Olympics

Olympic Winter Games have been held separately from the Games of the Olympiad (Summer Games) since 1924 and were initially held in the same year. In 1986 the IOC voted to alternate the Winter and Summer Games every two years, beginning in 1994. The Winter Games were held in 1992 and again in 1994 and thereafter every four years; the Summer Games maintained their original four-year cycle.

The maximum number of entries permitted for individual events is three per country. The number is fixed (but can be varied) by the IOC in consultation with the international federation concerned. In most team events only one team per country is allowed. In general, an NOC may enter only a citizen of the country concerned. There is no age limit for competitors unless one has been established by a sport's international federation. No discrimination is allowed on grounds of "race," religion, or political affiliation. The Games are contests between individuals and not between countries.

The Summer Olympic program includes the following sports: aquatics (including swimming, synchronized swimming, diving, and water polo), archery, athletics (track and field), badminton, basketball, boxing, canoeing and kayaking, cycling, equestrian sports, fencing, field hockey, football (soccer), golf, gymnastics (including artistic, rhythmic, and trampoline), team handball, judo, modern pentathlon, rowing, rugby, sailing (formerly yachting), shooting, table tennis, tae kwon do, tennis, triathlon, volleyball (indoor and beach), weightlifting, and wrestling. Women participate in all these sports, whereas men do not compete in synchronized swimming or rhythmic gymnastics. The Winter Olympic program includes sports played on snow or ice: biathlon, bobsledding, curling, ice hockey, ice skating (figure skating and speed skating), luge, skeleton sledding, skiing, ski jumping, and snowboarding. Athletes of either gender may compete in all these sports. An Olympic program must include national exhibitions and demonstrations of fine arts (architecture, literature, music, painting, sculpture, photography, and sports philately).

Paralympic Games, major international sports competition for athletes with disabilities. Comparable to the Olympic Games, the Paralympics are split into Winter Games and Summer Games, which alternately occur every two years. Many of the same Olympic events are included – such as Alpine skiing, cross-country skiing, and biathlon for winter sports and cycling, archery, and swimming

for summer sports – although sports equipment for the Paralympics may be modified for specific disabilities. Since the late 20th century the Paralympics have been held in the same city that hosts the corresponding Olympic Games; the Paralympics follow shortly after the Olympics conclude. The International Paralympic Committee, which was founded in 1989 and is based in Germany, governs the Paralympic Games.

Paralympic athletes compete in six different disability groups – amputee, cerebral palsy, visual impairment, spinal cord injuries, intellectual disability, and “les autres” (athletes whose disability does not fit into one of the other categories, including dwarfism). Within each group, athletes are further divided into classes on the basis of the type and extent of their disabilities.

The Paralympics developed after Sir Ludwig Guttmann organized a sports competition for British World War II veterans with spinal cord injuries in England in 1948. A follow-up competition took place in 1952, with athletes from the Netherlands joining the British competitors. In 1960 the first quadrennial Olympic-style Games for disabled athletes were held in Rome; the quadrennial Winter Games were added in 1976, in Sweden. Since the Seoul 1988 Olympic Games (and the 1992 Winter Olympics in Albertville, France), the Paralympics have been held at the Olympic venues and have used the same facilities. In 2001 the International Olympic Committee and the International Paralympic Committee agreed on the practice of “one bid, one city,” in which every city that bids to host the Olympics also bids to hold the related Paralympics.

Retrieved from: <https://www.britannica.com/sports/Paralympic-Games>

1. Check your understanding.

1. When were the first Winter Games held?
2. Define the maximum number of countries permitted for individual and team events per country?

3. Does any discrimination concerning the participation in Olympic Games exist?
4. Which sports are included into The Summer Olympic Program?
5. Dwell upon Winter Olympic Sports.
6. Can men participate in all the types of the Olympics?
7. What must include any kind of the Olympic program?
8. Which types of sports are included into Paralympic Games?
9. Name out all the disability groups of Paralympic athletes.
10. What do you know about the history of Paralympic Games?

2. Insert the given words or word combinations in the brackets below.

1. In most_____only one team per country is allowed.
2. Women participate in all these sports, whereas men do not compete in_____or_____.
3. The Winter Olympic program includes_____: biathlon, bobsledding, curling, ice hockey, ice skating.
4. An Olympic program must include _____(architecture, literature, music, painting, sculpture, photography, and sports philately).
5. Paralympic athletes compete in _____different_____— amputee, cerebral palsy, visual impairment, spinal cord injuries, intellectual disability, and “les autres”.
6. Athletes of either_____may compete in all these sports.
7. Sir Ludwig Guttmann organized a sports competition for British World War II_____ with_____ in England in 1948.
8. In 1960 the first _____Olympic-style Games for disabled athletes were held in Rome; the _____Winter Games were added in 1976, in Sweden.

(National exhibitions and demonstrations of fine arts, synchronized swimming, gender, six, team events, quadrennial (2), sports played on snow or ice, veterans, rhythmic gymnastics, disability groups, spinal cord injuries)

3. Match the words and expressions with the explanations. Try to use them in the sentences of your own as it is given in the example below.

- | | |
|-----------------|--|
| 1. entry | a place where people meet for an organized event |
| 2. age limit | nerves inside the spine that connects parts of the body to the brain |
| 3. impairment | the sport or event of racing down a special track of ice |
| 4. injury | harm done to a person's or an animal's body in an accident |
| 5. skeleton | the state of having a physical or mental illness |
| 6. equestrian | the sport of fighting with long thin swords |
| 7. fencing | connected with riding horses, especially as a sport |
| 8. venues | the act of taking part in a competition, race, etc. |
| 9. aquatics | a game in which players slide heavy flat stones towards a mark |
| 10. competitor | a person who takes part in a competition |
| 11. curling | sports that are done on or in water, for example sailing |
| 12. spinal cord | the age at which you are allowed to do something |

4. Solve the riddles: Winter Olympics

Example: *These new guidelines will help save lives and prevent injury.*

Snowboarding, Figure skating, Nordic combined, Cross-country skiing, Freestyle skiing, Bobsleigh, Biathlon, Alpine skiing, Curling, Skeleton, Ski jumping, Luge, Short track Speed skating, Speed Skating.

1.____ also known as downhill skiing – is a race between skiers, the mountain and the clock. While the length of the course, number of turns and format vary by event, athletes must generally navigate a series of alternating red and blue gates down the hill.

2.____ a sports competition that combines skiing and shooting a rifle.

3.____ is a team winter sport that involves making timed runs down narrow, twisting, banked, iced tracks in a gravity-powered sleigh.

4.____ is a form of skiing where skiers rely on their own locomotion to move across snow-covered terrain, rather than using ski lifts or other forms of assistance.

5.____ is a sport in which players slide stones on a sheet of ice toward a target area which is segmented into four concentric circles.

6.____ is sport in which ice skaters, singly or in pairs, perform freestyle movements of jumps, spins, lifts, and footwork in a graceful manner.

7.____ is a skiing discipline comprising aerials, moguls, cross, half-pipe, slope style and big air as part of the Winter Olympics. It can consist of a skier performing aerial flips and spins, and can include skiers sliding rails and boxes on their skis.

8.____ the sport or event of using a luge to race down a track made of ice

9.____ is a winter sport in which athletes compete in cross-country skiing and ski jumping.

10.____ is a form of competitive ice speed skating. In competitions, multiple skaters (typically between four and six) skate on an oval ice track with a length of 111.111 metres (364.54 ft). The rink itself is 60 metres (200 ft) long by 30 metres (98 ft) wide, which is the same size as an Olympic-sized figure skating rink and an international-sized ice hockey rink.

11.____ involves plummeting head-first down a steep and treacherous ice track on a tiny sled.

12.____ is a winter sport in which competitors aim to achieve the longest jump after descending from a specially designed ramp on their skis.

13.____ is a recreational activity and Winter Olympic and Paralympic sport that involves descending a snow-covered slope while standing on a snowboard attached to a rider's feet.

14.____ is a competitive form of ice skating in which the competitors race each other in travelling a certain distance on skates.

VI. Read the text and fill the words and expressions in the gaps from the table.

Victors (4), win a medal, an amateur, victory, medal, athletes, statues, protocols, runner-up (2), honor, triumphantly, glory, pensions, rewards, competed to.

Prizes for the Victors

Prizes for the_____ were an important part of Greek athletics. The word 'athletics' is even derived from the Greek word 'athlon', 'prize'. At the earliest games, often funeral games, such as those of Patroklos, winners received valuable objects, like horses or bronze tripods.

After this earliest phase, the _____ of the top contests of the later periods received a crown made of leaves as symbolic prize. This does not mean that they did not profit from their _____. They received financial and other rewards in their home town when they returned _____. When an athlete won at the games, his home town shared his _____. The city was proclaimed with the name of the athlete and upon his return the winner dedicated his victory crown in the temple of his home town. Athletes who had won at the games of the periods or at other crown-games were also rewarded upon return in their home town. At these games, _____ were usually not awarded a material prize by the organizing city, but the rewards of the hometown were at least as valuable.

The cities granted their successful athletes a financial reward. In Athens, for example, already in the sixth century BC Solon offered 500 drachmas for victors of the Olympic Games and 100 drachmas for those of the Isthmian games. On top of that the _____ received free meals for the rest of their lives in the city hall. In many places, for example Egypt, the athletes also obtained exemption from taxes. From the second century AD onwards the once-only awards in money were converted into life-long _____.

Not all _____ offered material benefits, though, some simply offered honor: e.g. special front seats at the theater, or a festive and ceremonial entrance in the city. Some extraordinary athletes were furthermore honored with _____, poetry or inscriptions. Some used their popularity to start a career in politics.

The rewards made it possible for poorer athletes to make a career in sports. Until the third century AD, the rewards and the number of sacred games continuously increased. This meant a heavy financial burden for cities with many top athletes, which all enjoyed exemption from different kinds of taxes and in many cases were also entitled to pensions.

There were, however, numerous games - both international and local - where the _____ did receive material prizes. These could be

valuable objects, like Panathenaic amphorae, or bags of money. There was certainly not a strict distinction between crown-games and prize-games; a crown could easily be combined with a prize. Cities in fact _____ offer the highest prizes.

Besides symbolic and material prizes some extraordinary athletes received extra rewards from the organizing city, e.g. a statue or an honorific inscription. The organizing city could also grant an honorary citizenship to athletes or even an honorary membership of the local city-council. Some famous athletes collected multiple nationalities in this way.

Today no money prizes are given at the modern Olympics. Athletes can only_____, the equivalent of the ancient crowns. Until 1980 no participant of the Olympics could make any money with his sport. He had to be_____. Nominally, this modern rule was based on the Greek model, but this is not correct. In fact it reflected the nineteenth century elitist vision on sport. The situation in Antiquity can definitely be compared to today: athletes consider the Olympic _____the greatest_____, but happily participate in other important contests with high prize money. There are three classes of medal: gold, awarded to the winner; silver, awarded to the 1st_____; and bronze, awarded to the second_____. The granting of awards is laid out in detail in the Olympic_____.

(Retrieved from: <http://ancientolympics.arts.kuleuven.be/eng/TD009EN.html>)

Unit 3

Sport Injuries



Read and translate the text. Write out all the unknown items of vocabulary. Do the exercises following the text.

Sports Injuries: Types, Treatments, and Prevention

Sports injuries are injuries that occur when engaging in sports or exercise. They can occur due to overtraining, lack of conditioning, and improper form or technique. Bruises, strains, sprains, tears, and broken bones can result from sports injuries. Soft tissues like muscles, ligaments, tendons, fascia, and bursae may be affected. Traumatic brain injury (TBI) is another potential type of sports injury.

Muscle Strain is another name for a **Pulled Muscle**. It occurs when a muscle is overstretched and tears. Symptoms of a pulled muscle may include pain, swelling, weakness, and difficulty or inability to use the muscle. Muscles in the quadriceps, the calves, hamstrings, groin, low back, and shoulder are the most common sites for pulled muscles. Minor muscle strains resolve with RICE - Rest, Ice, Compression, and Elevation. Nonsteroidal anti-inflammatory drugs may help manage pain and swelling as well. More serious muscle strains require evaluation and treatment by a doctor.

Torn ACL. A torn anterior cruciate ligament (ACL) is a sports injury that may occur when landing the wrong way, changing direction or stopping quickly, or from a direct blow to the knee. People who suffer a torn ACL may hear a pop and then feel their knee no longer functions. Pain, swelling, and loss of range of motion are symptoms of a torn ACL. It may be difficult to walk. A torn ACL needs to be reconstructed surgically, usually using a graft from another ligament in the patient's own body. Significant rehabilitation is necessary to restore the strength and function of the knee joint after surgery.

Torn MCL. The medial collateral ligament (MCL) connects the upper leg bone (femur) to the larger bone of the lower leg (tibia). The MCL is typically injured when the knee joint is pushed sideways when making a wrong move or by receiving a direct blow to the knee. A torn MCL results in pain, swelling, and instability of the joint. The condition is often treated with ice, bracing, and physical therapy. If other structures in the knee are injured or if the torn MCL is severe, surgery may be recommended.

Shin Splints are a repetitive use injury that may occur in runners or those who are beginning to exercise. Pain occurs when muscles and tendons around the tibia (the larger of the two lower leg bones) become inflamed. Stretching, resting, and applying ice can help relieve shin splints. Nonsteroidal anti-inflammatory drugs (NSAIDs) can reduce pain and swelling. Bandaging the area may help prevent swelling. Flat feet increase the risk of shin splints. Orthotics and proper athletic shoes may offer support and decrease the risk of shin splints.

A Stress Fracture is an overuse injury that occurs when muscles are no longer able to absorb the impact from physical activity, and a bone absorbs the pressure, resulting in a break. Stress fractures can occur when increasing activity, especially too quickly. The majority of stress fractures occur in the lower legs and feet. Stress fractures cause pain with activity. Rest is prescribed to allow

a stress fracture to heal. Sometimes a special shoe or a brace helps decrease stress on the bone, which facilitates healing.

The Plantar Fascia is a ligament that connects the heel to the front of the foot, supporting the arch. Plantar fasciitis is inflammation of this ligament. It causes heel pain often felt the first thing in the morning after getting out of bed or after being active. Stress and strain on the feet increases the risk of plantar fasciitis. Obesity, tight calf muscles, repetitive use, high arches, and new athletic activities are all risk factors for this condition. Plantar fasciitis is treated with rest, ice, nonsteroidal anti-inflammatory drugs and special stretching exercises. Cushioning insoles may provide relief. Wearing splints at night may help decrease pain. More severe cases of plantar fasciitis may be treated with cortisone injections, physical therapy, and surgery.

A Sprained Ankle occurs when the ligaments that support the joint become overstretched. Ankle sprains may occur when playing sports or doing everyday activities. Stepping wrong on an uneven surface or stepping in a way that twists or rolls the foot may lead to an ankle sprain. Sprains and the pain they cause may range from mild to severe. RICE -rest, ice, compression, and elevation – are used to treat ankle sprains. Nonsteroidal anti-inflammatory drugs can alleviate pain and swelling. Severe sprains may require a brace or cast for several weeks to facilitate healing.

Tennis Elbow is an overuse injury that may be associated with playing racket sports. Tennis elbow involves inflammation of the tendons on the outside of the elbow caused by small tears. Tennis elbow causes pain and may be associated with a weak grip. Rest and nonsteroidal anti-inflammatory medications can help alleviate tennis elbow symptoms. Wearing a special brace on the forearm may help decrease pressure on the sore area. Physical therapy may be helpful. Steroid injections can decrease inflammation. Surgery may be an option for tennis elbow when other treatments have failed.

Hip Bursitis. Inflammation of bursae may lead to stiffness and pain around the hip joint not to be confused with the true joint pain of arthritis. Overuse from running, cycling, and similar activities can lead to hip bursitis. The condition causes hip pain that tends to be worse at night. Getting up from a seated position may cause pain. Treatment of hip bursitis consists of avoiding activities that produce symptoms and taking nonsteroidal anti-inflammatory drugs (NSAIDs) to reduce pain and swelling. Physical therapy and steroid injections may be warranted. Using a cane or other assistive device may help take the load off the inflamed joint.

A Concussion is a traumatic brain injury (TBI) that occurs when the brain undergoes rapid acceleration inside the skull. A direct hit to the head or body may cause a concussion. People who engage in contact sports like football are at increased risk for concussions. The symptoms often include headache, loss of consciousness, memory loss, sleepiness, nausea, vomiting, and more. A thorough neurological exam is necessary after a concussion to determine the extent of the injury. Healing from a concussion requires rest, both physical and mental, to allow the brain to recover. People who suffer concussions must receive a doctor's clearance before resuming sports, especially young people whose brains are more vulnerable.

Achilles Tendonitis is inflammation that causes pain on the lower back of the leg just above the heel. The area may become painful, swollen, and stiff. The pain worsens after physical activity. The tendon may become thickened and, in some cases, bone spurs may develop in the area. Achilles tendonitis may be treated with rest, ice, stretching, and nonsteroidal anti-inflammatory drugs. Strengthening exercises prescribed by a physical therapist may help. Special footwear and orthotics can help take the strain off the affected heel.

Runner's Knee is a painful condition that occurs when tendons, joint lining, and/or other soft tissues of the knee become irritated.

Overuse can cause runner's knee. So can a misaligned kneecap. In addition to pain, runner's knee may lead to popping and cracking. Switching to activities that do not stress knee joints may minimize problems. RICE – rest, ice, compression, and elevation – may help. Nonsteroidal anti-inflammatory drugs (NSAIDs), physical therapy, and orthotics may provide relief. Rarely, surgery may be an option for severe cases that have not responded to other treatments.

Sports Injury Prevention. Physical activity is an important part of maintaining overall health. However, certain precautions should be taken to minimize the risk of sports injuries. Using the correct equipment and maintaining equipment can help prevent sports injuries. Wearing the recommended protective gear can help shield the body against injury. Resting between workouts gives the body time to rest and repair. Starting activity slowly and gradually increasing strength, flexibility, and endurance gives muscles, bones, and other tissues the opportunity to adapt to more difficult workouts, minimizing the risk of injury. Finally, listening to the body and backing off at the first signs of pain, discomfort, stress, or overheating will help reduce the risk of sports injuries.

(Retrieved from: https://www.onhealth.com/content/1/sports_injuries)

I. Check your understanding.

1. What is a sport injury? When does it occur?
2. What are the major symptoms of pulled muscles? How can we cure this type of injury?
3. How does a torn ACL occur? Dwell upon main symptoms and ways of healing it.
4. What is a MCL? Define the main ways of curing it.
5. How can we overcome shin splints?
6. When does a stress fracture occur?
7. What is the plantar fascia? How can it be treated?
8. Name out the preconditions for sprained ankle.
9. What is the tennis elbow? What are the signs of it?

10. Which types of sport can lead to hip bursitis? How can you cure it?
11. Name out the typical indications of a concussion.
12. How can Achilles Tendonitis be treated?
13. What is the Runner’s Knee? What methods can be used to heal the given injury?
14. List the main precautions that should be taken to minimize the risk of sports injuries.

II. Fill in the given table based on the information from the text as in the example.

№	Type of injury	The prerequisite for the occurrence	Main Symptoms	Ways of treatment
1.	Muscle Strain	occurs when a muscle is overstretched and tears	pain, swelling, weakness, and difficulty or inability to use the muscle	Minor muscle strains resolve with RICE – Rest, Ice, Compression, and Elevation. Nonsteroidal anti-inflammatory drugs may help manage pain and swelling as well.
2.				
3.				

III. Matching.

To cushion, Inflammation, Shin bone, Graft, Swelling, Strain, Bruise, Healing, Nausea, Sprain, Tendon, Kneecap.

1. _____ a blue, brown or purple mark that appears on the skin after somebody has fallen, been hit, etc.
2. _____ an injury to a part of your body, such as a muscle, that is caused by using it too much or by twisting it.
3. _____ an injury to a joint in your body, especially your wrist or ankle, caused by suddenly twisting it.
4. _____ a strong band of tissue in the body that joins a muscle to a bone.
5. _____ a place on your body that has become larger or rounder than normal as the result of an illness or injury.
6. _____ a piece of skin, bone, etc. removed from a living body and placed in another part of the body that has been damaged; the process or result of doing this.
7. _____ the front and larger bone of the two bones in the lower part of the leg between the knee and the ankle.
8. _____ the process of becoming or making somebody/something healthy again; the process of getting better after an emotional shock.
9. _____ a condition in which a part of the body becomes red, painful and swollen (= larger than normal) because of infection or injury.
10. _____ the feeling that you have when you want to vomit, for example because you are sick or are shocked or frightened by something.
11. _____ the small bone that covers the front of the knee.
12. _____ to make the effect of a fall or hit less severe.

IV. Are these sentences true (T) or false (F)?

1. Pulled Muscle occurs when a muscle is overstretched and tears.
2. Achilles tendonitis cannot be treated with rest, ice, stretching, and nonsteroidal anti-inflammatory drugs.
3. Pain, swelling, and loss of range of motion are typical symptoms of a torn ACL.
4. A torn MCL results in pain, swelling, and instability of the joint and high temperature.
5. A direct hit to the head or body cannot cause a concussion.
6. Tennis Elbow is an overuse injury that may be associated with playing ball games.
7. Stretching, resting, and applying ice can help relieve shin splints.
8. The majority of stress fractures occur in the lower legs and feet.
9. Resting between workouts doesn't give the body enough time to rest and repair.
10. RICE -rest, ice, compression, and elevation are used to treat ankle sprains.

V. Find the appropriate English correspondents in the text above.

Синяки, розтягнення, спортивні травми, зв'язки, сухожилля, набряки, слабкість, литка, підкореневі суглоби, пах, попереk, плече, нестабільність суглоба, осколки гомілки, загоювання, ін'єкція кортизону, лікувальна фізкультура, хірургічне втручання, вивих щиколотки, запалення сухожилів на зовнішній стороні ліктя, бандаж, тазостегновий суглоб, череп, головний біль, втрата свідомості, втрата пам'яті, сонливість, нудота, блювота, кісткова шпора, зміщена коліна чашечка, ортопедія, захисне спорядження.

VI. Read and translate the text. Write out all the unknown items of vocabulary. Do the exercises following the text.

14 Effective Ways to Prevent Sports Injury

Sport is one of the most effective physical activities that provide innumerable health benefits. According to Healthline, sports improve your mood, concentration, and sleep habits. It also helps in reducing stress and depression, boosting your self-confidence and maintaining a healthy weight.

However, as human beings, we are not immune to certain injuries. In a study conducted by The Centre for International Public Health Policy of the University of Edinburgh, 24% of sports players obtain injuries in which 15% of it was experienced by playing football. Based on the data of Health and Social Care Information Centre, 2% of cases seen in emergency departments are caused by sports injuries. Thus, it is important that we take care of our body in performing sports and even fitness-related activities.

Be in Proper Physical Condition. Before you engage in sports or training, always keep in mind that you should be in proper physical condition. Perform regular conditioning exercises that are designed specifically for your sport. Moreover, train slowly but surely. You do not learn any sports overnight. To condition your body, you need to undergo training.

Wear Protective Gear. You cannot tell if you will encounter accidents or emergencies in the middle of the game. You should be ready. Wear protective gears, equipment, and devices that will protect you from unexpected injuries. This includes mouth guards, helmets, gloves, protective pads and other equipment. Running shoes are also designed to improve your performance and decrease your risk to knee and foot injuries.

Warm up Before Playing. Warming up is a must before engaging into sports. It prepares your body, mind, and heart for the training or the sports. Warming-up gradually raises your heart rate,

warms your muscles and connective tissues, improves your mobility and promotes functionality of all your body's movements. It also allows entry of oxygen to your muscles, tendons, ligaments and flexible joints, among others.

Have Enough Sleep. Sleep plays a vital part in your recovery which is vital in your overall training program and optimal performance. Sleep can make you stronger and will prevent you from fatigue, poor judgment, and certain injuries. Even famous athletes like Lebron James and Roger Federer gets 12 hours of sleep per night.

Do Not Over Work. It is extremely important that you always listen to your body. When you engage in sports, you have to begin slowly and steadily to avoid straining some of your muscles which may lead to injuries. Do not work beyond your limits.

Improve Technique. Based on the principles of biomechanics, the most effective way of improving your performance is by improving your techniques. Your physical built is just a small factor in your performance. The coordination of your body movements is important in performing well in different kinds of sports. For example, gymnasts are required to focus on improving their body techniques so they can perform well. Swimming, basketball and other sports require the application of biomechanics.

Keep Hydrated. Our body is composed of 60% of water. When we exercise or we do sports, we lose this water. Thus, we need to replace that water through proper hydration. According to sports dietitians, water is essential in maintaining blood volume, regulating body temperature and allowing muscle contractions. Apart from water, hydrating drinks that are rich in electrolytes are recommended for athletes.

Cool Down. If warming up is important, cooling down is also essential. After working out or training, you have to spend at least 10 minutes of performing gentle exercises that will return your heart rate to a normal pace. By cooling down, you are allowing your body

to remove excess wastes and allow the flow of oxygen and nutrients into your muscles.

Do Stretching. It is important that you maintain and develop flexibility in your body to prevent acquiring injuries. Poor flexibility is equivalent to short and tight muscles which cause muscle and tendon strains. Through stretching, you can improve or maintain your flexibility. After cooling down, make sure you spend time stretching.

Take Breaks. During a continuous training or a long play, remember to take a break so that your body and mind will have ample time to recover and gain energy. If you will not take a rest between sets or period, your mind will keep on pushing your body to work which will lead to injuries. It will also increase your risk to fatigue and decreased judgment. Thus, breaks are important for body recovery and mind refocusing.

Know the Rules of the Game. Basically, you have to be knowledgeable of the mechanics and rules of the sports. These rules are made to prevent athletes from acquiring injuries. For example, football restricts clipping, chop blocking and slapping a helmet to keep athletes safe. If you do not break the rules, then you do not endanger yourself to certain injuries.

Stop When Pain Occurs. Pain is the number one symptom of injury. If you experience a pain that is intolerable, stop playing or take a break. Pain is the earliest symptom of a possible injury. It will be followed by swelling, stiffness, instability, weakness, numbness, tingling and redness, among others. Pain can be felt in shoulders, elbows, wrists, fingers, spines, hips, knees, ankles and feet. If you experience pain from one of these parts, immediately see a sports therapist.

Eat Healthy. Diet and proper nutrition are important for athletes. A good nutrition plan is the foundation of an effective fitness program. The demands of sports and exercise on the body mean that you should replace all the energy and nutrients consumed

by eating healthy food. For athletes, it is important that they eat regular, small meals to fuel their training or sport. They should also take protein to promote muscle health.

See a Sports Therapist. Lastly, it is necessary that you see your sports therapist very often so that they can check your health. They will tell you if your body is keeping up with the demands of your sports or training or if there are early symptoms of injuries. They are the experts in teaching you how to improve your performance and to prevent you from injuries.

(Retrieved from: <https://www.isbglasgow.com/14-effective-ways-to-prevent-sports-injury/>)

1. Find appropriate English correspondents of words and expressions in the text and make sentences of your own with them.

Отримувати травму, підтримувати здорову вагу тіла, займатися спортом, бути у належному фізичному стані, капша, шолом, розминатися, втома, напружувати м'язи, тренуватись понад міру, статура, координація рухів тіла, пити достатню кількість води, скорочення м'язів, повернути серцевий ритм до нормального темпу, робити розтяжку, гнучкість, мати достатньо часу для відновлення, набряк, слабкість, оніміння, поколювання і почервоніння, плечі, лікті, зап'ястя, пальці, хребет, стегна, коліна, щиколотка, стопи, дієта і правильне харчування, регулярні та невеликі прийоми їжі, ранні симптоми травм, запобігти травмуванню.

2. Check your understanding.

1. How do sports help you in life?
2. What types of protective gear do you know?
3. Why is it important to warm up before playing?
4. Why do LeBron James and Roger Federer gets 12 hours of sleep per night?
5. What can help your body to remove excess wastes and allow the flow of oxygen and nutrients into your muscles?

6. How can the knowledge of the rules of the game help you to prevent yourself from injuries?
7. Can you name out all the symptoms of a possible injury?
8. How do you understand the rule Eat Healthy?
9. Who is a sport therapist? What can he do for you?
10. Why is the rest also so important for an athlete?

VII. Read and translate the text. Write out all the unknown items of vocabulary. Do the exercises following the text.

Treating Sports Injuries

Treatment for a sport injury depends on whether it is an acute or chronic injury. The one thing you should do however is immediately stop doing the exercise or sport which is the cause of your injury until you have received adequate treatment.

If the sports injury is causing you severe pain, swelling, numbness, if you can't stand on it or put weight on it, and if there is any joint abnormality, then you need to seek treatment immediately.

Otherwise home treatment, using the RICE method, should suffice until the symptoms subside. The RICE method involves:

- *Rest:* Keep the weight off the affected joint or limb, using a crutch or walking stick if necessary.
- *Ice:* Use an ice pack (frozen veg or a proper cold pack from the pharmacy) on the injured area for 20 minutes, several times a day. Don't exceed the 20 minute limit.
- *Compression:* Use a bandage or compression device to put an even of amount pressure on the injured area. This helps reduce swelling.
- *Elevation:* Keep the injured area elevated above heart level to reduce swelling.

Types of injury and treatment

- *Cuts:* First try stop the bleeding using a cold compress or bandage and apply pressure to the area until bleeding has ceased. Deeper cuts may need stitches.

- *Head injuries* : Any type of head injury should be taken seriously injury has occurred the head should be stabilized until a medical professional can assess further.

- *Neck and spinal injuries*: Injuries to the neck or spine must also be taken seriously and treated as emergency cases. The neck and spine should be stabilized immediately and the person must be kept very still.

Medication. Taking medication to relieve pain and/or swelling is usually also advisable if the injury is not too severe. However, as all medications can have side effects, make sure you check with your doctor or pharmacist before taking anything. Nonsteroidal Anti-Inflammatory Drugs (NSAIDs) are over-the-counter medications include aspirin and ibuprofen and vary in strengths.

Injections. Cortisone injections help reduce inflammation and pain after an injury. Cortisone injections are most commonly used for the treatment of arthritis, tennis elbow, shoulder bursitis and carpal tunnel syndrome. They generally take up to 48 hours to working and the effects can last several weeks.

Surgery. In some cases, surgery is needed to repair torn connective tissues or to realign bones with compound fractures. The vast majority of sports injuries, however, do not require surgery.

Rehabilitation. Recovery and rehabilitation from sports injuries should be gradual and is intended to assist the injured body part to regain normal function again. Early rehabilitation includes getting the injured person moving again with gentle range-of-motion exercises and light stretching and strengthening exercises. Progression is the key principle and depending on the severity of the injury this can take up to a few months. The point is to avoid pain at all costs and not to return to your previous exercise or sport until full range of motion and strength is regained in the affected area.

Rest. Before, during and after rehabilitation, adequate rest is a vital component to the healing process. Finding the balance between rest and rehabilitation will ensure that the injury has sufficient time

to heal with enough therapeutic exercise to regain its strength and range of motion so when you return to your exercise or sport you will not suffer a recurring injury.

Immobilization. Immobilization is a done immediately following an injury by a trainer or paramedic and involves reducing movement in the area to prevent further damage, reduce pain, swelling, and muscle spasm and helps the healing process begin. Slings, splints and casts, are all used to support and protect injured bones and soft tissue.

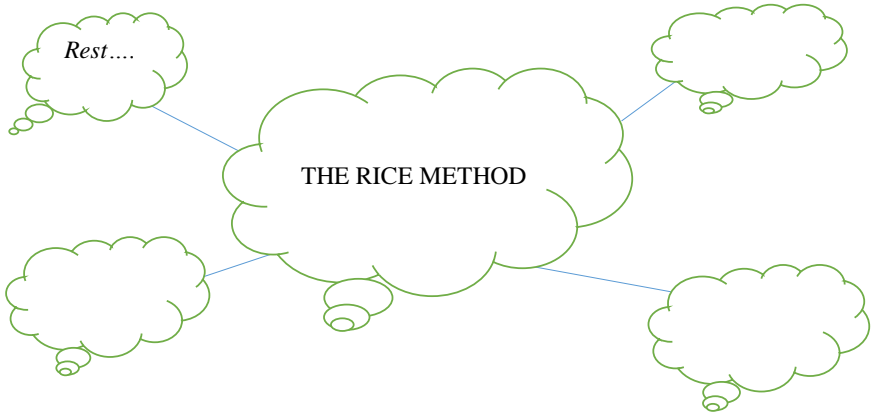
Hot and cold therapies. Cold treatments in the form of ice packs are applied to many different types of injuries involving muscle strains, sprains and soft tissue damage. The ice can help reduce swelling and inflammation and numbs the area to ease pain. It can also lessen bleeding in the tissues surrounding the injury.

However it is important to ensure the icepack is wrapped in something such as a cloth, before being placed onto the skin. Icing for longer than 20 minutes is not advisable as this can damage the skin. It is generally used for only the first 48 hours after injury. Ice packs must not be used on the left shoulder of anyone who has heart problems or diabetics.

Heat treatments (thermotherapy) are used to ease muscular pains and help to increase blood flow to the affected area by causing the blood vessels to expand. This is why heat therapy is not advisable immediately after an injury as this will increase body temperature and increase bleeding. Heat treatment is best used 48 hours following the injury and during the rehabilitation process. Common types of heat treatment include heat pads, deep heat creams and lotions, heat lamps and hot water bottles. The heat pack should be warm and not hot and should be avoided on damaged skin or on diabetics.

(Retrieved from: <https://www.health24.com/Medical/Sports-injuries/Overview/treating-sports-injuries-20160329>)

1. Create the mind map for the concept *THE RICE METHOD* using the information from the text.



2. Match the explanations with their definitions from the text above.

Tennis elbow, Numbness, Inflammation, Cut, Stitch, To keep still, Side effect, Surgery, Carpal tunnel syndrome, Shoulder bursitis.

1. _____ a wound caused by something sharp.
2. _____ a short piece of thread, etc. that doctors use to sew the edges of a wound together.
3. _____ to cause, direct, or force someone or something not to move very much or at all.
4. _____ an extra and usually bad effect that a drug has on you, as well as curing illness or pain.
5. _____ Inflammation of either of the shoulder's two major bursae, caused by trauma or overuse.
6. _____ medical treatment of injuries or diseases that involves cutting open a person's body and often removing or replacing some parts; the branch of medicine connected with this treatment.

7. _____ a condition in which a part of the body becomes red, painful and swollen (= larger than normal) because of infection or injury.

8. _____ a lack of feeling in a part of your body, for example because of cold.

9. _____ painful swelling of the elbow caused by twisting the arm too often.

10. _____ a painful condition of the hand and fingers caused by pressure on a nerve because of repeated movements over a long period.

3. Translate into English the following sentences.

1. Лікування спортивної травми залежить від того чи вона є гострою або хронічною. Одне, що вам слід зробити, – це негайно припинити займатися фізичними вправами або спортом, що є причиною вашої травми, поки ви не отримали належне лікування. Якщо спортивна травма заподіює вам сильний біль, набряк, оніміння, якщо ви не можете на ній стояти або навантажувати її, і якщо є певні порушення в суглобах, вам потрібно негайно звернутися до лікаря.

2. Ін'єкції кортизону допомагають зменшити запалення та біль після травми. Вони найчастіше застосовуються для лікування артриту, тенісного ліктя, бурситу плеча та синдрому зап'ястного каналу.

3. Імобілізація здійснюється негайно після травми тренером або медичним працівником і передбачає зменшення руху в травмованому місці, щоб запобігти подальшому пошкодженню, зменшити біль, набряки та спазм м'язів. Пращоподібна пов'язка, шина та гіпсова пов'язка використовуються для підтримки й захисту травмованих кісток та м'яких тканин.

4. Важливо зазначити, щоб льодовий пак був загорнутий у тканину, перед тим, як покласти його на шкіру. Не

рекомендується тримати льодовий пак довше 20 хвилин, оскільки це може пошкодити шкіру. Зазвичай, даний метод використовується лише перші 48 годин після травми. Пакети з льодом не можна використовувати на лівому плечі тому, хто має проблеми із серцем або діабет.

5. Термотерапія застосовується для полегшення болю у м'язах і сприяє збільшенню припливу крові до ураженої ділянки, викликаючи розширення кровоносних судин. Ось чому, теплова терапія не рекомендується відразу після травми, оскільки це підвищить температуру тіла та посилить кровотечу.

4. Match the rehabilitation occupations (a-c) with their definition (1-3).

Physiotherapist Osteopath Chiropractor

1. _____ This is a health care profession that focuses on the relationship between the body's structure, mainly the spine and its functioning. Although practitioners may use a variety of treatment approaches, they primarily perform adjustments (manipulations) to the spine or other parts of the body with the goal of correcting alignment problems, alleviating pain, improving function, and supporting the body's natural ability to heal itself.

2. _____ Practitioner of this trend uses precise manipulative and palpatory techniques to treat the restrictions in the body thereby restoring mobility to different bodily systems, (muscular-skeletal, circulatory, digestive, pulmonary and nervous systems) thus improving the regulation and interactions of these systems.

3. _____ They treat patients with physical difficulties resulting from illness, injury, disability or ageing. They treat people

of all ages including children, the elderly, stroke patients and people with sports injuries. They help promote their patients' health and wellbeing, and assist the rehabilitation process by developing and restoring body systems, in particular the neuromuscular, musculoskeletal, cardiovascular and respiratory systems. They devise and review treatment programmes, comprising manual therapy, movement, the therapeutic exercise and the application of technological equipment, e.g. ultrasound.

5. Fill in the gaps with the words from the box.

Surgery; short-term; to cross; regardless; appropriate; inflammation; to depend; desirable; stroke; to alter; limitation; occupational therapy; inpatient; taxing; severity; long-term; to differ; tumor

1. Providing rehabilitation at home with the help of family members is highly ... , but it can be physically and emotionally ... for all involved

2. Physical therapy, ... , treatment of any pain and ... , and retraining to compensate for specific lost functions are the typical focus of rehabilitation.

3. ... of the ... of the disability or the skill of the rehabilitation team, the final outcome of rehabilitation depends on the person's motivation.

4. Where rehabilitation takes place ... on the person's needs.

5. Care at home can be ... for people who cannot travel easily but who require less care.

6. The rehabilitation team or therapist sets both ... and ... goals for each problem.

7. People with severe disabilities may need care in a hospital or ... rehabilitation center.

8. The need for rehabilitation ... all age groups, although the

type, level and goals of rehabilitation often ... by age.

9. Rehabilitation is needed by people who have lost the ability to function normally, often because of trauma, a ... , an infection, a ... , ... , or a progressive disorder.

10. Age alone is not a reason ... goals or the intensity of rehabilitation, but the presence of other disorders or ... may be.

VIII. Read the article and match the right heading.

Modern technologies in rehabilitation

Rehab Robots Lend Stroke Patients A Hand

Stroke Rehab Getting Patients Back On Their Feet

Robot-assisted therapy has measurable benefits for patients with a weaker arm following stroke. The researches were carried out by National Taiwan University, Chang Gung University, and Department of Physical Medicine and Rehabilitation, Taipei Hospital. They aimed to investigate how robot-assisted therapy helps arm function to improve after a stroke.

Stroke patients usually have difficulties transferring motor skills learned in therapy to their daily living environment because of cognitive deficit. One of the key findings of the study was that robot-assisted therapy, when combined with functional task training, helps functional arm use and improves bimanual arm activity in daily life. Patients following a stroke often have weakness on one side of the upper body (hemi paresis), which can make daily life more difficult. Robotic rehabilitation is increasingly available, and holds promise for enhancing traditional post-stroke interventions. Because robots never tire, they can provide massive and intensive training in a consistent manner without fatigue, with programming precisely tailored to each patient's needs.

Unit 4
Sports and Games.
Sport in Britain.
Sport in Ukraine



Read and translate the given text. Do the exercises following it.

The History of Football

Football (or soccer as the game is called in some parts of the world) has a long history. Football in its current form arose in England in the middle of the 19th century. But alternative versions of the game existed much earlier and are a part of the football history.

The first known examples of a team game involving a ball, which was made out of a rock, occurred in old Mesoamerican cultures for over 3,000 years ago. According to the sources, the ball would symbolize the sun and the captain of the losing team would be sacrificed to the gods.

The first known ball game which also involved kicking took place in China in the 3rd and 2nd century BC under the name Cuju. Cuju was played with a round ball on an area of a square. Other earlier variety of ball games had been known from Ancient Greece. The ball was made by shreds of leather filled with hair. In the Ancient Rome, games with balls were not included in the

entertainment on the big arenas, but could occur in exercises in the military. It was the Roman culture that would bring football to the British island (Britannica).

The most admitted story tells that the game was developed in England in the 12th century. In this century, games that resembled football were played on meadows and roads in England. Besides from kicks, the game involved also punches of the ball with the fist. This early form of football was also much more rough and violent than the modern way of playing. An important feature of the forerunners to football was that the games involved plenty of people and took place over large areas in towns. The rampage of these games would cause damage on the town and sometimes death. These would be among the reasons for the proclamations against the game that finally was forbidden for several centuries. But the football-like games would return to the streets of London in the 17th century. It would be forbidden again in 1835, but at this stage the game had been established in the public schools.

It took, however, long time until the features of today's football had been taken into practice. For a long time there was no clear distinction between football and rugby. There were also many variations concerning the size of the ball, the number of players and the length of a match. The game was often played in schools and two of the predominant schools were Rugby and Eton. At Rugby the rules included the possibility to take up the ball with the hands and the game we today know as rugby has its origin from here. At Eton on the other hand the ball was played exclusively with the feet and this game can be seen as a close predecessor to the modern football. The game in Rugby was called "the running game" while the game in Eton was called "the dribbling game".

An attempt to create proper rules for the game was done at a meeting in Cambridge in 1848, but a final solution to all questions of rules was not achieved. Another important event in the history of football came about in 1863 in London when the first Football

association was formed in England. It was decided that carrying the ball with the hands wasn't allowed. The meeting also resulted in a standardization of the size and weight of the ball. A consequence of the London meeting was that the game was divided into two codes: association football and rugby.

The game would, however, continue to develop for a long time and there was still much flexibility concerning the rules. For one thing, the number of players on the pitch could vary. Neither were uniforms used to distinguish the appearance of the teams. It was also common with players wearing caps – the header was yet to be a part of the game yet. Another important difference at this stage could be noticed between English and Scottish teams. Whereas the English teams preferred to run forward with the ball in a more rugby fashion, the Scottish chose to pass the ball between their players.

The sport was at first an entertainment for the British working class. Unprecedented amounts of spectators, up to 30,000, would see the big matches in the late 19th century. The game would soon expand by British peoples that traveled to other parts of the world. Especially in South America and India would the interest in football become big.

(Retrieved from: <https://www.footballhistory.org/>)

I. Check your understanding.

1. What do you know about the history of the first ball? How did it appear? What did it symbolize?
2. How were the first ball games played in The Ancient Rome?
3. How and where were the forerunners to football played in England in the 12th century?
4. What is the main distinction between football and rugby?
5. What were the first football rules?
6. What do you know about the development of football as the game in the 19th century?

7. Do you like to play football? Why Yes/No? Who is your favorite footballer? What is your favorite team?

II. Find the appropriate English equivalents in the text.

Сучасний, існувати, командна гра, ударяти ногою, розваги, удар кулаком, передвісник, проголошення, бути забороненим, чисельність гравців, тривалість гри, підхоплювати м'яч руками, мистецтво володіння м'ячем, футбольне поле, передавати/пасувати м'яч між гравцями, глядачі.

III. Are these sentences true (T) or false (F)?

1. The first known examples of a team game involving a ball, which was made out of a rock, occurred in old Mesoamerican cultures for over 5,000 years ago.

2. Another important event in the history of football came about in 1863 in London when the first Football team was formed in England.

3. The English teams preferred to run forward with the ball in a more rugby fashion and the Scottish chose to pass the ball between their players.

4. The sport was at first an entertainment for the British royal class.

5. The first known ball game which also involved kicking took place in China in the 3rd and 2nd century BC under the name Cuju.

6. In the Ancient Rome, games with balls were included in exercises in the military.

7. It was the Greek culture that would bring football to the British island.

IV. Read and translate the text. Write out the unknown items of vocabulary. Do the tasks after it.

Rules of Football (Soccer)

- A match consists of two 45 minutes halves with a 15 minute rest period in between.
- Each team can have a minimum of 11 players (including 1 goalkeeper who is the only player allowed to handle the ball within the 18 yard box) and a minimum of 7 players are needed to constitute a match.
- The field must be made of either artificial or natural grass. The size of pitches is allowed to vary but must be within 100-130 yards long and 50-100 yards wide. The pitch must also be marked with a rectangular shape around the outside showing out of bounds, two six yard boxes, two 18 yard boxes and a centre circle. A spot for a penalty placed 12 yards out of both goals and centre circle must also be visible.
- The ball must have a circumference of 58-61cm and be of a circular shape.
- Each team can name up to 7 substitute players. Substitutions can be made at any time of the match with each team being able to make a maximum of 3 substitutions per side. In the event of all three substitutes being made and a player having to leave the field for injury the team will be forced to play without a replacement for that player.
- Each game must include one referee and two assistant referee's (linesmen). It's the job of the referee to act as time keeper and make any decisions which may need to be made such as fouls, free kicks, throw-ins, penalties and added on time at the end of each half. The referee may consult the assistant referees at any time in the match regarding a decision. It's the assistant referee's job to spot offside in the match, throw-ins for either team and also assist the referee in all decision making processes where appropriate.

- If the game needs to head to extra time as a result of both teams being level in a match then 30 minutes will be added in the form of two 15 minute halves after the allotted 90 minutes.

- If teams are still level after extra time then a penalty shootout must take place.

- The whole ball must cross the goal line for it to constitute as a goal.

- For fouls committed a player could receive either a yellow or red card depending on the severity of the foul; this comes down to the referee's discretion. The yellow is a warning and a red card is a dismissal of that player. Two yellow cards will equal one red. Once a player is sent off then they cannot be replaced.

- If a ball goes out of play off an opponent in either of the side lines then it is given as a throw in. If it goes out of play off an attacking player on the base line then it is a goal kick. If it comes off a defending player it is a corner kick.

(Retrieved from: <https://www.rulesofsport.com/sports/football.html>)

V. Matching.

<i>Word</i>	<i>Definition</i>
1. Boxes	a) an area on a sports field that is marked by lines and used for a particular purpose;
2. Pitch	b) an area of ground specially prepared and marked for playing a sports game;
3. Red card	c) an act of using one person or thing in the place of another;
4. Throw-in	d) a kick taken by one team after the ball has been kicked over their goal line by the other team without a goal being scored;

5. Yellow card	e) the act of throwing the ball back onto the playing field after it has gone outside the area;
6. Substitution	f) the official who controls the game in some sports;
7. Referee	g) a way of deciding the winner when both teams have the same score at the end of a game. Each team is given a number of chances to kick the ball into the goal and the team that scores the most goals wins;
8. Penalty shootout	h) a free kick that you take from the corner of your opponent's end of the field;
9. Penalty	i) a card shown by the referee to a player as a warning about bad behavior;
10. Linesman	j) an action that is against the rules of the game;
11. Free kick	k) a card shown by the referee to a player who has broken the rules of the game and is not allowed to play for the rest of the game;
12. Goal	l) a chance to score a goal or point without any defending players, except the goalkeeper, trying to stop it; the goal or point that is given if it is successful. This chance is given because the other team has broken the rules;
13. Goal kick	m) an opportunity to kick the ball without any opposition, that is given to one team when the other team does

14. Corner kick	something wrong; n) a frame with a net into which players must kick or hit the ball in order to score a point;
15. Foul	o) an official who helps the referee in some games that are played on a field or court, especially in deciding whether or where a ball crosses one of the lines.

VI. Read and translate the text. Do the task after it.

How Many Soccer Players Are There on a Team?

Each team has 11 players on a field. This includes 10 outfielders and a goalkeeper. The most common setup is known as the 4-4-2. This has four defenders, four midfielders, and two forwards.

Goalkeeper: The keeper is the only player allowed to use his hands, and that activity is restricted to the rectangular penalty area extending 18 yards from each side of the goal.

Defenders: They play in front of the goalkeeper, and their primary duty is to stop the opposition from scoring.

Midfielders: These players are the link between the defense and attack. They should be able to penetrate deep in enemy territory on attack and make the transition to defense when the opposition retains possession of the ball.

Forwards: Their primary job is to score goals or to create them for teammates. A center forward, also known as a striker, should be a team's leading goal scorer and the most dangerous player in the attacking third of the field.

Captain: The captain is the only player allowed to talk to the referee.

Substitute: A player who comes into play during the game.

Referee: the person who enforces the rules of soccer. He whistles when a foul is committed. He gives yellow cards or red cards.

(Retrieved from: <https://howtheyplay.com/team-sports/Positions-in-Soccer-and-Their-Roles>)

1. Put these players on the field: Goalkeeper – Defender – Midfielder – Forward – Striker – Coach – Attack – Defense

- | | | |
|----------|----------|-----------|
| 1._____; | 5._____; | 9._____; |
| 2._____; | 6._____; | 10._____; |
| 3._____; | 7._____; | 11._____. |
| 4._____; | 8._____; | |

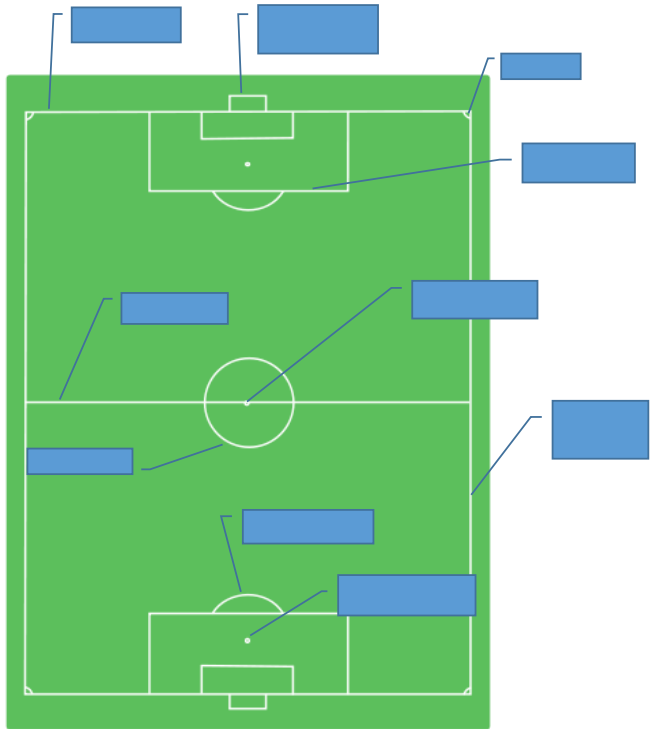


Equipment

Essentially the equipment that is needed for a soccer match is pitch and a football. Additionally players can be found wearing studded football boots, shin pads and matching strips. The goalkeepers will additionally wear padded gloves as they are the only players allowed to handle the ball.

Soccer Field

2. Mark the following lines 1) goal box, 2) goal line, 3)midfield line, 4)center circle, 5)sidelines, 6) penalty arc, 7) center spot, 8) penalty box ,9) penalty spot, and 10) corner arc on the given soccer field.



(By Nuno Tavares [Public domain], via Wikimedia Commons)

3. Mark the following lines 1) goal box, 2) goal line, 3)midfield line, 4) center circle, and 5) sidelines on the given soccer field.

VII. Read and translate the text. Write out the unknown items of vocabulary. Do the tasks after the text.

Soccer Equipment History

In the earliest days of soccer, it seems that all a team needed was a ball to kick around and shoes that protected. That's changed. Soccer equipment today includes much more: shin guards, goalie equipment, soccer referee equipment, football kit bag, and soccer training equipment, such as flags, cones, agility ladders, and slalom poles.

Soccer equipment begins with the **ball**. Skulls, pig's bladder, and round objects made from animal skins all served to be kicked in competitive, often violent and even ritualistic ways. Pagan customs prompted humans to smack a ball around an open field for the promise of a bountiful harvest, for the ball symbolized the sun.

In the nineteenth century, soccer balls began to be manufactured out of rubber. Charles Goodyear created the first vulcanized rubber soccer ball in 1855. In 1862, H.J. Lindon created the first inflatable rubber bladder, making the ball easier to kick and control without destroying its shape. The English Football Association gave to the ball an official design complete with shape, measurements, and materials from which to make the ball. The first official soccer ball served the first match between US's Oneida Football Club, and a team from the Boston Latin and English schools. The ball stands today on the Boston Common to commemorate that game.

Shoes. In a few hundred years soccer footwear has gone from a pair of heavy leather boots made by Cornelius Johnson in 1525 and famously worn by King Henry VIII, to high-performing lightweight shoes specially designed for kicking, lifting, and manipulating the ball. Having undergone much change over the centuries, the soccer shoe's first traceable history began in the 1800s with the steel-toed work boot. Metal tacks were pounded into the soles for traction. The

Football Association's 1863 ruling prohibited only the use of "projecting nails, iron plates," or plastic made from tree rosin projecting out of the soles or sides of boots. Eventually, the slipper shoe called "soccus" replaced the heavy steel-toed boot, and for once player's feet began to look the same. But much progress was on the horizon for the soccer shoe, as it sought to become more resilient, lightweight, and less prone to absorbing moisture. And that would be the work of the next century. To this day, science and technology have combined to create superior, high performing soccer shoes.

Shin Guards. Safety soccer equipment such as shin guards became more prominent after soccer rules (Laws of the Game – 1863) became a permanent fixture to protect against the brutal forces that soccer was famous for. Shin guards protect the shin from injury during the game. Adidas is known as a leader in design and protection, but other names, such as Umbro, are known for comfort, and many people like Estero.

To get the best fit, make sure the shin guard is appropriate for the age of the wearer. A shin guard should fit snugly around the ankle and underneath the knee, and try them on with socks designed to hold the pad in place. It's also a good idea to try them on with cleats or soccer shoes, and wear them to a few practices to make sure they'll hold up well during a game. The pad should allow free range of motion while arming the shin. When you're shopping for a shin guard, know that they're sized according to the length of the shin. Measuring the length of the shin from an inch above the ankle to an inch just below the kneecap should provide the correct size. Something else to keep in mind about proper fit is to make sure the ankle cup fits snugly around the ankle.

The main job of **socks** is to support the shin guards. Staying in place is the most important element of any good-fitting sock. They should neither slip down, nor impede circulation.

Goalkeeper Equipment

Without the goalkeeper, there would be no points scored in the game. Some people say the goalkeeper is the reason soccer was invented. So soccer goalie equipment is of the utmost importance, and includes gloves, shirts, shorts, pants, and goalkeeper kit.

Gloves. Padded gloves prevent injury resulting from catching the ball. It's best to choose a pair that is durable and flexible. Today's gloves are designed a little stiff for added protection to the fingers. Goalkeeper gloves should be comfortable, good-fitting, and offer great grip.

Goalkeeper Uniforms

Shirt. You might even say the goalkeeper is the distinguished member of the team. His or her shirt is going to look different from that of teammates. Usually it's a different color, and is long-sleeved to prevent injury.

Shorts. Goalkeeper shorts are generally longer and padded compared to those of teammates in order to prevent injury. Often Goalkeepers wear long, padded pants.

Soccer training equipment for the serious team is a must. Training equipment can include the soccer ball machine, corner flags, cones, hurdles, balls, and nets designed to improve speed and agility.

Corner flags come in many choices and styles, such as stakes, spring loaded bases, hollow plastic bases, or a weighted base for fields that cannot take stakes. They all have one thing in common: their height is 5 feet, 60 inches, or 1.42 meters. Whichever the case for your team, it's important that corner flags are well-maintained. And best to find a style that will meet all weather and field conditions.

Marker cones are important as they designate outlying areas of the field.

Other recommended items of training equipment can include spiked pole bases, and passing arcs, which improve passing techniques, and agility ladders, and slalom poles to improve a player's flexibility and speed.

Referee equipment. What would a soccer game be without the referee? There was a time when soccer was played without a referee, or rules for that matter, other than a set of common rules teams would agree on. The referee was added to the game to make sure rules and order are followed. A referee's main duty is to enforce the Laws of the Game. Soccer referee equipment includes a whistle, watch, and of course a uniform.

The whistle. Before the whistle, referees waved a handkerchief in the air to communicate with players. It wasn't until the 1870s with the production of the pea whistle by the ACME Whistle Company that soccer referees began to signal players using a high-pitched device. It is thought that the first whistle was used in a match between Nottingham Forest and Sheffield Norfolk, in 1878. And only recently added to the Laws of the Game, whistles today are used to signal the start, stop, or delay of play. That, and verbal and body communication, are important tools of any good soccer referee.

The uniform. During soccer's earliest days, a person donning black and white from head to heel would have most likely been a referee, simply known as "man in black". Prior to mid-20th century, the referee often wore a black blazer, or an otherwise bright or eye-catching color, like red, that distinguished him from his team. The referee uniform has changed little. Today, refs and their assistants sport a uniform consisting simply of jersey, socks and shorts. FIFA allows jerseys to come in five colors: black, yellow, red, green and blue. Besides the jersey, refs in most cases must wear black shorts, black socks, with black shoes.

(Retrieved from: <https://soccer.epicsports.com/soccer-equipment-history.html>)

1. Translate the following words and expressions into Ukrainian. Try to create the sentences of your own with them as in the example.

Shin guards, goalie equipment, football kit bag, agility ladders, slalom poles, to smack a ball, to kick and control a ball, to commemorate the game, to be appropriate for, kneecap, ankle, to impede circulation, padded gloves, to offer great grip, teammates, a must, to improve passing techniques, to improve a player's flexibility and speed, to meet all weather and field conditions, to agree on a set of common rules, a delay of play, jersey.

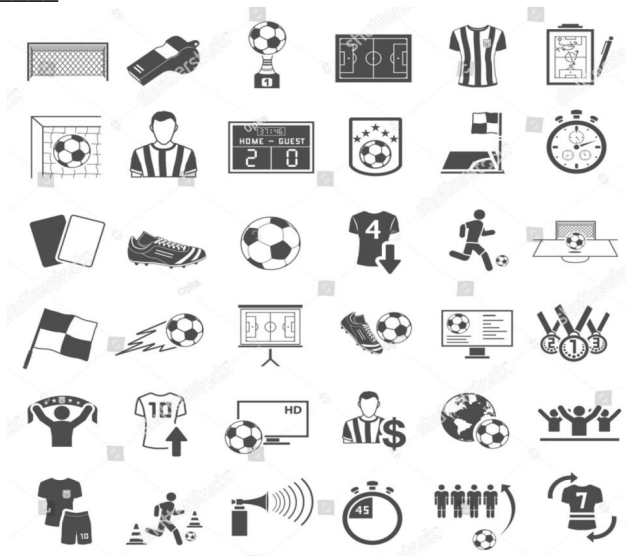
Example: Where can I find replica Iranian soccer jerseys?

2. Try to define all soccer items on the given picture and name them out using the texts above as a prompt.

1. Goal

2. _____

3. _____ etc.



(Pictures are retrieved from: <http://pdictionary.com/>)

VII. Read the text and translate it. Write out unknown items of vocabulary from it. Do the exercises after the text.

Golf

Golf is a sports game in which individual participants or teams try to hit a small ball into special holes with the help of golf clubs. What is important is that the ball needs to be rolled into the hole with the help of a small number of strokes as possible.

History of Golf

The exact date of the emergence of golf is unknown, but it is believed that it was invented by Scottish shepherds who tried to roll stones into the rabbit holes with their staffs. Although many historians disagree with this, there exists the opinion that golf originated in the Roman Empire and this game was played with the bent sticks and the ball full of feathers. According to other theories, golf appeared in China, during the rule of Ming dynasty. This is proved by a scroll with an image of the emperor who is trying to hit the ball into the hole with something like a golf club. However, modern golf originates from Scotland. The first mention of the game is considered to be the decree of 1457 issued by King James II of Scotland to ban golf, as it distracted archers from training. In this country, there were also invented the rules and the system with 18 holes on the golf course.

Rules of Golf

Before starting the game, one must do the following: Read the local rules of the game. Put an identification mark on the ball. This is necessary for you to distinguish your ball from the others. If the ball cannot be identified, it is considered lost. Check the number of clubs, it is allowed to have no more than 14 pieces. A golf game begins in the starting zone, also known as teeing ground. It called in this way because of the T-shaped stand, on which the ball is put. Ideally, the player should direct the ball to the main zone with the

first stroke, then, with the help of next several strokes, he or she should cross it and send the ball to the platform with perfect grass (“green”). In order to roll the ball into the hole from the green, you must use a special club called putter. In addition to standard rules, there are the following rules of etiquette in golf: Refrain from playing until the moment when the team ahead moves away to a safe distance. Never delay a game. Remove yourself from putting green immediately after all the players in your team have passed the hole. Give the priority to the groups playing faster than you. Repair sod. Remove traces in bunkers. Do not stand on another partner’s putting line. Do not put the clubs on the putting green. Put the flag in a careful way.

Golf Course

The golf course consists of a series of holes, each of which has its own starting point. On the starting area, there are two marks that show the permissible boundaries of the zone for the installation of the ball peg. Apart from the starting zone, the golf course also contains a fairway, rough and other obstacles. The final part of the area is the hole, which is marked for easy orientation. The hole is placed on the area with the grass of minimum height, which is called “green”. In the remaining areas, the height of the grass may vary; this is done in order to make it difficult for players to pass certain zones. As a rule, the holes are located in the line of sight, from the starting zone to the green. But this is not always the case, if the holes are deviating to the left or to the right, they are called “dogleg left” and “dogleg right”, respectively. If the direction is turned twice, the hole is called the “double dogleg”. The golf course consists of 18 holes, but there are the courses with 9 holes, in such a case they are passed twice, which adds up to the same 18 holes.

Golf Equipment

Let’s start the review of golf equipment with clubs. A player can bring no more than 14 clubs with him to the game, each of them

is designed to perform a certain stroke. Golf clubs are divided into two types: “Woods” is the clubs designed to perform strikes at maximum distances. As a rule, such strikes are the first ones. They are called the “woods” because of the wooden heads, although modern woods are made of metal alloys based on titanium. “Irons” are the clubs designed to perform strikes at different distances, depending on the position of the ball. The clubs have obtained this name because their head is made of metal. In addition to the material, the clubs differ in the shape of the heads. Therefore, “pitching wedge” clubs are used for the short-distance strikes with a high trajectory. The inclination angle of such clubs is 50-60 degrees. If the stroke must be made from a sand bunker, then the sand wedge club will be suitable for this as it has a heavy base and a special shape. For the final strokes, players use a club called “putter”, it is designed specifically for the strokes on a flat surface that requires great accuracy. In the “wood” and “iron” groups, the clubs are numbered depending on the angle between the shaft and the front striking surface of the head. The smaller the number is, the longer the potential trajectory of the stroke. The difference in the length of strikes performed with the clubs with proximate numbers is about 10 meters.

Another important part of golf equipment is balls. They must have the following characteristics: the diameter must be not less than 4.27 cm; the mass must range from 41 to 46 grams; the surface of the ball should have 300-500 dimples (the larger the dimples are, the higher the ball flies). Considering the golf balls, it is worth mentioning the “compression” index. In simple terms, compression is the level of deformation of the ball under the influence of the stroke. Its conditional value varies from 0 (when the ball is strongly deformed by the stroke) to 200 (when the ball is not deformed by the stroke). Most of the balls have the compression of 80-100 (they are compressed by 2-3 mm by the stroke). As for the internal

structure, balls can consist of one, two, three or more layers. Single-layer balls are ideal for training the beginners due to their low cost. Double-layer balls consist of a hard nucleus and a thin hardcover. They combine low cost, durability, and flying range, therefore, they are suitable for most golf players. Three-layer balls have the elastic thread wrapping over a tight or gel-like nucleus. Such balls can be covered very tightly and sometimes it is very beneficial for athletes. In four-layer balls, there is an additional layer between the wrapping and the cover. The potential of such balls can be revealed only by professionals.

Golf Tournaments

The most prestigious and popular professional tournaments include the following: The Olympic Games. Golf was included in the program of the Olympic Games in 2016. Before that, golf was at the Olympiads only 2 times (1900, 1904). The Masters Tournament is one of the four major tournaments in the golf major series (it is similar to the Grand Slam in tennis). US Open is the annual open golf championship held in the United States. The Open Championship is the oldest golf competition which is held in Britain. It is one of the four tournaments of the major series. Professional Golf Association Championship (PGA Championship) is an annual golf tournament held by the Professional Golfers' Association of America.

(Retrieved from: <https://sport-wiki.org/sports/golf/>)

1. Are these sentences true (T) or false (F)?

1. The most important rule in golf is the ball needs to be rolled into the hole with the help of a small number of strokes as possible.

2. It is believed that golf was invented by Irish shepherds who tried to roll stones into the rabbit holes with their staffs.

3. In order to start the game a player must put an identification mark on the ball.

4. It is allowed to have no more than 16 clubs per game.

5. As a rule, the holes are located in the line of sight, from the starting zone to the green on a golf course.

6. Golf clubs are divided into two types: “Woods” and “Irons”.

7. Balls in golf must have the following characteristics: the diameter must be not less than 4.25 cm; the mass must range from 41 to 51 grams; the surface of the ball should have 300-500 dimplings.

8. Four-layer balls are usually used only by professionals.

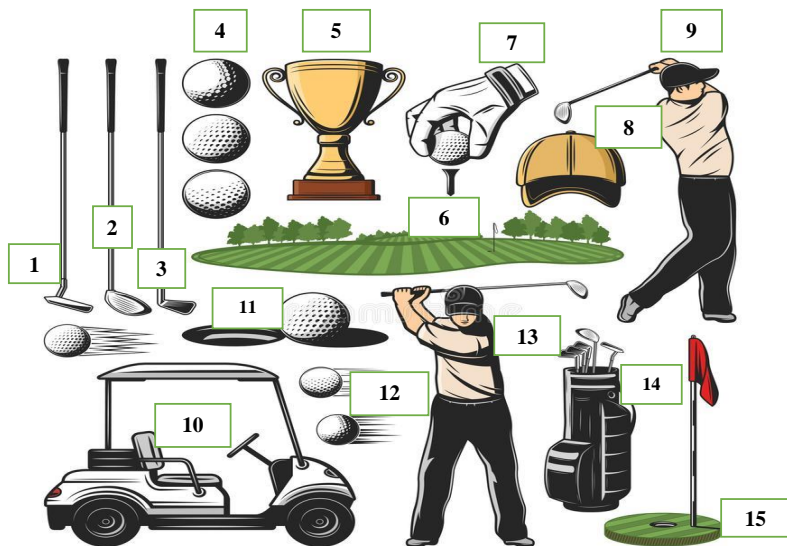
9. The Open Championship is the oldest golf competition which is held in Australia.

10. Golf was included in the program of the Olympic Games in 2016.

2. Translate the following word and expressions into Ukrainian from the text above. Try to create the sentences of your own with them.

Individual participants, number of strokes, golf course, a club, teeing ground, to perform a stroke, to roll the ball into the hole, putting line, sod, a ball peg, a fairway, to perform strikes at different distances, a sand bunker, the potential trajectory of the stroke, annual open golf championship.

3. Use the text above as a prompt for defining the following golf equipment and rules and mark them.



(Pictures are retrieved from: <http://pdictionary.com/>)

1. _____
2. _____

VIII. Read the text and translate it. Write out unknown items of vocabulary from it. Do the exercises after the text.

Tennis

Tennis is one of the oldest sports in the world. The name ‘tennis’ is said to have come from the French expression ‘tennis’ which means take. The player preparing to serve the ball usually called out this word to the receiver at the other end of the court.

Tennis started off as an indoor game called Court or royal tennis, which used to be played by French and English royalty. It was only in 1873 that ‘lawn tennis’ (which is popularly played today) was introduced by a British army officer, Major Walter Winfield.

Lawn Tennis was first played on a court shaped like an hour glass and divided by a high hung net. It required speed, agility and a great deal of accuracy in hitting the ball. It soon became popular with the English young people.

Shortly after lawn tennis was introduced in Britain, an English officer who was sent on duty to Bermuda took a long supply of balls and rackets. The game became popular, there too. At that time an American girl by the name of Mary Erwin Outerbridge happened to be visiting the island. When she saw the game of tennis being played, she became very enthusiastic about it. Before returning home to New York, she purchased a few rackets and balls and took them with her.

Miss Outerbridge had hoped to interest her friends in the new game, but the other girls did not take to it first. They feared it was not very lady like to leap and dash about the court. However, the boys, especially her brothers enjoyed it tremendously. Gradually, tennis spread throughout United States and Canada.

In 1877, the first lawn tennis championship matches were held at the old Wimbledon grounds near London. A few changes were made in the game during the championship. The court was no longer hour-glass shaped but was rectangular. The net was lowered and the badminton method of scoring abandoned.

Not long after, tennis began to spread to other countries of the world. Today, it has become popular, a popular sport enjoyed internationally by both the sexes.

(Retrieved from: https://en.wikipedia.org/wiki/History_of_tennis)

1. Choose the correct answer and underline it:

1. Tennis was first played
 - a) by the Japanese
 - b) in China
 - c) in Africa
 - d) by the French and English loyalty.

2. Lawn tennis was originally played in
 - a) a rectangular shaped court
 - b) a square shaped court
 - c) an oval shaped court
 - d) an hour-glass shaped court
3. The skill required in the game of tennis is
 - a) speed
 - b) agility
 - c) accuracy
 - d) all of the above
4. Tennis was brought to America by
 - a) Mayor Winfield
 - b) Mary Erwin Outerbridge
 - c) an English officer
 - d) an American General
5. The first lawn tennis matches were held in
 - a) 1871
 - b) 1875
 - c) 1873
 - d) 1877

2. Answer the following questions.

1. Where did the word 'tennis' originate from and why was this word used?
2. What is lawn tennis?
3. How is the court of lawn tennis divided?
4. How did tennis become known in America?
5. Why did the girls not like tennis initially?
6. What is the difference between tennis played then and tennis as it is played today?
7. What does 'it' in the last paragraph refer to?

3. Are these sentences true (T) or false (F)?

1. Tennis is one of the oldest sports in the world.
2. Tennis was first played in the United States.
3. Tennis started off as an outdoor game.
4. Miss Outerbridge tried to interest her friends to play tennis.
5. Today tennis is played only by men.

IX. Read the text and fill in the words from the box.

Serving, court, referees, set, point, break, half, net, receives, precision, scoring, switched.

Tennis Rules

Players or teams should be on different sides of the _____. One of the players serves, the other one _____ the serve, correspondingly. The server should serve the ball in such a way that it hits the court zone at the opponent's _____. The receiver should redirect the ball to the opponent's side in due time before it falls onto the _____ or before it touches the court for a second time. If one of the tennis players misses the ball, his/her opponent gets a _____.

A tennis match consists of "sets", which, in turn, consist of "games". Winning games requires _____ points (at least 4 points: 15-30-40-game, while being up by at least two points). When _____, the player has two attempts, during which s/he alternately serves the ball to the left and right service court. After the game is played, the serve goes to the opponent. After an odd number of games are played, players have a minute _____ and the sides are _____. The player, who is the first to win 6 games, is considered to win the _____. To win a match, the player must win 2 of 3 or 3 of 5 sets. The player, who wins the required number of

sets, wins the match. There is a referee at the official matches, who sits on the chair tower. In addition to the referee on the chair tower, there may be line_____, who record the ball entering the court area. In 2006, the age of electronic refereeing systems (Hawk-Eye) began in tennis. These systems determine the place of the ball fall to high_____.

(Retrieved from: <https://sport-wiki.org/sports/tennis/>)

***X. Read the abstract about the tennis court and the equipment.
Do the matching activity after the text.***

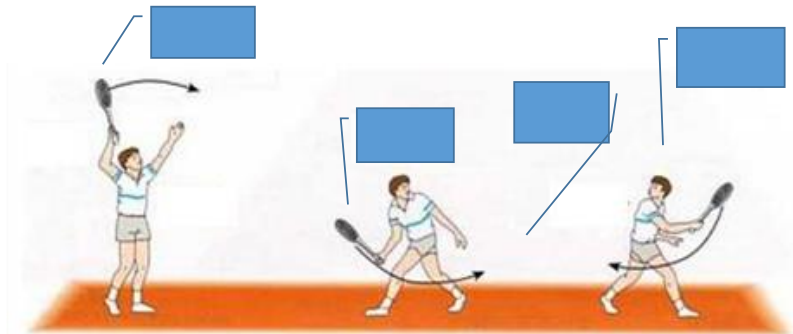
The tennis court is rectangular, 23.77 meters long and 8.23 meters wide (10.97 meters for doubles matches). The court has a flat surface with marks on it: Lines along short sides of the court are called baselines, and lines along long sides of the court are called sidelines. Service areas are marked on the court with the help of service lines, which are parallel to the baselines and the net, at the distance of 6.40 m from the net, and drawn only between the sidelines for a singles game, as well as the center service line, which is drawn in the middle of the court parallel to the sidelines and between the service lines. The center service line is also marked on the net with a vertical white line stretched from the surface of the court to the upper edge of the net. A short mark is placed on the baselines, indicating their midpoint. The net is stretched in the middle of the court. The net is stretched full width and divides the court into two equal parts. The standard net for tennis is 1.07 meters wide and 12.8 meters long, and has square cells with a side of 4 centimeters. Types of tennis court surface: grass, clay, hard synthetic carpet (artificial turf, acrylic). There are other types of tennis court surfaces, such as asphalt, wood or rubber, but they are not used at official matches.

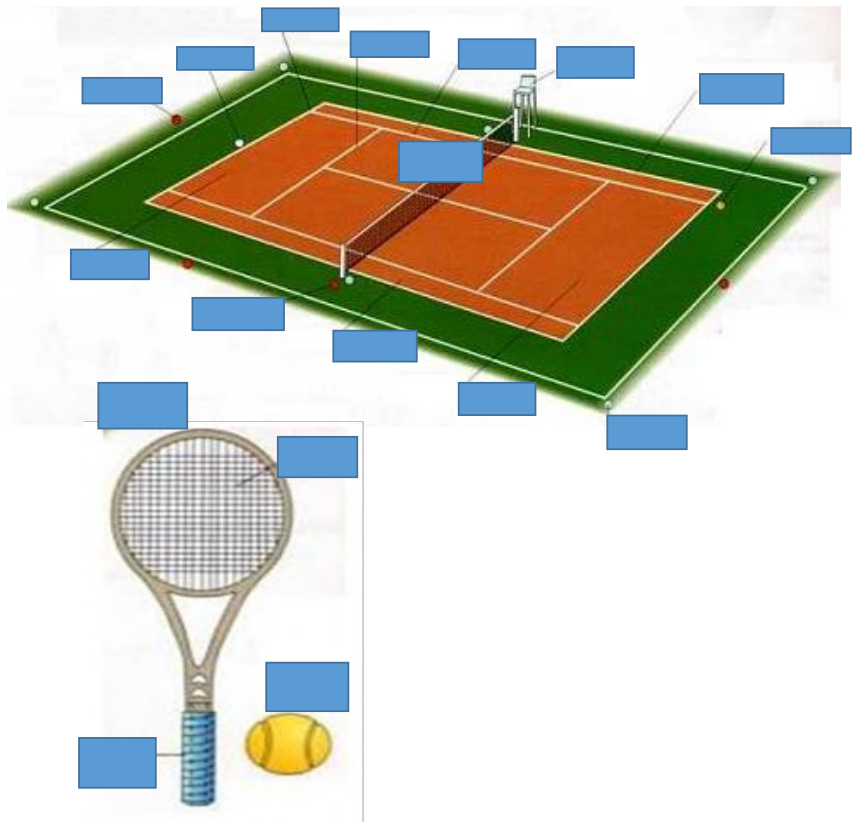
Tennis player equipment is as follows: a tennis racket and ball. The racket consists of a handle and a rounded frame with tightly pulled strings. The frame of the racket is made of complex composite materials (ceramics, carbon fiber, metal). Strings for tennis rackets can be both natural and synthetic. They used to think that natural strings have better properties, but nowadays artificial strings have caught up with natural ones in terms of properties. Interestingly, as a rule, the tension force of horizontal and vertical strings is different. Usually, a tennis racket is chosen individually for each player.

(Retrieved from: <https://sport-wiki.org/sports/tennis/>)

Match the word with the picture using the text above as a prompt.

Strokes, net, umpire, strings, forehand, alley, handle, receiver, linesman, tennis racquet, service, service line, server, singles sideline, tennis ball, ballboy, backhand, doubles sideline, forehand, back court, baseline, net judge, forecourt.





(Pictures retrieved from: <http://pdictionary.com/>)

Sport in Ukraine

XI. Read the text and translate it. Write out new words and expressions from it.

Boxing

Boxing is a contact sport (martial art) in which it is allowed to perform punches only with the fists and with special boxing gloves.

History of Boxing. The history of boxing is traced back more than one thousand years. Various mentions of fisticuffs are found in

Egypt (the pictures on frescoes), as well as on Minoan and Sumerian reliefs. According to different sources of information, the first finds date either from 4000 BC or from 7000 BC. It is believed that boxing started to be considered as the type of martial arts in 688 BC when it was included in the program of the ancient Olympic Games. The birthplace of modern boxing is England (early 17th century). The founder and first boxing champion is considered to be James Figg. What is interesting, before being engaged in boxing, James was a famous fencer. Later, he opened the boxing academy and began to teach all those who wanted to learn the art of hand-to-hand combat.

In 1867, the journalist John Grahen Chambers developed the first set of boxing rules. Ring size, the weight of gloves, and the duration of rounds were stipulated there. Later, these instructions formed the basis of modern boxing rules. In 1904, boxing was included in the program of the Olympic Games.

Boxing Rules. A boxing match is divided into rounds, each of which lasts from 3 to 5 minutes, depending on the level of such match (amateur or professional). Between rounds, the boxers have 1 minute to rest.

A boxing match ends in the following cases: when one of the boxers is knocked down and is not able to rise for 10 seconds; after the third knockdown (the rule is relevant for title fights administered by the WBA); when one of the boxers is injured and cannot defend himself (technical knockout); If both opponents have survived all the rounds and the knockout has not occurred, then the winner is determined by points. Although, if their score is the same even in terms of points, the boxer who has a higher score in the bigger number of rounds is considered to be the winner. Sometimes the matches end in a draw. In addition to the fact that it is prohibited for boxers to hit with the help of any part of the body except the fist, it is also forbidden for them to hit below the belt, hold an opponent,

push, bite, spit, and struggle. The list of prohibited techniques: punch below the belt; punch (or a dangerous movement) with the head; punch to the back of the head; kidneys punch; back punch; open-glove punch (with the edge or the back of gloves, especially with the laces); capturing (of the head, arms, gloves, torso); capturing with punching; bending over; pressing the opponent's face with the help of the hand; turning back on the enemy; pushing the opponent; using ropes for punching; grabbing ropes. The entire course of the bout is controlled by the referee. He can punish the participants for violating the rules by warning, withdrawing points or even by disqualification.

Boxing Ring Size. The ring should have the shape of a square with one side of at least 4.90 m. The maximum distance between the ropes is 6.10 m. When holding international championships, a ring with a side of 6.10 m must be used. The ring must be located on the platform that is at least 91 cm high. But it should be no higher than 1.22 m from the level of the floor or the basis.

Platform and corners. The platform should be constructed according to the safety requirements. It must have a flat floor and be free from any obstacles. It should extend beyond the ropes for not less than 46 cm on each side. In the corners of the ring, there must be installed four corner posts, which must be well-protected with special pillows or placed in a different manner to prevent possible injuries. The corner pillows should be located as follows: in the nearest left corner (in relation to the table of the Chairman of the jury), there has to be the red one, in the far left corner, there should be a white one, in the far right corner, there should be the blue one, and in the nearest right corner, there should be a white one.

Floor covering. The floor must have a coating of felt, rubber or other approved material with the same elasticity. The thickness of this cover should be not less than 1.3 cm and not more than 1.9 cm. Tarpaulin should be stretched over this cover and tightly attached to

it. Felt (rubber or other approved material) and tarpaulin should cover the entire platform.

Ropes. The ring is limited with the help of three or four rows made of 3 cm thick ropes. These ropes must be stretched as tightly as possible between the four corner posts. The ropes must be wrapped with a soft or smooth material. On each side, they must be linked to each other by two connecting elements made of dense fabric that is 3-4 cm wide. These elements must be placed at equal intervals and they must not slip along the rope.

Ladders. The ring must be equipped with three ladders. Two of them must be placed in opposite corners and must be used by boxers and their corner men. The third ladder is placed in a neutral corner and is used by the Referee and Doctors.

Plastic bags. In two neutral corners outside of the ring, there must be placed small plastic bags, where the Referee will throw out cotton wool and tampons used to help the boxers if bleeding occurs.

Boxing equipment. Participants in a boxing match must be dressed and equipped as follows:

Clothing. Boxers must wear lightweight shoes with no spikes and heels, as well as socks, pants (not longer than the knee level), and a tank top covering their chest and back.

Mouthpiece. It is a flexible plastic device used to protect teeth from sports injuries.

Jockstrap. It is used to protect the groin.

Gloves. Red or blue gloves (according to the color of boxer's corner in the ring). They must be provided by the organizers of the competition. According to the requirements of the International Boxing Association, gloves should weigh 284 grams, and the weight of the leather part should constitute no more than half of the total weight.

Boxers' classifications:

Boxers are classified according to **eight (08) weight categories** which are

- Flyweight (50.8kg)
- Bantamweight (53.5 kg)
- Featherweight (57.2 kg)
- Lightweight (61.2 kg)
- Welterweight (66.7 kg)
- Middleweight (72.6 kg)
- Light heavyweight (79.4 kg)
- Heavyweight (unlimited).

Refereeing. Competitions and matches are served by the board of referees consisting of the following members: The Chief Referee of the competition supervises the adherence to all the rules and makes the final decision about all the technical issues; Side referees evaluate the actions of boxers and decide on the outcome of the match; Timekeeper; Public address announcer; Doctor; Supervisor.

(Retrieved from: <https://sport-wiki.org/sports/boxing/>)

1. Check your understanding.

1. What do you know from the history of boxing?
2. Where and when did the first boxing appear?
3. Who was John Grahen Chambers? What did he do?
4. Call out the major boxing rules.
5. In which cases a boxing match is considered to be ended?
6. Name out the list of prohibited techniques in boxing.
7. What are the main constituents of boxing ring and their peculiarities?
8. Dwell upon the boxing equipment.
9. What categories of boxers do you know?
10. Who can serve boxing matches and competitions?

2. Matching.

Word	Definition
1. Martial art	a) to hit somebody/something hard with your fist (= closed hand);
2. Timekeeper	b) to hit somebody and make them fall to the ground;
3. To punch	c) to catch a person or an animal and keep them as a prisoner or shut them in a space that they cannot escape from;
4. To knock down	d) an attack;
5. To capture	e) a weight in boxing and other sports, lighter than bantamweight, usually between 48 and 51 kilograms; a boxer or other competitor in this class;
6. Bout	f) a piece of men's underwear worn to support or protect the sexual organs while playing sports;
7. Amateur	g) a person who takes part in a sport or other activity for pleasure, not as a job;
8. Laces	h) a person who records the time that is spent doing something, for example at work or at a sports event;
9. Flyweight	i) a long thin piece of material like string that goes through the holes on a shoe and is used to fasten it;
10. Jockstrap	j) any of the fighting sports that include judo and karate

3. Use the text above as a prompt in order to mark all the terms concerning boxing and equipment.

Ring post, corner pad, boxer, referee, timekeeper, rope, turnbuckle, corner, ring step, judge, apron, canvas, trainer, ringside, physician, corner stool, trainer +.



(Pictures are retrieved from: <http://pdictionary.com/>)

4. Use the text above and consult the dictionary to find all the boxing equipment and name it out.

1. _____, 2. _____, 3. _____...



XII. Read and translate the text. Write out unknown items of vocabulary. Do the exercises following the text.

Swimming

Swimming is a water sport which consists in overcoming various distances by swimming in the shortest possible time. Regardless of the swimming stroke, sportsmen are allowed to swim no more than 15 meters underwater (at the start or after the turn).

History of Swimming

Numerous findings of archaeologists indicate that people learned to swim a long time ago. Most probably, swimming training was initiated by the search for food and warfare. In 1515, the first

swimming competitions were held in Venice. In 1869, the first amateur swimming school was opened in England. Later, similar schools appeared in Sweden, Germany, Hungary, France, the Netherlands, the USA, New Zealand, Russia, Italy, and Austria. At the end of the 19th century, water sports became extremely popular. The prerequisite for this was the appearance of artificial pools. Since 1896, swimming has been the part of the program of the Olympic Games. In 1899, the major European championship was held, it was called the European Superiority. In 1908, the International Swimming Federation (FINA) developed, and there were established the main distances for competitions, as well as the order of conducting swims.

Swim Strokes

In swimming sport, there exist 4 types of strokes: The crawl is the fastest way of swimming which is characterized by alternating and symmetrical movements of arms and legs, in turns. Each hand makes a wide stroke along the axis of the swimmer's body, while the legs are raised and lowered.

Back crawl is a swimming stroke which is visually very similar to the ordinary crawl. The swimmer also performs the hand strokes raising and lowering the legs, but he or she swims on the back and carries out a movement with his straight hand over the water.

Breaststroke is a type of swimming in which the athlete lies on the chest, and with his or her hands and feet, performs symmetrical movements in parallel to the water surface.

The butterfly stroke is one of the most technically complex and tedious types of swimming. While moving with the help of a butterfly stroke, the athlete makes a wide and powerful stroke, lifting his or her body above the water, while the legs and pelvis make wave-like movements. It is considered the second fastest swim stroke after the crawl.

In swimming, there is a freestyle, which is commonly understood as the discipline according to which the athlete is allowed to swim in any way. Currently, all the athletes use the crawl, as it is the fastest stroke.

Swimming Pool

Swimming pool (sports bath) is a rectangular bath designed for water sports. For sports swimming pool, there should be the following sizes: 50 meters long and 25 meters wide (for 2.5-meter-wide lanes); 50 meters long and 21 meters wide (for ten 2-meter-wide lanes); 25 meters long and 16 meters wide (for eight 1.9-meter-wide lanes); 25 meters long and 11 meters wide (for six 1.75-meter-wide lanes); 25 meters long and 8.5 meters wide (for five 1.6-meter-wide lanes).

According to the rules of FINA, the baths should be 50 meters long and 25 meters wide. The pool should be divided into 8 swim lanes. The lanes are separated from each other by the garlands of floats with the diameter of 5-15 cm. The first and the last 5 meters of each of them consist of red floats. The rest of the space is filled with green floats for 1 and 8 lanes, and the blue floats are used for 2, 3, 6 and 7 lanes, while yellow floats are for 4, and 5 tracks. Water temperature should be from 25 to 29 °C.

Swimming Outfit

Equipment for swimming is designed to provide maximum comfort and reduce water resistance. Swimming equipment includes the following: Swimming cap is headwear for swimming that protects swimmer's hair from the influence of chlorinated water. Swimming caps can be made of latex, silicone, fabric, and of the combined materials. Swimming trunks or swimsuit is swim briefs made of the special material (polyamide combined with lycra or a mixture of polyester with PBT). Swimming goggles are an accessory for swimming sport which is designed to ensure normal vision under water. It also protects the eyes from chlorine fumes.

Refereeing

The main referee is responsible for holding swimming competitions. He or she also heads the panel of referees. Starter invites the swimmers to start, checks the correctness of the occupied starting positions and gives the command to start. Timekeeper measures the time of the participant's swim on a specific lane from the start to finish. The finish referee determines the order of arrival of participants to the finish if an automated system for defining the winners is not available. Inspector of turns determines the correctness of the turns on the allotted lane. A technical referee monitors the technique of performing the appropriate style of swimming.

Competition System

At modern official competitions, there are morning and evening programs. The morning program includes preliminary swims the results of which are determined by the participants of the semi-finals and finals (the evening program). At the official crawling contest, both men and women compete at the distances of 50, 100, 200, 400, 800 and 1500 meters, and if they use backstroke, the distance should be 100 and 200 meters. Swimmers use breaststroke and butterfly stroke at the distances of 100 and 200 meters.

Swimming Organizations

The International Swimming Federation (fr. Federation Internationale de Natation, FINA) is the organization that unites national swimming federations. The headquarters is located in Lausanne (Switzerland).

(Retrieved from: <https://sport-wiki.org/sports/swimming/>)

1. Are these sentences true (T) or false (F)?

1. Sportsmen are allowed to swim no more than 16 meters underwater.

2. In 1515, the first swimming competitions were held in Venice.

3. Since 1806, swimming has been the part of the program of the Olympic Games.

4. In swimming sport, there exist 4 types of strokes.

5. Breaststroke is a type of swimming in which the athlete lies on the chest, and with his or her hands and feet, performs symmetrical movements in parallel to the water surface.

6. The butterfly stroke is one of the most technically complex and tedious types of swimming.

7. According to the rules of FINA, the baths should be 60 meters long and 30 meters wide and the pool should be divided into 6 swim lanes.

8. Water temperature should be from 25 to 32 °C.

9. Equipment for swimming is designed to provide maximum comfort and reduce water resistance.

10. A technical referee monitors the technique of performing the appropriate style of swimming.

2. Find the appropriate English equivalents in the text.

Плавати під водою, штучний басейн, чергування і симетричні рухи рук і ніг, водна поверхня, таз, доріжка для плавання, буй/поплавець, зменшувати опір води, захищати волосся плавця від впливу хлорованої води, окуляри для плавання, забезпечувати хороше бачення під водою, колегія арбітрів, перевірити правильність зайнятих вихідних положень.

3. Fill in the gaps.

butterfly, freestyle, float, starter, timekeeper, breaststroke, crawl

1._____ a fast swimming stroke that you do lying on your front moving one arm over your head, and then the other, while kicking with your feet.

2._____ a style of swimming that you do on your front, moving your arms and legs away from your body and then back towards it in a circle.

3._____ a swimming stroke in which you swim on your front and lift both arms forward at the same time while your legs move up and down together.

4._____ a swimming race in which people taking part can use any stroke (= swimming style) they want.

5._____ a light object that floats in the water and is held by a person who is learning to swim.

6._____ a person who gives the signal for a race to start.

7._____ a person who records the time that is spent doing something, for example at work or at a sports event.

XIII. Read the text and do the exercises based on it.

Basketball

Basketball is a team sports game with a ball that has an objective of shooting a basketball through the defender's hoop a greater amount of times than the opposing team. Each team has five players on the court.

History of Basketball

Basketball was invented in 1891 in the United States of America by a young teacher, native of Canada, Dr. James Naismith. In an attempt to keep his gym class active he nailed two fruit baskets onto elevated balcony railings and asked his students to throw a soccer ball into them. The newly created game only distantly resembled modern basketball. There was no such thing as dribbling, the players passed the ball to each other and tried to score

by throwing it into the basket. Whichever team threw more balls won the game. In a year Dr. Naismith developed the first rules of basketball. The first games according to these rules led to their first modifications.

Basketball gradually spread throughout Eastern countries: Japan, China, the Philippines, and then to Europe and Latin America. In 10 years at the Olympics in St. Louis the Americans held a demonstration tournament between teams of several cities. In 1946, the Basketball Association of America (BAA) was formed. The first game under its patronage took place on November 1 of the same year in Toronto between Toronto Huskies and New York Knickerbockers. In 1949, the BAA merged with the National Basketball League (NBL) to form the National Basketball Association (NBA). In 1967, the American Basketball Association was formed to threaten the dominance of the NBA, but after 9 years NBA and ABA merged. Today NBA is one of the most powerful and famous professional basketball leagues in the world. Federation Internationale de Basketball Amateur was founded in 1932. It included 8 countries: Argentina, Greece, Italy, Latvia, Portugal, Romania, Sweden and Czechoslovakia. The Federation was meant to oversee only amateur players. Eventually, in 1989, professional basketball players were allowed to participate in international tournaments, and the word ‘amateur’ was withdrawn from the name. The first international basketball game was held in 1904, and in 1936 basketball was included in the program of the summer Olympics.

Basketball Rules

Basketball rules changed frequently throughout an extended period of time. The final version of the rules was developed only in 2004 and it is used today. Basketball is a game in which two teams play against each other. Each basketball team consists of 12 players, 5 of which are field, and the rest is considered to be substitutions.

The player owning the ball must move across the court bouncing it on the floor. If they stop and hold the ball in any way, the referee signals “carrying” this is considered to be a violation. An occasional touch of the ball by other parts of the body is not considered to be a violation as opposed to deliberate play with a leg or fist. Basketball match consists of 4 quarters, but the length of each period varies depending on basketball association. For instance, the NBA match is played in 4 quarters 12 minutes each, while according to FIBA rules each quarter lasts for 10 minutes. Short breaks are provided between quarters, as well as a longer half-time break. A different number of points can be earned by shooting a ball through the hoop. A one-point shot can be earned when shooting from the foul line after a foul is made. A successful shot is worth two points if it is shot from a short distance (from within the three-point arc). The team earns three points if a shot is taken from beyond the three-point arc. If the score is tied at the end of regulation play, the teams play multiple five-minute overtime periods until a winner is decided.

Basketball Court

A basketball court is a flat rectangular surface with a hard coating. The court flooring should not have any bends, cracks or any other kinds of deformations. A regulation basketball court dimensions should be 28 meters long and 15 meters wide. The ceiling height should be no less than 7 meters, professional basketball court ceiling being 12 meters high or more. Court light should not prevent players from moving and should evenly cover the whole court. Basketball matches are only held indoors, but it was not always the case. Until the end of the 60s, it was allowed to organize tournaments outdoors.

Court Lines and Markings

The borders of the court. Along the perimeter of the court (2 short baselines and 2 long sidelines). Midcourt line. Separates both

halves of the court, parallel to baselines. The central zone is a circle (radius 1.8 m) exactly in the center of the midcourt. The three-point arcs are semicircles with the radius 6.75 m painted until they cross baselines. Free throw lines. Free throw line is 3.6 m long painted parallel to each baseline so that its endpoint is 5.8 m from the baseline inner edge, and its middle is at the imaginary line connecting the middles of both baselines.

Basketball

Basketball is shaped in the form of a sphere, painted approved shade of orange and has a print of eight panels and black seams. Basketballs have an inflatable inner rubber bladder, generally wrapped in layers of fiber and then covered with a surface made either from leather (traditional), rubber, or a synthetic composite.

Basketball Rim and Backboard

A basketball hoop is placed 3.05 m high above the court. The diameter of the basketball rim varies between 45 cm and 45.7 cm. The rim itself has to be painted bright orange color. A special net 40-45 cm long is attached to the rim. Rim has padding 15 cm from the backboard.

The backboard to which the rim is affixed has a number of important measures. It has to be 1.8 m wide and 1.05 m high. Modern basketball boards are made of tempered glass. Officials The makeup of the officiating corps is the following: Referee and umpire; timer; scorer(s); shot-clock operator. Referee's uniform: grey jersey; black pants; black basketball shoes.

(Retrieved from: <https://sport-wiki.org/sports/basketball/>)

1. Check your understanding.

1. When and where was basketball invented?
2. What types of basketball associations do you know?
3. Name out the main basketball rules.
4. What are the main peculiarities of basketball court?

5. What types of lines on a basketball court do you know?
6. Dwell upon the major characteristics of basketball rim and backboard.

2. Match the words and expressions with their definitions.

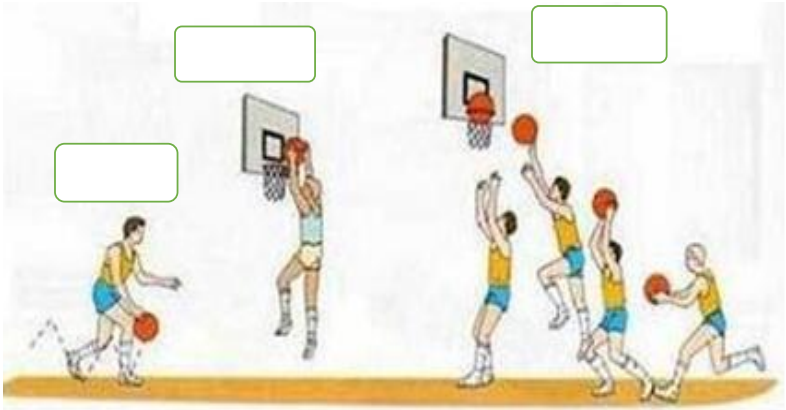
Word	Definition
1. Assist	a) when a player repeatedly pushes, pats, taps or bats the ball toward the floor with one hand to cause the ball to bounce back up to either of his hands; used to advance the ball or keep control of it.
2. Backboard	b) when a player close to the basket jumps and strongly throws the ball down into it; an athletic, creative shot used to intimidate opponents.
3. Baseline	c) when a passer throws the ball to a teammate; used to start plays, move the ball downcourt, keep it away from defenders and get it to a shooter.
4. Basket	d) unfair advantage; players may not push, hold, trip, hack, elbow, restrain or charge into an opponent; these are also counted as team fouls.
5. Court	e) the team that has possession of the basketball. Also, a designed play that a team uses to attempt to score.
6. Defense	f) the rectangular board behind the basket.
7. Defensive rebound	g) the five starters who begin a game; usually a team's best players.
8. Dribbling	h) the boundary line behind each

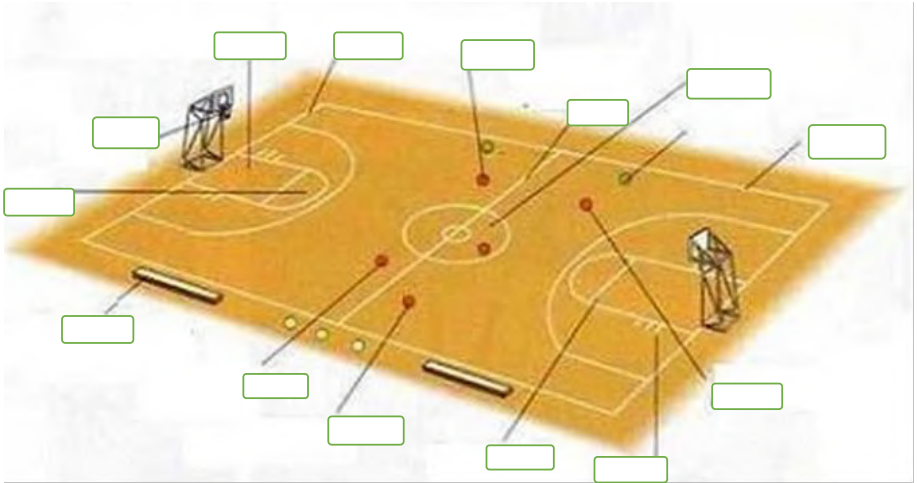
	<p>basket a basket scored on a shot, except for a free throw, worth two or three points depending on the distance of the attempt from the basket.</p>
9. Dunk	<p>i) the act of preventing the offense from scoring; The team not in possession of the ball whose objective is to keep the opponent from scoring; also a specific pattern of play used by a defending team.</p>
10. Field goal	<p>j) the act of gaining possession of the ball after a missed shot.</p>
11. Free throw	<p>k) the 94' x 50' area bounded by two sidelines and two end lines containing a basket at each end, on which a basketball game is played.</p>
12. Jump ball	<p>l) contact between players that may result in injury or provide one team with an</p>
13. Jump shot	<p>m) attached to the backboard, it consists of a metal rim 18" in diameter suspended 10' from the floor, from which a 15-18" corded net hangs, and through which points are scored; also used to refer to a successful field goal.</p>
14. Lay-up or laying	<p>n) an unguarded shot taken from behind the free-throw line after a foul. If successful, the shot counts one point.</p>
15. Offense	<p>o) a shot that is released after the shooter has jumped into the air.</p>
16. Offensive rebound	<p>p) a shot taken after driving to the basket by leaping up under the basket and using one hand to drop the ball directly into the basket or to bank the ball off the backboard into it (lay-up).</p>

17. Passing	q) a rebound of an opponent's missed shot.
18. Personal foul	r) a rebound of a team's own missed shot.
19. Rebound	s) a pass that immediately proceeds and sets up a scored basket.
20. Starting lineup	t) a made basket from more than nineteen feet and nine inches during a high school or college game.
21. Three-point field goal	u) a loss of possession of the ball by means of an error or violation.
22. Turnover	v) 2 opposing players jump for a ball an official tosses above and between them, to tap it to their teammates and gain possession; used to start the game (tip-off) and all overtime periods, and sometimes to restart play.

3. Match the words and phrases with the pictures.

1) free throw line, 2) free throw, 3) net, 4) basket, 5) left guard, 6) right guard, 7) shot, 8) right forward, 9) left forward, 10) basketball, 11) centre line, 12) restricted circle, 13) restricted 14) area, 15) rim, 16) referee, 17) sideline, 18) end line, 19) slam-dunk, 20) first space, 21) dribbling, 22) lunetta, 23) back board, 24) players' bench





Unit 5
Doping in Sports – Cheating
or Leveling of the Playing
Field



Read and translate the text. Write out unknown items of vocabulary from it. Do the exercises following the text.

Doping in Sports – Cheating or Leveling of the Playing Field

Football, soccer, basketball, tennis, swimming, cycling, track-and-field, body-building, baseball, weightlifting, boxing, wrestling, ice hockey, rugby, and other sports, all have a track record of performance-enhancing drug usage. Each year, over 3000 athletes worldwide test positive for banned substances.

As quoted in a published article, “For two years, I took EPO, growth hormone, anabolic steroids, testosterone, amphetamine. Just about everything. That was part of the job.” – Erwan Mentheour, Cyclist.

On December 5, 2017, the International Olympic Committee banned Russia from taking the national team to the February 2018 winter games in Pyeongchang, South Korea. This decision was a

punishment for running a state-sponsored doping program. If Russian athletes independently prove they are clean, they can then compete in these games under the Olympic flag.

Each year, top athletes earn millions of dollars in compensation and millions more in sponsorships and endorsements. The lure of success, enormous financial and social rewards, create an incentive to win at all costs, which includes cheating. The benefits of cheating far outweigh the penalties. A six-month to a one-year ban from competition is a small price to pay when multi-year multi-million dollar contracts are at stake.

The choice space of hard to detect drugs for “performance enhancement” is an array of specialized highly efficacious chemical products readily available for various targeted outcomes. Anabolic steroids are natural and synthetic derivatives of the male sex hormone testosterone. Steroids help build muscle mass, enable athletes to train harder and facilitate quick recovery from strenuous workouts. Small doses of Androgen, an anabolic steroid, can increase muscular strength by about 5-20%. Other drugs, Erythropoietin (EPO) and growth hormones, help provide a performance edge by bio-engineering the body’s ability to use, produce and carry oxygen to the working muscles – a technique popularly known as blood doping. Most of these drugs mimic natural chemicals in the body, and hence, are hard to detect. Enormous rewards for the winner combined with the low probability of getting caught makes doping too alluring.

On the darker side, doping athletes run the risk of minor to life-threatening side-effects. According to late Dr. Gary I. Wadler, an American internist with expertise in the field of drug use in sports states in a published article, “athletes live in a world of invincibility and denial. They’ll hear me say it’s dangerous, but their risk-reward ratio is so distorted that they disregard the risk even if it means shortening their life.”

On the margin, performance enhancing drugs do give an asymmetric advantage to the players using them, as do alternate means of advanced coaching and training regimens. Wiring of athletes to monitoring equipment to orchestrate optimum heart, muscle, brain, nerves performance; access to a team of sports specialists; training at altitude to increase oxygen intake, are all asymmetric advantages.

Bryant McKinnie, a former American football offensive tackle, at 6 feet 8 inches tall states, “athletes cheat because of players like me.” He sincerely further mentions, “my size and strength is tough to beat. Some of these athletes have families to feed, and they, in turn, take drugs to compete with big guys like me.” As he reflected on his football career, he did feel somewhat challenged as he was not just competing with well-trained athletes but probably with some well-trained athletes supercharged with enhancement drugs. He went on to say, “the drugs, the regimen and how to avoid the detection are offered and readily available through the support ecosystem.” He puzzles over by stating, “regulating the drugs might make the playing stage fair.”

Elite sport is not just about watching players compete. It is more to do with appreciating the extraordinary performance. Some of the best players are not only talented performers but also virtuosos and maestros. The elite sport has become the domain of the gifted, and in some form, may be biased against the disadvantaged. Biological manipulation through enhancement drugs is a means for some to level the playing field.

Ian James Thorpe, a retired Australian swimmer, has large feet which gave him a tremendous advantage. Michael Phelps, a retired American competitive swimmer and the most decorated Olympian of all time, is built for swimming, as are most other world-class swimmers. They are usually tall, muscular, long-armed, and frequently have longer-than-average torsos with relatively shorter

legs. However, it requires a lot more than just the right body type to get to the top. Physical advantages give a head-start, but they aren't sufficient on their own. Michael Phelps' talent and techniques, excellent stroke mechanics, combined with a ferocious focus, drive, competitive nature and practice is what delivered the elite performance. Tiger Woods, the hall-of-fame golfing legend, developed the perfect swing to hit a ball 250 yards in a straight line, probably after hitting many thousands of balls.

David Epstein, the author of the book, *The Sports Gene*, states in a published interview, "genetics influences just about everything, but doesn't determine almost anything." "Genes are predisposition and not destiny. The biological setup allows one to benefit more than the next guy." He argues that an intersection of genes, training, economic incentives, and cultural institutions is what creates the athlete.

Professor Julian Savulescu, in a University of Oxford publication, makes an argument that rather than banning performance enhancing drugs we should regulate their use. He states, "by allowing everyone to take drugs, we level the playing field." He further states, "we remove the effects of genetic inequality. Far from being unfair, allowing performance enhancement promotes equality." The incentive to develop undetectable drugs, with little concern for safety might be causing long-term harm to the athletes.

Sports medicine specialists, Doctors Leon Creaney and Anna Vondy state, "the arguments against doping in sport are moral, not medical." They further write, "athletes who want to live a healthy existence would be pushed out altogether. Soon, the only competition that would matter would be the one to develop the most powerful drugs, and athletic opponents would enter into an exchange of ever-escalating doses to stay ahead of each other." They feel that legitimizing the performance-enhancing drugs in elite

and professional sports would expand the usage exponentially and filter deeper into our society.

To seek an asymmetric edge, athletes are susceptible to cheating by taking performance-enhancing drugs. The stakes are high – millions of dollars in earnings for years versus the low probability of getting caught. Either the penalty associated with taking drugs should be made much higher, i.e., lifetime ban, so that very few people take the gamble, or a regulated use of performance-enhancing drugs should be allowed.

(Retrieved from: "The forbes" by Roomy Khan)

I. Give the definitions or explanations to the following words and expressions:

performance-enhancing drug, anabolic steroids, to be clean, to test positive for banned substances, endorsement, to win at all costs, to cheat/cheating, penalty, ban, strenuous workouts, life-threatening side-effects, training regimens, a tackle, to beat, elite sport.

II. Detect all the kinds of sports in the article and define what kind of sport we can play, do or go.

Sports		
Play	Do	Go

Grammar note!

Play is used with ball sports or competitive games where we play against another person.

Do is used for a recreational activity or a non-team sport that does not use a ball.

Go is used with activities that end -ing. We go somewhere to do something.

III. Check your understanding.

1. Why do sportsmen use drugs?
2. What do you understand under the term “performance-enhancing drug”?
3. How do drugs help sportsmen to perform better?
4. Name out the most popular drugs and describe their effects on the body.
5. What are the major risks of taking any kind of doping?
6. How can athletes be punished for the usage of any kind of doping?
7. Why is it important to use a doping for the elite sport?
8. If you were a sportsman/sportswoman, would you use any kind of doping in order to perform better in a competition? Explain why yes or not.

IV. Imagine that you are a famous athlete and you are asked to give an interview for a sport magazine concerning a usage of doping in your sportive career. Tell the reporter if you use the drugs or not, your personal opinion concerning the given question, explain why athletes usually use them and their effects on the body and give some examples if it is possible. You should use 250-300 words.

V. Listen to the BBC Learning English 6 Minute English Blood Doping and do the exercises based on it.

(AUDIO: http://www.bbc.co.uk/worldservice/learningenglish/general/sixminute/2011/09/110922_6min_english_blood_doping_page.shtml)

VI. Matching.

1. transfuse	a) large in amount, value or importance
2. an advantage	b) the ability to bear a difficult or painful situation over a long time
3. enhancing	c) how well you do in something
4. substantial	d) producing the result that is wanted or successful
5. doping	e) basic quality or character
6. effective	f) something that puts you in a better position than other people
7. performance	g) giving a drug to a person or animal in order to affect their performance in a race or sport
8. endurance	h) increasing or improving the good quality, value or status of somebody or something
9. the nature of	i) to put new blood into the body of a person or an animal

VII. Translate the given words and expressions into Ukrainian.

Doping, random drug test, performance, enhancing drugs, banned for life, steroids, banned substances, cheating, to get an advantage, physical endurance, banned from taking part in a race, give a substantial boost to an athletes endurance, the genetic component of red blood cells.

VIII. Listen to the recording for the second time and fill in the gaps.

And a new test that might prevent some athletes cheating at the 2012 Olympics in London next year.

Rob: Ah yes, the Olympics. That's where the p_____ is really on to do well but some athletes use some u_____ t_____ to get an advantage. More on that in a moment. But first Cath, what are you most looking forward to seeing at next year's Olympics?

Cath: I'm really looking forward to the g_____. I like gymnastics a lot. And maybe something like c_____, that's always good fun.

Rob: Well it should be a great event. But Cath, I wonder if you know when the first modern Olympics was held? Was it in:

- a) 1886 b) 1896 c) 1906.

Cath: I'm going to go for 1906 Rob. Rob: Are you sure?

Cath: No but that's what I'm going to go for!

Rob: OK, well, we'll see if you're right at the end of the programme. Now let's get back to sport and some of the c_____ that goes on. A_____ have been known to take all sorts of c_____ of d_____ in the hope of enhancing their performance.

Cath: Enhancing – or improving their performance. And of course doing this gives them an u_____ a_____.

Rob: It does. It means their performance cannot be just judged on their physical endurance. In other words, we're not just seeing their n_____ f_____ because other s_____ are helping them.

Cath: So this means not everyone is c_____ on a l_____ p_____ f_____.

Rob: That's a good phrase! Yes, not everyone is playing by the s_____ r_____.

Cath: Of course athletes are t_____ f____ d_____ and some are caught and banned from taking part in a race.

Rob: That's true but there's one form of cheating called 'autologous b_____ d_____' that has been difficult to test for. And the BBC Science reporter Matt McGrath can tell us more about this. See if you can hear what scientists have so far failed to do...

Matt Mc Grath, BBC Science reporter While scientists have developed tests for almost a___ f____ of d_____ in sport, the one that has caused them most trouble has been the practice of athletes storing and transfusing their own blood. It i_____ the number of red blood cells and give a substantial boost to an athletes endurance by allowing them to c____ m_____ o_____. Scientists have failed to develop an effective test.

Cath: Matt McGrath says scientists have developed tests for all sports but they have failed to develop an effective test for autologous blood doping.

Rob: Effective means a test that actually works. It's been causing scientist m_____ t_____ – or problems – in trying to detect blood doping in athletes.

Cath: So blood doping is when athletes s_____ and then t_____ their own blood. Transfusing is when you move b_____ form one person to another but in this case the blood is being put back in the same person. Why would someone do that?

Rob: Well apparently it increases the red blood cells and that allows more oxygen to be carried around the body. So it gives a s_____ b_____ to an athlete's e_____.

Cath: Substantial here means by a great amount. But Rob you mentioned earlier there's now a test for this?

Rob: Well one is being developed. It c_____ the age of b_____ s_____ by looking at the genetic component of red blood cells.

Cath: The genetic component. It sounds very scientific. But will it help catch any cheats at next year's Olympics?

Rob: Well Professor David Cowan who will be running the anti-doping laboratory at the Olympics hopes it will, if it's ready in time. What does he say the nature of scientific research stops him doing?

Professor David Cowan, anti-doping laboratory. As a researcher we can never guarantee what we can deliver by a particular time, that's the nature of scientific research. The progress is very exciting and we've put it another way round, if you're an athlete be careful we may have ___ t_____ i_ t_____.

Rob: So he says the nature of scientific research means he can't guarantee this new test will be a _____ at a p _____ t _____. It's not possible to promise an exact completion date.

Cath: That's because scientific research is u _____. It doesn't always go to plan! But he said the p _____ is very e _____.

Rob: Yes, he's c _____ it will be ready in time for the Olympics. So he's w _____ athletes to be careful! This new test might catch you out.

Cath: Well I can understand there's a h _____ p _____ to s _____ and there must be a great t _____ to give yourself an extra boost as an athlete.

Rob: Yes.

Cath: So cheating is still going to happen in some form but maybe this new test we've been hearing about will make it a little harder.

PART II
Physical Therapy,
Ergotherapy (Physical
Rehabilitation)

Unit 1

**The Rise of Physical
Therapy: A History in
Footsteps, Development
and Main Aspects**



Read and translate the following text.

Subject and Goals of Physical Rehabilitation

Each year, more than 2.2 million individuals **succumb** to unsafe working conditions. Millions of others face life-changing injuries. An illness or injury can limit your ability to move, lift, bend, push, or throw. Your everyday tasks become impossible.

Fortunately, physical rehabilitation helps **to regain** and restore your physical function and strength.

Physiotherapy (also **Physical Therapy**) is a health care profession concerned with human function and movement and maximising physical potential. It is concerned with identifying and maximising quality of life and movement potential within the spheres of **promotion**, prevention, treatment/intervention and rehabilitation. It uses physical approaches to promote, **maintain** and restore physical, psychological and social well-being, taking into account variations in health status.

Rehabilitation is care that can help you get back, keep, or improve abilities that you need for daily life. These abilities may be physical, mental, and/or **cognitive** (thinking and learning). You may

have lost them because of a disease or injury, or as a side effect from a medical treatment. Rehabilitation can improve your daily life and functioning.

Rehabilitation is for people who have lost abilities that they need for daily life. Some of the most common causes include: injuries and trauma, including **burns**, fractures (broken bones), traumatic brain injury, and spinal cord injuries; **stroke**; severe infections; major surgery; side effects from medical treatments, such as from cancer treatments; certain birth defects and genetic disorders; developmental disabilities; chronic pain, including back and neck pain.

The objectives of physical medicine are relief of pain, improvement or maintenance of functions such as strength and mobility, training in the most effective method of performing essential activities, and testing of function in various areas. Tests cover such fields as muscle strength, degree of joint mobility, breathing capacity, and muscular coordination.

The overall goal of rehabilitation is to help people get their abilities back and regain independence. But the specific goals are different for each person. They depend on what caused the problem, whether the cause is **ongoing** or temporary, which abilities you lost, and how severe the problem is. For example: 1) a person who has had a stroke may need rehabilitation to be able to dress or bathe without help; 2) an active person who has had a heart attack may go through cardiac rehabilitation to try to return to exercising; 3) someone with a lung disease may get pulmonary rehabilitation to be able to breathe better and improve their quality of life.

When you get rehabilitation, you often have a team of different health care providers helping you. They will work with you to figure out your needs, goals, and treatment plan. The types of treatments that may be in a treatment plan include:

• **Assistive devices**, which are tools, equipment, and products that help people with disabilities move and function.

• Cognitive rehabilitation therapy to help you relearn or improve skills such as thinking, learning, memory, planning, and decision making.

• Mental health **counseling**.

• Music or art therapy to help you express your feelings, improve your thinking, and develop social connections.

• **Nutritional counseling**.

• Occupational therapy to help you with your daily activities.

• Physical therapy to help your strength, mobility, and fitness.

• Recreational therapy to improve your emotional well-being through arts and **crafts**, games, relaxation training, and animal-assisted therapy.

• Speech-language therapy to help with speaking, understanding, reading, writing and **swallowing**.

• Treatment for pain.

• **Vocational rehabilitation** to help you build skills for going to school or working at a job.

Depending on your needs, you may have rehabilitation in the providers' offices, a hospital, or an inpatient rehabilitation center. In some cases, a provider may come to your home. If you get care in your home, you will need to have family members or friends who can come and help with your rehabilitation.

(Retrieved from: <https://www.injuredcalltoday.com/physical-rehabilitation/>)

Key-Words

1. succumb [sə'kʌm] піддаватися, стати жертвою
2. to regain [ri'geɪn] повертати, відновлювати
3. promotion [prə'məʊʃn] підвищення, просування
4. maintain [meɪn'teɪn] зберігати, захищати
5. cognitive ['kɒgnətɪv] пізнавальний, когнітивний

6. burn [bɜ:n] опік
7. stroke [strəʊk] інсульт, раптовий приступ
8. ongoing ['ɒŋɡəʊɪŋ] постійний, діючий, сучасний
9. assistive devices [ə'sɪstɪv dɪ'vaɪs] допоміжний пристрій
10. counsel ['kaʊnsəl] радити, консультувати
11. nutritional counseling [nju'trɪʃənəl] консультування з питань раціонального харчування
12. craft [kra:ft] ремесло
13. swallow ['swɒləʊ] ковтати
14. vocational rehabilitation [vəʊ'keɪʃənəl] професійна реабілітація

I. Check your understanding.

1. Give the definition of physical therapy.
2. Call the goals of physical rehabilitation.
3. What health problems are treated with the help of physical therapy?
4. Who will work with patient to figure out your needs, goals, and treatment plan?
5. What are the objectives of physical medicine?
6. Characterize the types of treatments that may be in a treatment plan.

II. Are these sentences true (T) or false (F)?

1. Rehabilitation is care that can help you get back, keep, or improve abilities that you need for daily life.
2. The most common causes include: injuries and trauma, traumatic brain injury, and spinal cord injuries, flu...
3. When you get rehabilitation, you often have a choice of a health care team to figure out your physical function and strength, goals
4. Physical therapy helps to improve skills such as thinking,

learning, memory, planning, and decision making.

5. Depending on your needs, you may have rehabilitation in the providers' offices, a hospital, or an inpatient rehabilitation center.

III. Matching

1. physical ability	a) way of treating mental or physical illness by giving patients activities and helping them do things they want or need to do in their normal life
2. mental ability	b) an activity involving a special skill at making things with your hands
3. burn	c) the power to learn or retain knowledge; in law, the ability to understand the facts and significance of your behavior
4. stroke	d) A break or crack in something hard, especially a bone
5. craft	e) the ability to perform some physical act;
6. fracture	f) to destroy, damage, injure or kill somebody/something by fire; to be destroyed, etc. by fire;
7. cognitive rehabilitation	g) to help you relearn or improve skills such as thinking, learning, memory, planning, and decision making;
8. occupational therapy	h) a sudden change in the blood supply to a part of the brain, sometimes causing a loss of the ability to move particular parts of the body;

IV. Read and translate the following text.

The Most Common Therapeutic Means



The therapeutic means most commonly employed include heat, massage, exercise, **electrical currents**, and functional training. Since the 1970s these basic means have been supplemented and enhanced by psychological counseling, occupational therapy, and a variety of other

treatments which may be used in concert to help the disabled person achieve the fullest possible life despite the persistence of medical problems.

Heat is used generally to stimulate circulation and to relieve pain in the area treated. For example, in diathermy heat may be applied by shortwave or **microwave radiation** or by **ultrasound**. Other forms of heat therapy include the use of hot, moist compresses and hydrotherapy (immersion in hot water). Massage primarily aids circulation and relieves local pain or muscle spasm.

Exercise, the most varied and widely used of all physical treatments, is usually designed to do one or more of three things: increase the amount of motion in a joint, increase the strength in a muscle, or train a muscle to contract and relax in useful coordination with other muscles. In addition to its obvious use following **stiffness** or paralysis, exercise may be used to improve the breathing of patients with lung disorders, assist circulation, relax tense muscles, and correct **faulty posture**.

In the late 20th century high technology was increasingly harnessed in efforts to rehabilitate **paraplegics**, **quadriplegics**, and

others with severely impaired motor functions. Microcomputers were developed that could send precisely coordinated **jolts** of electricity directly into the muscles of such patients, mimicking the cerebral impulses that could no longer reach their muscle destinations because of a severed spinal cord. The microcomputers' **sophisticated programs** enable them to contract a patient's muscles in unison so that he can actually stand and sit, walk, and even use his hands to perform relatively fine movements. Such devices were still in the experimental stage and were costly to make and use, but they seemed to be the most promising development yet in efforts to restore the power of movement to nerve injury victims.

Other, less ambitious devices to help paralyzed patients include wheelchairs with specially equipped control systems that can be operated by the mouth and teeth movements of a quadriplegic. Mobile robotic arms have been developed that are equipped with a video camera so that they can move safely and intelligently about a patient's house. These personal robots can receive and execute oral commands from the patient to perform such simple household tasks as filling a glass with water or taking a book off a shelf.

Functional training teaches the impaired individual how to carry out most safely and effectively the activities of daily life. This training may mean learning to use **crutches**, **a brace**, or an artificial arm; or it may involve working out and practicing the movements required to do housework with the use of only one hand or the way to board public transportation with a **stiff** leg. Such training often requires long hours of practice; it may be facilitated by use of devices that make it easier to fasten buttons, hold a fork, or dial a telephone.

Physical medicine and rehabilitation underwent a rapid expansion during the late 20th century, largely because of the development of antibiotics and other fundamental advances in modern medicine, which not only save the lives of many who would

not have survived illness or injury in earlier decades but also prolong life in general.

(Retrieved from: <https://www.britannica.com/science/physical-medicine-and-rehabilitation>)

Key- Words

1. electrical current [ɪˈlektɹɪkl̩ ˈkʌrənt] електричний струм
2. microwave radiation [ˈmaɪkrəweɪv ˌreɪdɪˈeɪʃn] мікрохвильове (надчастотне) випромінювання
3. stiffness [ˈstɪfnəs] затвердіння, нерухомість
4. faulty posture [ˈfɔːlti ˈpɒstʃə(r)] неправильна постава
5. paraplegic [ˌpærəˈpliːdʒɪk] параплегічний; пацієнт, що страждає паралічем нижніх кінцівок
6. quadriplegic [ˌkwɒdrɪˈpliːdʒɪk] пацієнт з діагнозом квадриплегія (параліч чотирьох кінцівок)
7. jolt [dʒɔʊlt] поштовх
8. sophisticated [səˈfɪstɪkeɪtɪd] складний, витончений
9. crutch [krʌtʃ] милиця
10. brace [breɪs] корсет, бандаж
11. stiff leg [stɪf leg] нога, що не згинається (контузія)

1. Check your understanding.

1. Call the therapeutic means most commonly employed.
2. Describe different forms of heat therapy.
3. What physical treatment is the most varied and widely used?
4. Dwell upon the functions of physical exercises.
5. Tell about opportunities of physical rehabilitation in the late 20th century.
6. What devices do you know to help paralyzed patients?
7. What does functional training teach the impaired individual?
8. Why did physical medicine and rehabilitation undergo a rapid expansion during the late 20th century?

2. Are these sentences true (T) or false (F)?

1. Heat is used generally to stimulate circulation and to relieve pain in the area treated.
2. Microcomputers are still in the experimental stage and are costly to make and use.
3. Less ambitious devices to help paralyzed patients include wheelchairs, crutches, a brace, an artificial arm.
4. Functional training teaches the impaired individual how to send precisely coordinated jolts of electricity directly into the muscles.
5. Massage primarily aids circulation and relieves local pain or muscle spasm, restores the movement, trains a muscle.

3. Find the appropriate correspondents in the text.

Терапевтичні засоби, електричний струм, ультразвук, параліч, неправильна постава, спинний мозок, бандаж, рухова функція, інвалідний візок, протез, функціональні тренування, затвердіння, милиці, травма, антибіотики, надчастотне (мікрохвильове) випромінювання.

V. Read the text and fill the words in the gaps from the box.

<i>practitioners of physiotherapy</i>	<i>systematic exercise</i>	
<i>research</i>	<i>a professional</i>	<i>registration</i>
<i>procedures</i>	<i>orthopedic clinics</i>	<i>wounded</i>
<i>orthopaedics</i>	<i>handicapped</i>	<i>diverse problems</i>



The History of Physical Rehabilitation

Physicians like Hippocrates, and later Galenus, are believed to have been the first

_____, advocating massage, manual therapy techniques and hydrotherapy to treat people in 460 B.C. After the development of orthopedics in the eighteenth century, machines like the Gymnasticon were developed to treat gout and similar diseases by _____ of the joints, similar to later developments in physiotherapy.

The earliest documented origins of actual physiotherapy as _____ group date back to Per Henrik Ling “Father of Swedish Gymnastics” who founded the Royal Central Institute of Gymnastics (RCIG) in 1813 for massage, manipulation, and exercise. In 1887, PTs were given official _____ by Sweden’s National Board of Health and Welfare.

Other countries soon followed. In 1894 four nurses in Great Britain formed the Chartered Society of Physiotherapy. The School of Physiotherapy at the University of Otago in New Zealand in 1913, and the United States' 1914 Reed College in Portland, Oregon, which graduated “reconstruction aides”.

Research catalyzed the physiotherapy movement. The first physiotherapy _____ was published in the United States in March 1921 in *The PT Review*. In the same year, Mary McMillan organized the Physical Therapy Association (now called the American Physical Therapy Association (APTA)).

The development of physical medicine as a specialized medical service took place largely after World War I. Two factors influenced its growth in the 20th century – epidemic poliomyelitis and the two World Wars – both of which created large numbers of seriously _____ young people. Physical medicine was definitively established through the American physician Howard A. Rusk’s efforts to rehabilitate _____ soldiers during and after World War II. Physical medicine then became available for the treatment of patients with such _____ as fractures, burns, tuberculosis, painful backs, strokes, nerve and spinal cord injuries, diabetes, birth defects,

arthritis, and vision and speech impairments.

Treatment through the 1940s primarily consisted of exercise, massage, and traction. Manipulative _____ to the spine and extremity joints began to be practiced, especially in the British Commonwealth countries, in the early 1950s. Later that decade, PTs started to move beyond hospital based practice, to outpatient _____, public schools, college/universities, geriatric settings, rehabilitation centers, hospitals, and medical centers.

Specialization for physical therapy in the U.S. occurred in 1974, with the Orthopaedic Section of the APTA being formed for those physical therapists specializing in _____. In the same year, the International Federation of Orthopaedic Manipulative Therapy was formed, which has played an important role in advancing manual therapy worldwide since.

*(Retrieved from: https://www.physio-pedia.com/Physiotherapy/_Physical_Therapy;
<https://www.britannica.com/science/physical-medicine-and-rehabilitation>)*

Unit 2
**Profession of a Physical
Therapist**



Read and translate the following text.

Profession of a Physical Therapist

Physical therapists are specialists in **evaluating** and treating disorders of the human body primarily by physical means. Whether the condition results from injury, disease or other causes, they focus primarily on those individuals who have disturbed function or **impairment** related to the musculoskeletal, **neurological**, cardiopulmonary, and **integumentary** (skin) systems. PTs evaluate the functioning of these systems and apply the appropriate treatment to alleviate pain and improve physical function. These services are in great need by people of all ages and background.

The field requires good communication and problem-solving skills, and the ability to perform **rigorous** physical activity. Physical Therapists enjoy working with people and outside a traditional office environment. PTs work in a variety of settings, from hospitals to athletic **facilities** to **nursing homes**, schools and clinics.

Physical therapists typically do the following: review patients' medical history and any **referrals** or notes from doctors, surgeons,

or other healthcare workers; diagnose patients' functions and movements by observing them stand or walk and by listening to their **concerns**, among other methods; develop individualized plans of care for patients, outlining the patients' goals and the expected **outcomes** of the plans; use exercises, stretching maneuvers, hands-on therapy, and equipment to ease patients' pain, help them increase their mobility, prevent further pain or injury, and facilitate health and wellness; evaluate and record a patient's progress, modifying a plan of care and trying new treatments as needed; educate patients and their families about what to expect from the recovery process and how best **to cope with** challenges throughout the process.

Physical therapists provide care to people of all ages who have functional problems resulting from back and neck injuries; **sprains, strains**, and fractures; arthritis; amputations; neurological disorders, such as stroke or cerebral palsy; injuries related to work and sports; and other conditions.

Physical therapists are educated to use a variety of different techniques to care for their patients. These techniques include exercises; training in functional movement, which may include the use of equipment such as canes, crutches, wheelchairs, and walkers; and special movements of joints, muscles, and other soft tissue to improve movement and **decrease** pain.

The work of physical therapists varies by type of patient. For example, a patient working to recover mobility lost after a stroke needs different care from a patient who is recovering from a sports injury. Some physical therapists specialize in one type of care, such as orthopedics or geriatrics. Many physical therapists also help patients to maintain or improve mobility by developing fitness and wellness programs that encourage healthier and more active lifestyles.

Physical medicine and rehabilitation are carried out by a "rehabilitation team", headed by a physiatrist who coordinates the

team's efforts and **assesses** the areas of functioning in which the patient can improve. The physical therapist uses exercise to improve the patient's muscle strength and functioning, and a rehabilitation engineer may provide a special mechanical aid or device to assist that functioning. Meanwhile a rehabilitation nurse keeps track of the patient's physical condition and provides him with basic medical care, while a psychological counselor helps the patient cope with the discouragement or depression produced by the condition of physical disability. Respiratory or speech therapists may also be brought in to assist the patient with breathing or speaking difficulties. Eventually an occupational therapist and a social worker will help the patient adjust to life outside of the rehabilitation institute.

*(Retrieved from: <https://collegegrad.com/careers/physical-therapists>; <http://www.kumc.edu/school-of-health-professions/physical-therapy-and-rehabilitation-science/what-is-a-physical-therapist.html>;
<https://www.britannica.com/science/physical-medicine-and-rehabilitation>)*

Key- Words

1. evaluate [ɪ'vælju:et] оцінити
2. impairment [ɪm'peɪmənt] порушення
3. neurological [ˌnju:ərə'lədʒɪkl] неврологічні
4. integumentary [ɪn'teɪjəmənt] покривний
5. rigorous physical activity ['rɪɡərəs] виснажливі фізичні навантаження
6. nursing home ['nɜ:sn̩ həʊm] будинок престарілих
7. referral [rɪ'fɜ:rəl] направлення
8. concern [kən'sɜ:n] турбота
9. outcome ['aʊtkʌm] результат
10. to cope with – впоратися з
11. sprain [spreɪn] вивих
12. strain [streɪn] розтягнення
13. decrease [dɪ'kri:s] зменшення
14. assess [ə'ses] визначати, оцінювати

I. Check your understanding.

1. Tell about profession of physical therapist?
2. Dwell upon top physical therapists' personality traits.
3. What are responsibilities of physical therapists?
4. Call a variety of different techniques to care for physical therapist's patients.
5. Who coordinates a "rehabilitation team's" efforts and assesses the areas of functioning in which the patient can improve?
6. What are duties of a rehabilitation nurse?
7. Tell about responsibilities of a psychological counselor?
8. Will a social worker help the patient adjust to life outside of the rehabilitation institute? How?
9. What medical job opportunities are available for a physical therapist?

II. Are these sentences true (T) or false (F)?

1. Physical Therapists enjoy working with children and pensionary outside a traditional office environment.
2. PTs evaluate the functioning of the musculoskeletal, digestive, cardiopulmonary, and immune system.
3. Physical therapists typically diagnose patients' functions and movements, develop individualized plans of care for patients.
4. Physical therapists provide care to people who have functional problems resulting from back and neck injuries, sprains.
5. Physical therapist's techniques include exercises; training in functional movement.

III. Matching

1. neurological	a) an illness of the mind or body
2. sprain	b) The bodily system consisting of the

	skin and its associated structures, such as the hair, nails, sweat glands, and sebaceous glands.
3. alleviate	c) a person whose job is to help people who have problems in speaking clearly, for example in pronouncing particular sounds
4. disorder	d) someone whose job is to treat physical or mental illness by giving patients activities and helping them do things they want or need to do
5. integumentary system	e) to make something bad such as pain or problems less severe
6. geriatric	f) an injury to a joint caused by a sudden movement.
7. speech therapist	g) relating to the anatomy, functions, and organic disorders of nerves and the nervous system
8. occupational therapist	h) the branch of medicine that deals with the diseases and care of old people

IV. Read and translate the following text.



Types of Physical Therapy

Physical therapy can be a transformative experience, no matter when in life you take advantage of it. You might be surprised at the kind of **impact** that physical therapy can have; but it's a discipline that's been developed over many years, and physical therapists are able to help in many different ways, with many different challenges. Here's a **breakdown** of a few of them.

Pediatric Physical Therapy. Childhood is a time when the body grows very fast, and problems in childhood can have a negative effect on the rest of a person's life. Pediatric physical therapy is particularly designed to help **adolescents**, children and babies to make the most of their growth, overcome problems, and build their muscular and skeletal strength, often teaching them movement types and ranges of movement which they may never have experienced before.



Geriatric Physical Therapy. Getting older can be very tough on the muscles and skeleton. Over our lives, we can get used to using our muscles in ways which are unhealthy or unwise, such as bad posture or damaging **gait**, which we often don't recognize because we compensate for them using the rest of our bodies; but as we get older, we may notice more problems, as our muscles stop being strong enough to compensate as they have in the past. Geriatric physical therapy is about taking steps to use the muscles you have in a way which is more efficient and safe, and is less likely to lead to injuries.



Neurological Physical Therapy. Neurological problems, such as spinal cord injuries, strokes, **multiple sclerosis**, Parkinson's, Alzheimer's, brain injuries or cerebral palsy, strike at the nervous system, which is how your brain controls your body. Most neurological problems are chronic, meaning they are unlikely to be healed outright; but physical therapy can have a huge positive impact on life with a neurological disorder. By learning and practicing small therapeutic exercises, the effects of neurological disorders on muscles and movement can be **smoothed off** and made much more manageable.



Orthopedic Physical Therapy.

Orthopedic physical therapy is designed to help you to recover muscle strength, as you might need to after an injury has left you unable to use certain muscles. Whether you've been injured recently and

need to recover your strength after surgery, or you've been carrying an old injury for a long time, you may be surprised at the effect the **precision**, targeted exercises given to you by a physical therapist can have over time.



Cardiovascular/Pulmonary Physical Therapy.

Cardiopulmonary physical therapy is about building independence if you have a serious cardiovascular or pulmonary problem – a problem with your heart or circulation. These problems could include heart attacks, or pulmonary fibrosis, and physical therapy can help you to grow strength in key muscles, and improve your endurance. In the long run, cardiopulmonary physical therapy is designed to help you build your independence.

Sports Physical Therapy

If you associate yourself with sports and athletics, you ought to specialize in sports physical therapy. Injuries and twists are quite common for athletes. Some physical therapists specialize in sports medicine work **to heal** and **mitigate** injuries sustained during sports activities. Some common sports injuries are concussions, hip flexor strains, ACL tears, tennis elbow, hamstring injuries, and shoulder injuries, including joint dislocation or tearing of the rotator cuff.



Besides treating injuries, sports therapists also help athletes return to peak performance by applying therapies that aim to **boost** their speed, restore muscle strength, enhance agility, and quicken reaction times.

Vestibular Rehabilitation

Balancing our body seems super-easy until we lose balance! Vestibular disorders are problems of the inner ear that can lead to issues like **dizziness**, **vertigo**, visual disturbances, or imbalance. Other secondary conditions include fatigue, difficulty concentrating or focusing, **nausea**, and **vomiting**.

The physical therapist who specializes in this area needs to first evaluate the symptoms and review the medical history of the patient. He'd then develop a plan of care with the ultimate goal of mitigating any deficiencies, improving the patient's ability to function as well as their body balance.

*(Retrieved from: <https://www.movementforlife.com/blog/6-different-types-of-physical-therapy.php>;
<https://www.yogabaron.com/types-of-physical-therapist-jobs>)*

Key- Words

1. impact ['ɪmpækt] вплив, дія
2. breakdown ['breɪkdaʊn] аналіз, класифікація; повний спад сил, здоров'я
3. adolescent [ˌædəˈlesnt] підліток
4. geriatric physical therapy [ˌdʒeriˈætrɪk fɪzɪkl 'θerəpi] геріатрична фізична терапія
5. gait [geɪt] хода
6. multiple sclerosis [ˌmʌltɪpl skləˈrəʊsɪs] розсіяний склероз
7. smoothed off [smuːd̩ ɔf] згладжується
8. precision [prɪˈsɪʒn] точність

9. cardiovascular and pulmonary rehabilitation – серцево-судинна та легенева реабілітація
10. to heal [hi:l] лікувати
11. mitigate ['mitigeɪt] пом'якшити
12. neurological rehabilitation – неврологічна реабілітація
13. to boost [bu:st] підвищувати, підняти, стимулювати
14. orthopedic rehabilitation – ортопедична реабілітація
15. dizziness ['dɪzɪnəs] запаморочення
16. vertigo ['vɜ:tɪɡəʊ] запаморочення
17. nausea ['nɔ:ziə] нудота
18. vomiting ['vɒmɪt] блювота

1. Check your understanding.

1. Call the most well-known types of physical therapy.
2. Dwell upon the functions of pediatric physical therapy.
3. Tell about geriatric physical therapy.
4. What health problems are treated with the help of neurological physical therapy?
5. Describe orthopedic physical therapy.
6. What are peculiarities of sports physical therapy?
7. What problems are treated with the help of cardiopulmonary physical therapy?
8. What does the physical therapist need to do first?

2. Are these sentences true (T) or false (F)?

1. Pediatric physical therapy is particularly designed to help adolescents, teenagers, infants, toddlers, babies
2. Problems in childhood can have a negative effect on the rest of a person's life.
3. Sports therapists help athletes return to their flexibility trainings by applying therapies that aim to boost their speed, restore muscle strength, enhance agility, and quicken reaction times.

4. Vestibular disorders are problems of the inner ear that can lead to issues like dizziness, vertigo, visual disturbances, or imbalance. □ □

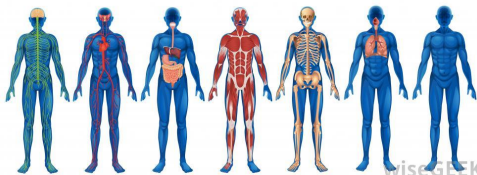
5. The effects of neurological disorders on muscles and movement can be smoothed off and made much more manageable with the help of the long run, isometrics, calisthenics, jogging, stretching. □ □

3. Find the appropriate correspondents in the text.

Терапевтичні засоби, підліток, втома, вивих, класифікація, витривалість, запаморочення, серцево-судинна та легенева реабілітація, розсіяний склероз, блювота, геріатрична фізична терапія.

V. Read and translate the following text.

Major Physiological Systems



The major systems covered in the study of human physiology are as follows:

• **Circulatory system** – including the heart, the blood vessels, properties of the blood, and how circulation works in sickness and health.

• **Digestive/excretory system** – charting the movement of solids from the mouth to the anus; this includes study of the spleen, liver, and pancreas, the conversion of food into fuel and its final exit from the body.

• **Endocrine system** – the study of endocrine hormones that carry signals throughout the organism, helping it to respond in concert. The principal endocrine glands – the pituitary, thyroid,

adrenals, pancreas, parathyroids, and gonads – are a major focus, but nearly all organs release endocrine hormones.

• **Immune system** – the body’s natural defense system is comprised of white blood cells, the thymus, and lymph systems. A complex array of receptors and molecules combine to protect the host from attacks by pathogens. Molecules such as antibodies and cytokines feature heavily.

• **Integumentary system** – the skin, hair, nails, sweat glands, and sebaceous glands (secreting an oily or waxy substance).

• **Musculoskeletal system** – the skeleton and muscles, tendons, ligaments, and cartilage. Bone marrow – where red blood cells are made – and how bones store calcium and phosphate are included.

• **Nervous system** – the central nervous system (brain and spinal cord) and the peripheral nervous system. Study of the nervous system includes research into the senses, memory, emotion, movement, and thought.

• **Renal/urinary system** – including the kidneys, ureters, bladder, and urethra, this system removes water from the blood, produces urine, and carries away waste.

• **Reproductive system** – consisting of the gonads and the sex organs. Study of this system also includes investigating the way a fetus is created and nurtured for 9 months.

• **Respiratory system** – consisting of the nose, nasopharynx, trachea, and lungs. This system brings in oxygen and expels carbon dioxide and water.

(Retrieved from: https://www.medicalnewstoday.com/articles/248791#biological_systems)

1. Check your understanding.

1. Which organs are involved in the functioning of the respiratory system?
2. Is the digestive system sustained by the lungs and heart?
3. What is the function of the immune system?

4. Which physiological system helps to maintain fluid and electrolyte balance in the human body?
5. What is the function of the endocrine system?
6. What body organs maintain the circulatory system activity?
7. What do you know about the immune system functioning?
8. How does the nervous system function?
9. What parts of the body are included in the integumentary system?
10. What is the function of the excretory system?

2. Complete the sentences with the words from the box:

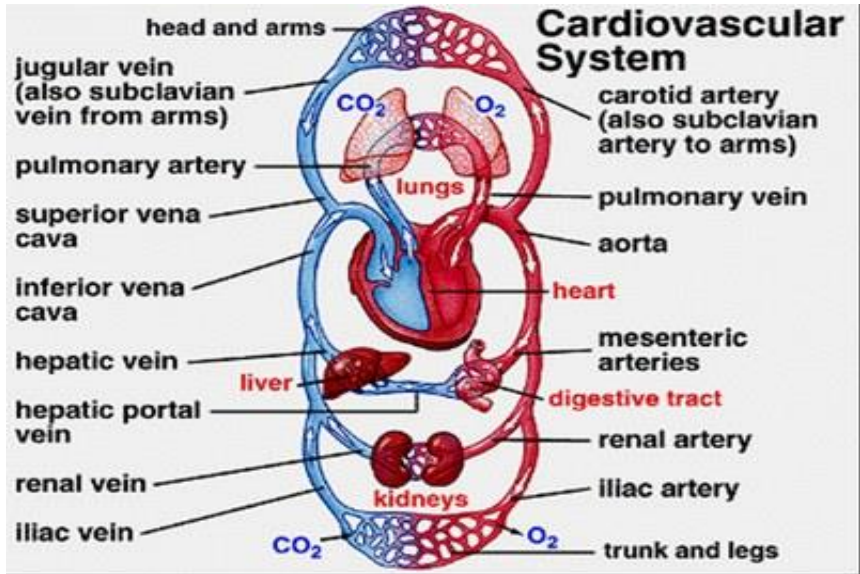
a) integumentary	e) immune	i) organs
b) disease-causing	j) lymphatic	j) hormones
c) cardiovascular	g) breathing	k) endocrine
d) processing	h) stomach	l) spinal cord

1. Respiratory system consists of the ... used for
2. ... is responsible for protecting the body against diseases.
3. Skin, hair and nails belong to the ... system.
4. Immune system cooperates closely with the ... system defending the body against
5. Salivary glands, esophagus, ... are the parts of the digestive system.
6. Hypothalamus, pituitary gland, thyroid and other glands produce ... to maintain the ... system's function.
7. The heart and circulatory system make up the
8. Nervous system performs its function of collecting, transferring and ... by means of brain, ... and nerves.
9. ... system provides for the body movements with the help of muscles and skeleton.

**3. Make up word combinations using a word from each box.
Some words can be used more than once.**

- | | |
|---------------------|------------|
| 1. tumor | a) vessel |
| 2. blood | b) cord |
| 3. salivary | c) of food |
| 4. fluid | d) nerves |
| 5. spinal | e) urine |
| 6. cardiovascular | f) cells |
| 7. immune | g) bladder |
| 8. peripheral | h) balance |
| 9. excretion of | i) glands |
| 10. disease causing | j) tissues |
| 11. digestion | k) system |
| 12. urinary | l) agent |
| 13. muscle | m) stream |

Unit 3
Cardiovascular and
Respiratory Systems



Read and translate the following text.

Cardiovascular System

The cardiovascular system can be thought of as the transport system of the body. This system has three main components: the heart, the blood vessel and the blood itself. The heart is the system's pump and the blood vessels are like the **delivery** routes. Blood can be thought of as a fluid which contains the oxygen and **nutrients** the body needs and carries the wastes which need to be removed.

The four major functions of the cardiovascular system are: to transport nutrients, gases and waste products around the body; to protect the body from infection and blood loss; to help the body maintain a constant body temperature ('thermoregulation'); to help maintain fluid balance within the body.

1. Transportation of nutrients, gases and waste products. The cardiovascular system acts as an internal road network, linking all parts of the body via a system of highways (**arteries** and **veins**),

main roads (arterioles and venules) and streets, avenues and lanes (**capillaries**). This network allows a non-stop courier system (the blood) to deliver and **expel** nutrients, gases, waste products and messages throughout the body.

Nutrients such as **glucose** from digested carbohydrate are delivered from the digestive tract to the muscles and organs that require them for energy.

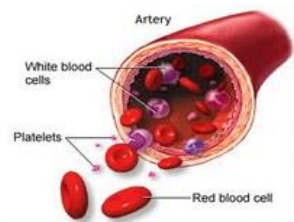
Hormones (chemical messengers) from endocrine glands are transported by the cardiovascular system to their target organs, and waste products are transported to the lungs or urinary system to be **expelled** from the body.

The cardiovascular system works in conjunction with the respiratory system to deliver oxygen to the tissues of the body and remove carbon dioxide. In order to do this effectively the cardiovascular system is divided into two circuits, known as the pulmonary circuit and the systemic circuit.

The systemic circuit is made up of the heart and all the remaining arteries, **arterioles**, capillaries, venules, and veins in the body.

This circuit pumps oxygenated (red) blood from the heart to all the tissues, muscles and organs in the body, to provide them with the nutrients and gases they need in order to function.

After the oxygen has been delivered the systemic circuit picks up the carbon dioxide and returns this in the now deoxygenated (blue) blood, to the lungs, where it enters the pulmonary circuit to become oxygenated again.



2. Protection from infection and blood loss. Blood contains three types of cells: red blood cells, white blood cells, platelets. Red blood cells are responsible for transporting oxygen around the body to the tissues and organs that need it. The job

of white blood cells is to detect foreign bodies or infections and envelop and kill them, as seen in the below image. Platelets are cells which are responsible for clotting the blood, they stick to foreign particles or objects such as the edges of a cut.

If the body has a low level of platelets then clotting may not occur and bleeding can continue. **Excessive blood loss** can be fatal – this is why people with a condition known as **haemophilia** (low levels or absence of platelets) need medication otherwise even minor cuts can become fatal as bleeding continues without a scab being formed.

Alternatively, if platelet levels are excessively high then clotting within blood vessels can occur, leading to a stroke and or heart attack.

3. Maintenance of constant body temperature (thermoregulation). The core temperature range for a healthy adult is considered to be between 36.1°C and 37.8°C, with 37°C regarded as the average ‘normal’ temperature. If the core temperature drops below this range it is known as **hypothermia** and if it rises above this range it is known as hyperthermia. The process of temperature regulation is known as thermoregulation and the cardiovascular system plays an integral part.

When a deviation in temperature is recorded the hypothalamus reacts by initiating certain mechanisms in order to regain a safe temperature range. There are four sites where these adjustments in temperature can occur, they are: sweat glands, smooth muscle around arterioles, skeletal muscle, endocrine glands.

4. Maintaining fluid balance within the body. The cardiovascular system works in conjunction with other body systems (nervous and endocrine) to balance the body’s fluid levels. Fluid balance is essential in order to ensure sufficient and efficient movement of electrolytes, nutrients and gases through the body’s cells.

When the fluid levels in the body do not balance a state of dehydration or hyperhydration can occur, both of which impede normal body function and if left unchecked can become dangerous or even fatal.

(Retrieved from: <https://www.ptdirect.com/training-design/anatomy-and-physiology/major-functions-of-the-cardiovascular-system-2013-a-closer-look>)

Key- Words

1. cardiovascular system [ˌkɑːdiəʊ'væskjələ(r) 'sɪstəm]
серцево-судинна система
2. blood vessel [blʌd 'vesl] кровоносна судина
3. delivery system [dɪ'livəri 'sɪstəm] система виділення
4. nutrient ['njuːtriənt] поживна речовина
5. artery ['ɑːtəri] артерія
6. capillary [kə'pɪləri] капіляр
7. expeel [ɪk'speɪl] виводити
8. glucose ['gluːkəʊs] глюкоза
9. arteriole [ɑː'tɪəriəʊl] дрібна артерія, артеріола
10. excessive blood loss [ɪk'sesɪv] надмірна втрата крові
11. haemophilia [ˌhiːmə'fɪliə] гемофілія
12. maintenance ['meɪntənəns] підтримання, збереження
13. hypothermia [ˌhaɪpə'θɜːmi] переохолодження
14. deviation [ˌdiːvi'eɪʃn] відхилення

I. Check your understanding.

1. Call three main components of the cardiovascular system.
2. Give the definition of blood.
3. What are the major functions of the cardiovascular system?
4. Tell about the function of transportation of nutrients, gases and waste products.
5. Describe three types of cells.
6. Why do people with a condition known as haemophilia

need medication?

7. What is the core temperature range for a healthy adult?
8. What is hyperthermia?
9. Tell about the function of maintaining fluid balance within the body.

II. Are these sentences true (T) or false (F)?

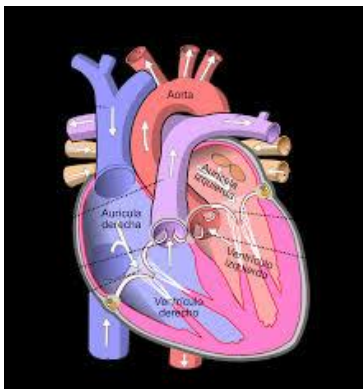
1. Blood can be thought of as the transport system of the body.
2. The cardiovascular system works in conjunction with the excretory system to deliver oxygen to the tissues of the body and remove carbon dioxide.
3. Veins carry oxygen-rich blood away from the heart, and arteries carry oxygen-poor blood back to the heart.
4. Over a hundred major arteries make a path through the body tissues, where they branch into arterioles.
5. The systemic circuit is made up of the heart and all the remaining arteries, arterioles, capillaries, venules, and veins in the body.
6. If platelet levels are excessively high then clotting within blood vessels can occur, leading to a stroke and or heart attack.
7. Fluid balance is essential in order to ensure sufficient and efficient movement of hormones, the carbon dioxide and gases through the body's cells.

III. Matching

1. thermoregulation	a) a serious medical condition in which a person's body temperature falls below the usual level as a result of being in severe cold for a long time
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2. sprain	b) to injure a joint in your body, especially your wrist or ankle, by suddenly twisting it
3. white blood cells	c) a very small cell in the blood that makes it thicker and more solid in order to stop bleeding caused by an injury
4. haemophilia	d) any of the red-coloured cells in the blood that carry oxygen
5. platelet	e) a substance that is needed to keep a living thing alive and to help it to grow
6. nutrient	f) a cell in the blood that has no red colour and is involved in the fight against infection
7. red blood cells	g) a process that allows your body to maintain its core internal temperature
8. hypothermia	h) a medical condition that causes severe loss of blood from even a slight injury because the blood fails to clot normally. It usually affects only men although it can be passed on by women.

IV. Read and translate the following text.



The Heart

The heart is the key organ of the cardiovascular system – the body’s transport system for blood. A muscle that contracts rhythmically and autonomously, it works **in conjunction with** an extensive network of blood vessels running

throughout the body. Basically, the heart is a pump ensuring the continuous circulation of blood in the body.

The adult human heart is normally slightly larger than a **clenched fist**, with average dimensions of about $13 \times 9 \times 6$ cm and weight approximately 200 to 425 grams. It is **cone-shaped**, with the broad base directed upward and to the right and the apex pointing downward and to the left. It is located in the chest (thoracic) cavity behind the breastbone (sternum), in front of the windpipe (trachea), the **esophagus**, and the descending aorta, between the lungs, and above the diaphragm (the muscular partition between the chest and abdominal cavities).

The heart is suspended in its own membranous sac, the pericardium. The strong outer portion of the sac, or fibrous pericardium, is firmly attached to the diaphragm below, the **mediastinal pleura** on the side, and the sternum in front. It gradually blends with the coverings of the **superior vena cava** and the pulmonary (lung).

The heart is divided by **septa**, or partitions, into right and left halves, and each half is subdivided into two chambers. The upper chambers, the **atria**, are separated by a partition known as the interatrial septum; the lower chambers, the **ventricles**, are separated by the interventricular septum. The atria receive blood from various parts of the body and pass it into the ventricles. The ventricles, in turn, pump blood to the lungs and to the remainder of the body.

The right atrium, or right superior portion of the heart, is a thin-walled chamber receiving blood from all tissues except the lungs. Three veins empty into the right atrium, the superior and inferior venae cava, bringing blood from the upper and lower portions of the body, respectively, and the coronary sinus, draining blood from the heart itself. Blood flows from the right atrium to the right ventricle. The right ventricle, the right inferior portion of the heart, is the

chamber from which the pulmonary artery carries blood to the lungs.

The left atrium, the left superior portion of the heart, is slightly smaller than the right atrium and has a thicker wall. The left atrium receives the four pulmonary veins, which bring oxygenated blood from the lungs. Blood flows from the left atrium into the left ventricle. The left ventricle, the left inferior portion of the heart, has walls three times as thick as those of the right ventricle. Blood is forced from this chamber through the **aorta** to all parts of the body except the lungs.

*(Retrieved from: <https://www.britannica.com/science/human-cardiovascular-system>;
<https://www.nursingtimes.net/clinical-archive/cardiovascular-clinical-archive/cardiac-system-1-anatomy-and-physiology-29-01-2018/>)*

Key-Words

1. in conjunction with [kən'dʒʌŋkʃn] в поєднанні з
2. clenched fist [klentʃd] стиснутий кулак
3. cone-shaped ['kəʊn ʃeɪpt] конусоподібна форма
4. esophagus [ɪ'sɒfəgəs] стравохід
5. mediastinal pleura [ˌmiːdiə'staɪnəl /'plʊəɹə] середостінна плевра
6. superior vena cava [su:'riəri(ə) ,vi:nə 'keɪvə] верхня порожниста вена
7. pericardium [ˌperɪ'kɑːdiəm] перикардій, навколосерцева сумка
8. visceral ['vɪsərəl] вісцеральний
9. septum ['septəm] перегородка
10. atrium (pl atria) ['eɪtriəm] передсердя
11. ventricle [ventrɪkl] шлуночок (серця)
12. aorta [eɪ'ɔːtə] аорта

1. Check your understanding.

1. Tell all you know about the heart.
2. What is the normal size of the adult human heart?
3. Where is the heart located?
4. Dwell upon the chambers of the heart.
5. What is the function of the right atrium?
6. Tell about the functioning of the left atrium.

2. Are these sentences true (T) or false (F)?

1. Heart is a muscle that contracts rhythmically and autonomously.
2. The heart is divided by partitions into four parts.
3. The human heart weighs between 200 to 425 grammes.
4. The atria receive blood from the lungs and pass it into the ventricles.
5. The right inferior portion of the heart, is the chamber from which the pulmonary artery carries blood to the lungs.
6. The left superior portion of the heart receives the four pulmonary veins, which bring oxygenated blood from the lungs.

3. Match the words from the left column with their definitions from the right column:

1. "right heart"	a) a part of an organism consisting of a large number of cells having a similar structure and function
2. "left heart"	b) to keep from catching any illnesses, especially by taking precautionary actions

3. coronary artery	c) either of two arteries branching from the aorta and supplying blood to the heart
4. to discharge	d) lesser or pulmonary circulation
5. tissue	e) the condition of being unable to perform a task or function because of a physical or mental impairment
6. small airway disease	f) to release or allow to go from the hospital
7. to prevent a disease	g) inflammation of bronchioles
8. pulmonary disorder	h) greater or systemic circulation
9. acute phase of a disease	i) illnesses relating to or affecting the lungs
10. disability	j) disease that arises suddenly and manifests intense severity

V. Read the text and fill the words and expressions in the gaps from the box.

Acute stress, chronic stress nourishment, heart rate, increase, estrogen, the blood vessels, heart attack, handle stress, protection, returns, blood pressure, contribute

Stress Effects on the Body

The heart and blood vessels comprise the two elements of the cardiovascular system that work together in providing _____ and oxygen to the organs of the body. The activity of these two elements is also coordinated in the body's response to stress. _____ – stress that is momentary or short-term such as



meeting deadlines, being stuck in traffic or suddenly slamming on the brakes to avoid an accident – causes an increase in _____ and stronger contractions of the heart muscle, with the stress hormones – adrenaline, noradrenaline and cortisol – acting as messengers for these effects. In addition, _____ that direct blood to the large muscles and the heart dilate, thereby increasing the amount of blood pumped to these parts of the body and elevating blood pressure. This is also known as the fight or flight response. Once the acute stress episode has passed, the body _____ to its normal state.

_____, or a constant stress experienced over a prolonged period of time, can contribute to long-term problems for heart and blood vessels. The consistent and ongoing increase in heart rate, and the elevated levels of stress hormones and of _____, can take a toll on the body. This long-term ongoing stress can _____ the risk for hypertension, heart attack or stroke.

Repeated acute stress and persistent chronic stress may also _____ to inflammation in the circulatory system, particularly in the coronary arteries, and this is one pathway that is thought to tie stress to_____. It also appears that how a person responds to stress can affect cholesterol levels.

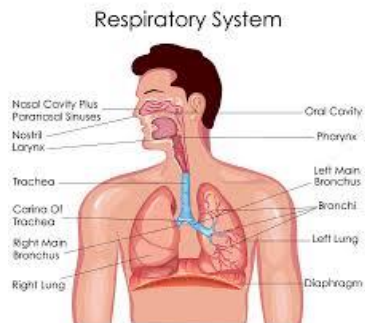
The risk for heart disease associated with stress appears to differ for women, depending on whether the woman is pre- or postmenopausal. Levels of _____ in pre-menopausal women appears to help blood vessels respond better during stress, thereby helping their bodies to better _____ and protecting them against heart disease. Postmenopausal women lose this level of _____ due to loss of estrogen, therefore putting them at greater risk for the effects of stress on heart disease.

(Retrieved from: <https://www.apa.org/helpcenter/stress/effects-cardiovascular>)

VI. Read and translate the following text.

Respiratory System

The respiratory system is the network of organs and tissues that help you breathe. It includes your airways, lungs, and **blood vessels**. The muscles that power your lungs are also part of the respiratory system. These parts work together to move oxygen throughout the body and clean out waste gases like carbon dioxide.



The respiratory system has many functions. Besides helping you inhale (breathe in) and exhale (breathe out), it: allows you to talk and to smell; brings air to body temperature and **moisturizes** it to the humidity level your body needs; delivers oxygen to the cells in your body; removes waste gases, including carbon dioxide, from the body when you exhale; protects your airways from harmful substances and irritants.

The respiratory system has many different parts that work together to help you breathe. Your airways deliver air to your lungs. Your airways are a complicated system that includes your:

- **Mouth and nose:** Openings that pull air from outside your body into your respiratory system.
- **Sinuses:** Hollow areas between the bones in your head that help regulate the temperature and humidity of the air you inhale.
- **Pharynx (throat):** Tube that delivers air from your mouth and nose to the trachea (windpipe).
- **Trachea:** Passage connecting your throat and lungs.
- **Bronchial tubes:** Tubes at the bottom of your windpipe that connect into each lung.

• **Lungs:** Two organs that remove oxygen from the air and pass it into your blood.

From your lungs, your bloodstream delivers oxygen to all your organs and other tissues.

Muscles and bones help move the air you inhale into and out of your lungs. Some of the bones and muscles in the respiratory system include your:

• **Diaphragm:** Muscle that helps your lungs pull in air and push it out

• **Ribs:** Bones that surround and protect your lungs and heart

When you breathe out, your blood carries carbon dioxide and other waste out of the body. Other components that work with the lungs and blood vessels include:

• **Alveoli:** Tiny air sacs in the lungs where the exchange of oxygen and carbon dioxide takes place.

• **Bronchioles:** Small branches of the bronchial tubes that lead to the alveoli.

• **Capillaries:** Blood vessels in the alveoli walls that move oxygen and carbon dioxide.

• **Lung lobes:** Sections of the lungs – three lobes in the right lung and two in the left lung.

• **Pleura:** Thin sacs that surround each lung lobe and separate your lungs from the chest wall.

Some of the other components of your respiratory system include:

• **Cilia:** Tiny hairs that move in a wave-like motion to filter dust and other irritants out of your airways.

• **Epiglottis:** Tissue flap at the entrance to the trachea that closes when you swallow to keep food and liquids out of your airway.

• **Larynx (voice box):** Hollow organ that allows you to talk and make sounds when air moves in and out.

Respiratory System Diseases

Common diseases of the respiratory system include:

- **Asthma.** Your airways narrow and make too much mucus.
- **Bronchiectasis.** Inflammation and infection make your bronchial walls thicker.
- **Chronic obstructive pulmonary disease (COPD).** This long-term condition gets worse over time. It includes bronchitis and emphysema.
- **Pneumonia.** An infection causes inflammation in your alveoli. They might fill up with fluid or pus.
- **Tuberculosis.** A bacterium causes this dangerous infection. It usually affects your lungs but might also involve your kidney, spine, or brain.
- **Lung cancer.** Cells in your lung change and grow into a tumor. This often happens because of smoking or other chemicals you've breathed in.
- **Cystic fibrosis.** This disease is caused by a problem in your genes and gets worse over time. It causes lung infections that don't go away.
- **Pleural effusion.** Too much fluid builds up between the tissues that line your lungs and chest.
- **Idiopathic pulmonary fibrosis.** Your lung tissue becomes scarred and can't work the way it should.
- **Sarcoidosis.** Tiny clumps of inflammatory cells called granulomas form, often in your lungs and lymph nodes.

To keep your respiratory system healthy, you should:

Avoid pollutants that can damage your airways, including secondhand smoke, chemicals, and radon (a radioactive gas that can cause cancer). Wear a mask if you are exposed to fumes, dust or other types of pollutants for any reason.

Avoid smoking yourself. Don't smoke.

Eat a healthy diet with lots of fruits and vegetables and drink water to stay hydrated

Exercise regularly to keep your lungs healthy.

Prevent infections by washing your hands often and getting a flu vaccine each year.

(Retrieved from: <https://www.webmd.com/lung/how-we-breathe;>
<https://my.clevelandclinic.org/health/articles/21205-respiratory-system>)

Key- Words

1. blood vessel ['blʌd , vesəl] кровоносна судина
2. moisturize ['məɪstʃəraɪz] зволожувати
3. sinus ['saɪnəs] пазуха
4. pharynx ['færiŋks] глотка
5. trachea [trə 'ki:ə] трахея
6. rib [rɪb] ребро
7. bronchiole ['brɒŋkiəʊl] бронхіола
8. cilia ['sɪliə] війки, джгутики
9. epiglottis [,epɪ 'glɒtɪs] надгортанник
10. larynx ['læriŋks] гортань
11. tuberculosis [tʃu: ,bɜ:kjə 'ləʊsɪs] туберкульоз
12. cystic fibrosis [,sɪstɪk faɪ 'brəʊsɪs] муковісцидоз, кістозний фіброз
13. pleural effusion ['plʊərəl /ɪ 'fju:zən/] плевральний випіт
14. sarcoidosis [,sɑ:kəɪ 'dəʊsɪs] саркоїдоз
15. capillary [kə 'pɪləri] капіляр

1. Check your understanding.

1. What is the respiratory system?
2. Tell about the most important functions of the respiratory system.
3. What parts of the respiratory system do you know?
4. How do we breathe?

5. How can we keep my respiratory system healthy?
6. What are the most common diseases of the respiratory system?

2. Matching

1. cilia	a) a thin piece of tissue behind the tongue that prevents food or drink from entering the lungs
2. bronchiectasis	b) a serious illness affecting one or both lungs that makes breathing difficult
3. sarcoidosis	c) a lung condition that causes coughing up mucus due to scarred tissue in the bronchi, or the passages that let air into the lungs. The condition is fairly common among people aged 75 years and older, but it can also happen to younger people.
4. trachea	d) a medical condition of the chest that makes breathing difficult
5. pneumonia	e) a disease characterized by the growth of tiny collections of inflammatory cells (granulomas) in any part of your body – most commonly the lungs and lymph nodes. But it can also affect the eyes, skin, heart and other organs.
6. epiglottis	f) a very thin tube, especially one of the smaller tubes that carry blood around the body
7. tuberculosis	g) a cartilaginous tube that connects the larynx to the bronchi of the lungs, allowing the passage of air, and so is present in almost all air-breathing animals with lungs

8. larynx	h) The action of <i>cilia</i> moves the mucus along with the bacteria out of the lung. Tiny hairs that move in a wave-like motion to filter dust and other irritants out of your airways.
9. asthma	i) a serious infectious disease that can attack many parts of a person's body, especially their lungs
10. capillary	j) an organ in humans and animals between the nose and the lungs that contains the muscles that move very quickly to create the voice or animal sounds

3. Provide the appropriate translations for the given words from the text.

Pollutant, a healthy diet, exhale, radon, clump, lung cancer, Idiopathic pulmonary fibrosis, Inflammation, cystic fibrosis, carbon dioxide, the humidity level, windpipe, harmful substances, inhale, sarcoidosis, cilia, chronic obstructive pulmonary disease, bronchiectasis, epiglottis, sinuses, blood vessels, bloodstream, deliver oxygen.

4. Fill the words in the gaps from the box.

1. _____ allows you to talk and to smell; brings air to body temperature and moisturizes it to the humidity level your body needs.

2. _____ openings that pull air from outside your body into your respiratory system.

3. _____ hollow areas between the bones in your head that help regulate the temperature and humidity of the air you inhale.

4. _____ – tube that delivers air from your mouth and nose to the trachea (windpipe).

5. _____ – passage connecting your throat and lungs.

6. _____ – tubes at the bottom of your windpipe that connect into each lung.

7. _____ – two organs that remove oxygen from the air and pass it into your blood.

8. _____ – blood vessels in the alveoli walls that move oxygen and carbon dioxide.

9. _____ – sections of the lungs: three lobes in the right lung and two in the left lung.

10. _____ thin sacs that surround each lung lobe and separate your lungs from the chest wall.

Mouth and nose, trachea, respiratory system, bronchial tubes, lungs pharynx, pleura, sinuses, capillaries, lung lobes

VII. Read and translate the given text and do the exercises following it.



What Is Pulmonary Rehab for COPD?

When you're living with chronic obstructive pulmonary disorder, or COPD, everyday activities such as walking or climbing stairs can get harder. That's where pulmonary rehabilitation comes in.

Basically, it's a formal program that will build your fitness and help you breathe as well as you possibly can. Pulmonary rehab will help you with: exercise, breathing techniques, nutrition, relaxation,

emotional and group support, learning more about your medications, strategies for living better with COPD.

To join a program, you'll probably need a referral from your doctor and a test that shows you've had COPD in the past year.

You might work with a team of specialists – ranging from dietitians to social workers – who will figure out the best plan for your case. It's often done on an outpatient basis, meaning you will not check in anywhere, at a hospital or clinic. Or you may get it at your home.

Exercise. The key to any pulmonary rehab program for COPD is exercise, which will help your lungs and heart work better.

Lower body. Most rehab centers offer a set of exercises that center on leg workouts. They vary from simply walking on a treadmill or around a track to more intense stair climbing.

Upper body. The muscles in the upper body are important for breathing, as well as for daily activities. Arm and chest exercises might include turning a crank against resistance or just lifting your arms against gravity.

Breathing. Blowing through a mouthpiece against resistance may increase the strength of your breathing muscles. These exercises may be helpful for people with very weak breathing muscles.

Strength training. Most pulmonary rehab exercises focus on building endurance. Adding strength training, such as lifting weights, has been shown to be helpful as well.

Educate Yourself. Many pulmonary rehab programs offer group or one-on-one education sessions to help you learn to better manage your COPD. Sessions might focus on things such as:

- Understanding your medication treatment plan. This includes using your inhaler the right way and using it regularly.
- How to get the most out of oxygen therapy if you are using this treatment
- If you're a smoker, help with quitting

- Eating a healthy diet

Studies show that people who learn about their COPD and treatment plan are better able to spot symptoms of a flare-up and take the right action.

Emotional Support. People with severe COPD have a great chance of being depressed or anxious. This can make you less interested in pleasurable activities.

Some pulmonary rehab programs offer relaxation training and counseling.

You'll also get a chance to meet other people who have COPD and share your questions and feelings.

Most people who finish a pulmonary rehab course feel better at the end. You're usually able to do more things without becoming short of breath.

In a large analysis of some programs, nearly all people in pulmonary rehab had seen their symptoms get better. Almost all of them reported feeling: less short of breath; more energetic; more in control of their COPD.

Being in rehab may help prevent you from going to the hospital because of COPD flare-ups, or "exacerbations." Even people with advanced lung disease can get something out of rehab.

For people who keep up their exercise level, the benefits from pulmonary rehab can last for years. Be sure to use a certified program – you can ask your doctor for a referral to find the program that's right for you.

(Retrieved from: <https://www.webmd.com/lung/copd/pulmonary-rehabilitation-for-copd>)

1. Check your understanding.

1. What is pulmonary rehabilitation?
2. When should patients use pulmonary rehabilitation?
3. What do you need to join a pulmonary rehabilitation program?

4. What is the key to any pulmonary rehab program for COPD?

5. What exercises are offered to prove functioning of the lower body?

6. What exercises are offered to prove functioning of the upper body?

7. Why is it important for people with respiratory system diseases to be educated?

8. What do you get out of a rehab program?

9. Why emotional support is so important for people with severe COPD?

2. Provide the appropriate translations for the given words from the text.

Strength training, endurance, treatment, flare-up, anxious, counseling, referral from, chronic obstructive pulmonary disorder, climbing, breathing techniques, nutrition, relaxation, dietitian, figure out, crank, resistance,

3. Fill the words in the gaps from the box.

breathing techniques, pulmonary rehab, spot symptoms, referral from, fitness, building endurance, relaxation

1. Pulmonary rehabilitation is a formal program that will build your _____ and help you breathe as well as you possibly can.

2. To join a program, you'll probably need a _____ your doctor and a test that shows you've had COPD in the past year.

3. . Pulmonary rehab will help you with: exercise, _____, nutrition, _____, emotional and group support,

learning more about your medications, strategies for living better with COPD.

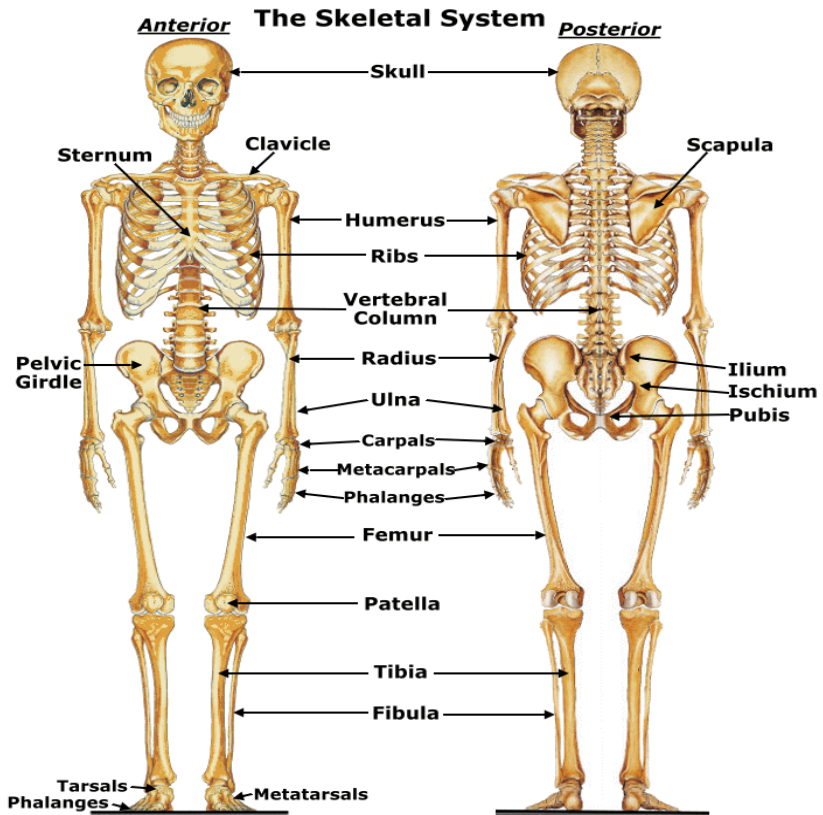
4. Most pulmonary rehab exercises focus on _____.

5. Studies show that people who learn about their COPD and treatment plan are better able to _____ of a flare-up and take the right action.

6. In a large analysis of some programs, nearly all people in _____ had seen their symptoms get better.

Unit 4

Musculoskeletal System:
Normal Structure & Function



Read and translate the following text.

Musculoskeletal System: Normal Structure & Function

The skeletal system includes the bones of the skeleton and the cartilages, ligaments, and other connective tissue that stabilize or connect the bones. In addition to supporting the weight of the body, bones work together with muscles to maintain the body's position and to produce controlled, precise movements. Without the skeleton to pull against, contracting (tightened) muscle fibers could not make us sit, stand, walk, or run.

Bones. There are 206 bones in the adult body. The bones perform five main functions for the body:

- Provide support:** The skeletal system provides structural support for the entire body. Individual bones or groups of bones provide a framework for the attachment of soft tissues and organs.

- Store minerals and lipids:** Calcium is the most abundant mineral in the body. (Ninety-nine percent of the body's calcium is found in the skeleton.) The calcium salts of bone are a valuable mineral reserve that maintains normal concentrations of calcium and phosphate ions in body fluids. The bones of the skeleton also store energy reserves as lipids (fats) in areas filled with yellow marrow.

- Produce blood cells:** Red blood cells, white blood cells, and other blood elements are produced in the red marrow, which fills the internal cavities of many bones.

- Protect body organs:** Many soft tissues and organs are surrounded by skeletal elements. For example, the rib cage protects the heart and lungs, the skull protects the brain, the vertebrae protect the spinal cord, and the pelvis protects the delicate reproductive organs.

- Provide leverage and movement:** Many bones function as levers that can change the magnitude (strength) and direction of the forces generated by muscles.

Bone structure. Each bone in the skeleton contains two forms of tissue: compact (dense) bone that is relatively solid, and spongy (cancellous) bone that forms an open network of struts and plates. Compact bone is found on the external surface of the bone; spongy bone is located inside the bone.

The amount of compact and spongy bone depends on the shape of the bone. Compact bone is thickest where stresses arrive from a limited range of directions. Spongy bone is located where bones are not heavily stressed or where stresses arrive from many directions. Spongy bone is much lighter than compact bone, which helps

reduce the weight of the skeleton and makes it easier for muscles to move the bones.

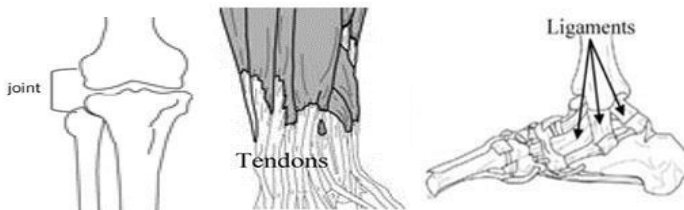
Bone development and growth. The growth of the skeleton determines the size and proportions of the body. Bones begin to form in a fetus about six weeks after fertilization, and portions of the skeleton do not stop growing until a person is about 25 years old.

Most bones begin as hyaline **cartilage**. The cartilage is gradually converted to bone through a process called ossification. Bone growth begins at the center of the cartilage. As bones enlarge, bone growth activity shifts to the ends of the bones (an area commonly called the growth plate), which causes the bones to grow longer.

Bone growth "factoids"

- Twenty percent of the adult skeleton is replaced each year.
- Moderate amounts of physical activity and weight-bearing activities are essential to stimulate bone maintenance and to maintain adequate bone strength.

Other elements of the musculoskeletal system



• **Joints:** These are where two bones interconnect. Each joint reflects a compromise between stability and range of motion. For example, the bones of the skull are very stable but with little motion, whereas the shoulder joint allows for a full range of motion but is a relatively unstable joint.

- **Tendons:** These attach muscle to bone.
- **Ligaments:** These attach bone to bone.

• **Skeletal muscles:** These muscles contract to pull on tendons and move the bones of the skeleton. Skeletal muscles also:

- Maintain posture and body position;
- Support soft tissues;
- Guard entrances and exits to the digestive and urinary tracts; and maintain body temperature.

• **Nerves:** Nerves control the contraction of skeletal muscles, interpret sensory information, and coordinate the activities of the body's organ systems.

• **Cartilage:** This is a type of connective tissue. It is a firm gel-like substance. The body contains three major types of cartilage: **hyaline** cartilage, **elastic** cartilage, and **fibrocartilage**.

Hyaline cartilage is the most common type of cartilage. It provides stiff but somewhat flexible support. Examples in adults include the tips of ribs (where they meet the sternum [breastbone]) and part of the nasal septum. Another example is articular cartilage, which covers the ends of bones within a joint. The surfaces of articular cartilage are slick and smooth, which reduces friction during joint movement.

Elastic cartilage provides support but can tolerate distortion without damage and return to its original shape. Elastic cartilage can be found in the external flap of the ear, among other places.

Fibrocartilage resists compression, prevents bone-to-bone contact, and limits relative movement. Fibrocartilage can be found within the knee joint, between the pubic bones of the pelvis, and between the spinal vertebrae.

Cartilage heals poorly, and damaged fibrocartilage in joints such as the knee can interfere with normal movements. The knee contains both hyaline cartilage and fibrocartilage. The hyaline cartilage covers bony surfaces; fibrocartilage pads in the joint prevent contact between bones during movement. Injuries to the joints can produce tears in the fibrocartilage pads, and the tears do

not heal. Eventually, joint mobility is severely reduced.

(Retrieved from: <https://my.clevelandclinic.org/health/articles/12254-musculoskeletal-system-normal-structure--function>)

Key- Words

1. cartilage ['kɑ:tɪlɪdʒ] хрящ
2. marrow ['mærəʊ] кістковий мозок
3. vertebrae ['vɜ:tɪbrə] хребці
4. fetus ['fi:təs] плід
5. skull [skʌl] череп
6. hyaline cartilage ['haɪəlɪn] гіаліновий хрящ
7. elastic cartilage [i'laɛstɪk] еластичний хрящ
8. fibrocartilage [,faɪbrəʊ'kɑ:tɪlɪdʒ] волокнистий хрящ
9. sternum ['stɜ:nəm] грудина

I. Check your understanding.

1. What parts of the skeletal system do you know?
2. What are the most important functions of the skeletal system?
3. How many bones are there in the adult body?
4. Dwell upon the functions of the bones.
5. Call two forms of tissue each bone in the skeleton contains.
6. What determines the size and proportions of the body?
7. What is the function of nerves?
8. What are three major types of cartilage?

II. Are these sentences true (T) or false (F)?

1. Cartilage works together with muscles to maintain the body's position and to produce controlled, precise movements.
2. Individual bones or groups of bones provide a framework for the attachment of soft tissues and organs.
3. The calcium salts of bone are a valuable mineral reserve

that maintains high concentrations of calcium and phosphate ions in body fluids.

4. Compact bone is found on the external surface of the bone; spongy bone is located inside the bone.

5. Spongy bone is much lighter than compact bone, which helps reduce the weight of the skeleton and makes it easier for muscles to move the bones.

6. Bones begin to form in a fetus about sixteen weeks after fertilization, and portions of the skeleton do not stop growing until a person is about 23 years old.

7. Elastic cartilage provides support but can tolerate distortion without damage and return to its original shape.

III. Matching

1. hyaline cartilage	a) one of three types of cartilage found in the human body. A form of connective tissue is also recognized by its ability to snap back into an original form – or resting form – due to the addition of elastin fibers to the extracellular matrix.
2. blood cell	b) is a denser material used to create much of the hard structure of the skeleton.
3. elastic cartilage	c) is a very porous type of bone found in animals. It is highly vascularized and contains red bone marrow.

4. compact bone	d) a semi-rigid but flexible avascular connective tissue found at various sites within the body.
5. fibrocartilage	e) a specialized contractile tissue found in animals which functions to move an organism's body.
6. spongy bone	f) a type of connective tissue found in areas such as the nose, ears, and trachea of the human body.
7. cartilage	g) a strong band of tissue in the body that joins a muscle to a bone
8. skeletal muscle	h) a cell produced through hematopoiesis and found mainly in the blood.
9. tendon	i) a strong band of tissue in the body that connects bones and supports organs and keeps them in position
10. ligament	j) tough, very strong tissue found predominantly in the intervertebral disks and at the insertions of ligaments and tendons; it is similar to other fibrous tissues but contains cartilage ground substance and chondrocytes.

IV. Provide the appropriate translations for the given words from the text.

Soft tissues, urinary tract, connective tissue, flexible support, nasal septum, friction, external flap of the ear, the spinal vertebrae, contracting muscle fibers, abundant mineral, yellow marrow, internal cavities, rib cage, spinal cord, pelvis, magnitude, compact (dense) bone, spongy (cancellous) bone, fetus, fertilization, ossification, maintain body temperature.

V. Fill the words in the gaps from the box.

1. Without _____ to pull against, contracting (tightened) muscle fibers could not make us sit, stand, walk, or run.
2. The bones of the skeleton also _____ reserves as lipids (fats) in areas filled with yellow marrow.
3. Many bones function as levers that can change _____ and direction of the forces generated by muscles.
4. _____ is thickest where stresses arrive from a limited range of directions.
5. Twenty percent of the _____ is replaced each year.
6. Each joint reflects a compromise between _____ and range of motion.
7. _____ attach muscle to bone.
8. _____ attach bone to bone.
9. _____ control the contraction of skeletal muscles, interpret sensory information, and coordinate the activities of the body's organ systems.
10. _____ provides support but can tolerate distortion without damage and return to its original shape.

store energy, tendons compact bone, ligaments, adapt skeleton, nerves, the magnitude (strength), stability, the skeleton, elastic cartilage



VI. Read and translate the following text.

Musculoskeletal Rehabilitation

Musculoskeletal rehabilitation is a set of treatments that can help you recover strength and the ability to move your muscles and joints. This kind of treatment may be used after an

accident, injury, or disease that makes you less able to move your muscles or joints.

Your musculoskeletal system is the muscles and bones in your body. These are the parts of your body that help you move, lift, and work with tools. Many injuries and diseases can damage your bones and muscles or make it harder to use them. Some of these include: tendonitis in your shoulder, arm, or ankle; muscle tears, ligament sprains or tears; inflammation within the bursae and joints; rheumatoid arthritis, carpal tunnel syndrome; tumors; ganglion cysts; hernias, foreign bodies like splinters or glass in your muscles.

Rehabilitation is a treatment that can help you recover from a serious injury, illness, or surgery. After these events, you may need time to regain your strength, re-learn skills, or find new ways of doing the things that you were able to do before. Musculoskeletal rehabilitation is a form of orthopedic rehab that can help you with your strength, fitness, and ability to move.

Musculoskeletal rehabilitation is a safe process, and your rehabilitation therapist can take steps to make sure that you are not injured during rehab. However, there are some risks:

- You might not recover all of the functions that you had before your illness, disease, or surgery.
- The rehabilitation might make you sore, or can cause pain as you gain strength in your muscles and bones or learn to move in new ways.
- If you strain too much during the rehab exercises, you could injure the part of your body that you are working on. Your physical therapist will watch you do the rehab to make sure that you are stretching and working safely.

There are many benefits of musculoskeletal rehabilitation:

- You can regain function in bones, joints, and muscles that have been damaged due to the injury, illness, or surgery.

- Occupational therapy can give you back the skills you need to do your job or other life tasks independently.

- Rehabilitation can help you build strength and flexibility, helping with the symptoms of chronic pain.

- Musculoskeletal rehabilitation can address problems with your knee, elbow, hip, shoulder, back, or neck.

Usually, you don't need to prepare for musculoskeletal rehabilitation. Once you are seeing a rehab specialist, however, they may have you do certain tasks on your own. These can include: stretches or exercises that rebuild strength in your joints, bones, and muscles; keeping a log of the tasks that you try to complete and any challenges you have.

Musculoskeletal rehabilitation can begin while you are in the hospital with an illness or injury. If your healthcare provider thinks you will need rehab after a surgery, the rehab process may begin before the surgery. After you leave the hospital, you may continue at a special inpatient rehabilitation center, especially if you have severe injuries. As you recover, you will be able to go home and schedule visits with your rehabilitation therapist.

(Retrieved from: <https://intermountainhealthcare.org/services/physical-medicine/services/musculoskeletal-rehabilitation/>)

Key- Words

1. tendonitis [ˌtendəˈnaɪtɪs] тендиніт
2. ligament sprains [ˈlɪɡəmənt sprɛɪn] розтягнення зв'язок
3. inflammation [ˌɪnfləˈmeɪʃn] запалення
4. bursae [ˈbɜːsə] слизиста сумка
5. carpal tunnel syndrome [ˈkɑːpl] синдром зап'ястного каналу
6. tumor [ˈtjuːmə(r)] пухлина
7. ganglion cyst [ˈɡæŋɡliən] гангліозна кіста
8. hernia [ˈhɜːniə] грижа

1. Check your understanding.

1. When can musculoskeletal rehabilitation be used?
2. What injuries and diseases can damage your bones and muscles?
3. Tell about some risks of musculoskeletal rehabilitation.
4. What are the benefits of musculoskeletal rehabilitation?
5. When can musculoskeletal rehabilitation begin?

2. Are these sentences true (T) or false (F)?

1. The muscles, neck and bones are the parts of your body that help you move, lift, and work with tools.

2. Musculoskeletal rehabilitation is a form of orthopedic rehab that can help you with your strength, fitness, and ability to move.

3. If you strain too much during the rehab exercises, you could injure the part of your body that you are working on.

4. Musculoskeletal rehabilitation can address problems with your knee, elbow, hip, shoulder, back, blood, vessels or neck.

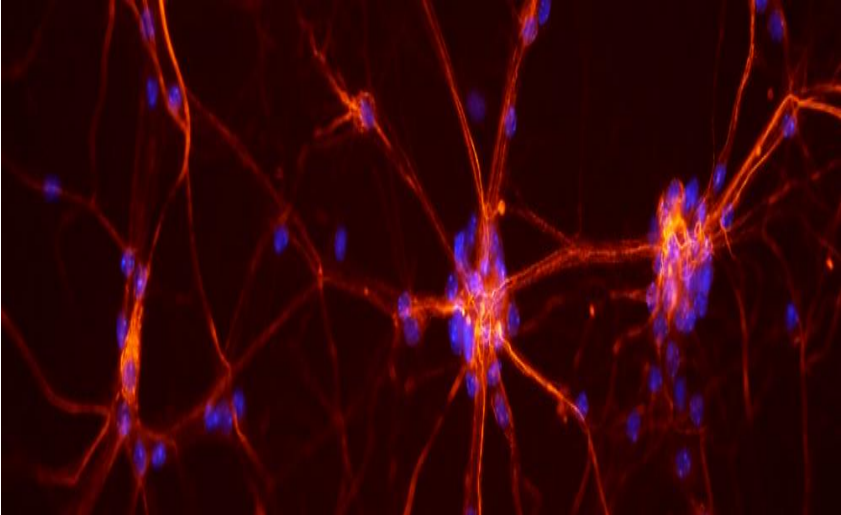
5. Musculoskeletal rehabilitation can include: stretches or exercises that rebuild strength in your joints, bones, and muscles; keeping a log of the tasks that you try to complete and any challenges you have.

3. Provide the appropriate translations for the given words from the text.

Tendonitis in your shoulder, arm, ankle; muscle tears, ligament sprains or tears; inflammation within the bursae and joints; rheumatoid arthritis, carpal tunnel syndrome; tumors; ganglion cysts; hernias, foreign bodies like splinters or glass in your muscles, strain, regain a function, surgery, regain your strength, re-learn skills.

Unit 5

Human Nervous System



Read and translate the following text.

Human Nervous System

The nervous system is the major controlling, regulatory, and communicating system in the body. It is the center of all mental activity including thought, learning, and memory. Together with the endocrine system, the nervous system is responsible for regulating and maintaining homeostasis. Through its receptors, the nervous system keeps us in touch with our environment, both external and internal.

Like other systems in the body, the nervous system is composed of organs, principally the brain, spinal cord, nerves, and ganglia. These, in turn, consist of various tissues, including nerve, blood, and connective tissue. Together these carry out the complex activities of the nervous system.

The various activities of the nervous system can be grouped together as three general, overlapping functions: sensory, integrative, motor.

Millions of sensory receptors detect changes, called stimuli, which occur inside and outside the body. They monitor such things as temperature, light, and sound from the external environment. Inside the body, the internal environment, receptors detect variations in pressure, pH, carbon dioxide concentration, and the levels of various electrolytes. All of this gathered information is called sensory input.

Sensory input is converted into electrical signals called nerve impulses that are transmitted to the brain. There the signals are brought together to create sensations, to produce thoughts, or to add to memory; decisions are made each moment based on the sensory input. This is integration.

Based on the sensory input and integration, the nervous system responds by sending signals to muscles, causing them to contract, or to glands, causing them to produce secretions. Muscles and glands are called effectors because they cause an effect in response to directions from the nervous system. This is the motor output or motor function.

The nervous system as a whole is divided into two subdivisions: the central nervous system (CNS) and the peripheral nervous system (PNS).

The central nervous system. The brain and spinal cord are the organs of the central nervous system. Because they are so vitally important, the brain and spinal cord, located in the dorsal body cavity, are encased in bone for protection. The brain is in the cranial vault, and the spinal cord is in the vertebral canal of the vertebral column. Although considered to be two separate organs, the brain and spinal cord are continuous at the foramen magnum.

The peripheral nervous system. The organs of the peripheral nervous system are the nerves and ganglia. Nerves are bundles of nerve fibers, much like muscles are bundles of muscle fibers. Cranial nerves and spinal nerves extend from the CNS to peripheral

organs such as muscles and glands. Ganglia are collections, or small knots, of nerve cell bodies outside the CNS.

The peripheral nervous system is further subdivided into an afferent (sensory) division and an efferent (motor) division. The afferent or sensory division transmits impulses from peripheral organs to the CNS. The efferent or motor division transmits impulses from the CNS out to the peripheral organs to cause an effect or action.

Finally, the efferent or motor division is again subdivided into the somatic nervous system and the autonomic nervous system. The somatic nervous system, also called the somatomotor or somatic efferent nervous system, supplies motor impulses to the skeletal muscles. Because these nerves permit conscious control of the skeletal muscles, it is sometimes called the voluntary nervous system. The autonomic nervous system, also called the visceral efferent nervous system, supplies motor impulses to cardiac muscle, to smooth muscle, and to glandular epithelium. It is further subdivided into sympathetic and parasympathetic divisions. Because the autonomic nervous system regulates involuntary or automatic functions, it is called the involuntary nervous system.

(Retrieved from: <https://training.seer.cancer.gov/anatomy/nervous/>)

Key- Words

1. homeostasis [ˌhəʊmiə'steɪsɪs] гомеостаз
2. ganglia [ˈgæŋɡliən] ганглії
3. gland [glænd] залоза
4. dorsal [ˈdɔːsl] спинний, дорсальний
5. peripheral nervous system [pəˌrɪfərəl ˈnɜːvəs ˌsɪstəm]
периферична нервова система
6. cranial vault [ˈkreɪniəl vɔːlt] склепіння черепа
7. vertebral canal [ˈvɜːtɪbrəl] хребетний стовп
8. knot [nɒt] вузол

9. afferent division ['æfərənt] аферентний поділ
10. efferent division ['efərənt] еферентний поділ
11. somatic nervous system [sə'mætɪk] соматична нервова система
12. autonomic nervous system [ˌɔ:tənɒmɪk 'nɜ:vəs ,sɪstəm] вегетативна нервова система

I. Check your understanding.

1. What is the nervous system responsible for?
2. Characterize the Central Nervous System.
3. Call three general functions of the nervous system.
4. What is sensory input?
5. Make a definition of nerve impulses.
6. Provide a few examples of the organs of the central nervous system.
7. What is integration?
8. Why are muscles and glands called effectors?
9. What do you know about the peripheral nervous system?
10. What is the voluntary nervous system?
11. Characterize the autonomic nervous system.
12. What is the role of the enteric nervous system?

II. Are these sentences true (T) or false (F)?

1. Stimuli monitor such things as temperature, light, and sound from the external environment.
2. The nervous system is the center of all mental activity including thought, sight, learning, talking and memory.
3. Sensory input is converted into electrical signals called nerve impulses that are transmitted to the brain.
4. The afferent or sensory division transmits impulses from peripheral organs to the CNS.

5. The somatic nervous system supplies motor impulses to the endocrine system.

6. The autonomic nervous system supplies motor impulses to cardiac muscle, to smooth muscle, and to glandular epithelium.

III. Matching

13. endocrine system	a) the cord of nervous tissue that extends from the brain lengthwise along the back in the spinal canal, gives off the pairs of spinal nerves, carries impulses to and from the brain, and serves as a center for initiating and coordinating many reflex acts
2. receptor	b) the bodily system that in vertebrates is made up of the brain and spinal cord, nerves, ganglia, and parts of the receptor organs and that receives and interprets stimuli and transmits impulses to the effector organs
3. brain	c) the part of the nervous system which in vertebrates consists of the brain and spinal cord, to which sensory impulses are transmitted and from which motor impulses pass out, and which coordinates the activity of the entire nervous system
4. spinal cord	d) he collection of glands that produce hormones that regulate metabolism, growth and development, tissue function, sexual function, reproduction, sleep, and mood, among other things.
5. central nervous	e) a membranous cellular tissue that

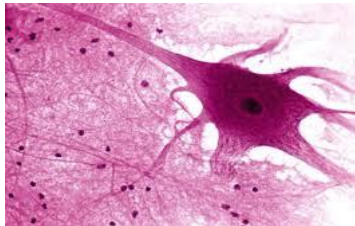
system	covers a free surface or lines a tube or cavity of an animal body and serves especially to enclose and protect the other parts of the body, to produce secretions and excretions, and to function in assimilation
6. epithelium	f) the part of the nervous system that is outside the central nervous system and comprises the cranial nerves excepting the optic nerve, the spinal nerves, and the autonomic nervous system
7. nervous system	g) an organ in the human or animal body which secretes particular chemical substances for use in the body or for discharge into the surroundings.
8. ganglia	h) an organ of soft nervous tissue contained in the skull of vertebrates, functioning as the coordinating centre of sensation and intellectual and nervous activity.
9. peripheral nervous system	i) a mass of nerve tissue containing cell bodies of neurons external to the brain or spinal cord
10. glands	j) an organ or cell able to respond to light, heat, or other external stimulus and transmit a signal to a sensory nerve.

IV. Read and translate the given text and do the exercises following it.

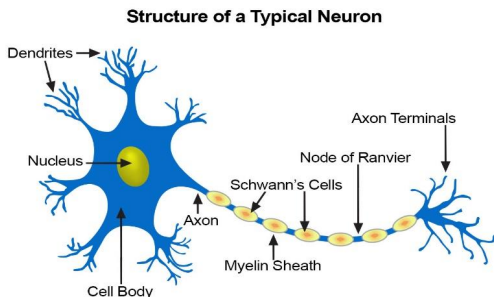
Nerve Tissue

Although the nervous system is very complex, there are only two main types of cells in nerve tissue. The actual nerve cell is the neuron. It is the “conducting” cell that transmits impulses and the

structural unit of the nervous system. The other type of cell is neuroglia, or glial, cell. The word “neuroglia” means “nerve glue.” These cells are nonconductive and provide a support system for the neurons. They are a special type of “connective tissue” for the nervous system.



Neurons. Neurons, or nerve cells, carry out the functions of the nervous system by conducting nerve impulses. They are highly specialized and amitotic. This means that if a neuron is destroyed, it cannot be replaced because neurons do not go through mitosis. The image below illustrates the structure of a typical neuron.



Each neuron has three basic parts: cell body (soma), one or more dendrites, and a single axon.

Cell Body. In many ways, the cell body is similar to other types of cells. It has a nucleus with at least one nucleolus and contains many of the typical cytoplasmic organelles. It lacks centrioles, however. Because centrioles function in cell division, the fact that neurons lack these organelles is consistent with the amitotic nature of the cell.

Cell Body. In many ways, the cell body is similar to other types of

Dendrites. Dendrites and axons are cytoplasmic extensions, or processes, that project from the cell body. They are sometimes referred to as fibers. Dendrites are usually, but not always, short and branching, which increases their surface area to receive signals from other neurons. The number of dendrites on a neuron varies. They are called afferent processes because they transmit impulses to the neuron cell body. There is only one axon that projects from each

cell body. It is usually elongated and because it carries impulses away from the cell body, it is called an efferent process.

Axon. An axon may have infrequent branches called axon collaterals. Axons and axon collaterals terminate in many short branches or telodendria. The distal ends of the telodendria are slightly enlarged to form synaptic bulbs. Many axons are surrounded by a segmented, white, fatty substance called myelin or the myelin sheath. Myelinated fibers make up the white matter in the CNS, while cell bodies and unmyelinated fibers make the gray matter. The unmyelinated regions between the myelin segments are called the nodes of Ranvier.

In the peripheral nervous system, the myelin is produced by Schwann cells. The cytoplasm, nucleus, and outer cell membrane of the Schwann cell form a tight covering around the myelin and around the axon itself at the nodes of Ranvier. This covering is the neurilemma, which plays an important role in the regeneration of nerve fibers. In the CNS, oligodendrocytes produce myelin, but there is no neurilemma, which is why fibers within the CNS do not regenerate.

Functionally, neurons are classified as afferent, efferent, or interneurons (association neurons) according to the direction in which they transmit impulses relative to the central nervous system. Afferent, or sensory, neurons carry impulses from peripheral sense receptors to the CNS. They usually have long dendrites and relatively short axons. Efferent, or motor, neurons transmit impulses from the CNS to effector organs such as muscles and glands. Efferent neurons usually have short dendrites and long axons. Interneurons, or association neurons, are located entirely within the CNS in which they form the connecting link between the afferent and efferent neurons. They have short dendrites and may have either a short or long axon.

Neuroglia. Neuroglia cells do not conduct nerve impulses, but instead, they support, nourish, and protect the neurons. They are far more numerous than neurons and, unlike neurons, are capable of mitosis.

Tumors. Schwannomas are benign tumors of the peripheral nervous system which commonly occur in their sporadic, solitary form in otherwise normal individuals. Rarely, individuals develop multiple schwannomas arising from one or many elements of the peripheral nervous system.

Commonly called a Morton's Neuroma, this problem is a fairly common benign nerve growth and begins when the outer coating of a nerve in your foot thickens. This thickening is caused by irritation of branches of the medial and lateral plantar nerves that results when two bones repeatedly rub together.

(Retrieved from: <https://training.seer.cancer.gov/anatomy/nervous/tissue.html>)

Key- Words

1. neuron ['njʊərɒn] нейрон
2. neuroglia [,njʊə'rglɪə] нейроглія
3. mitosis [maɪ'təʊsɪs] мітоз
4. dendrite ['dendraɪt] дендрит
5. axon ['æksən] нейрит
6. schwann cells – клітини Шванна
7. tumor ['tju:mə(r)] пухлина
8. solitary ['sɒlətri] одиночний

I. Check your understanding.

1. Make a definition of neuron.
2. What types of Neurons do you know?
3. Characterize the cell body.
4. What do you know about dendrites?
5. What is an axon?

6. How is the myelin produced in the peripheral nervous system?
7. How are neurons classified?
8. What is the function of neuroglia cells?
9. Make a definition of schwannoma.
10. What is a Morton's Neuroma?

1. Are these sentences true (T) or false (F)?

1. Neuroglia cells are nonconductive and provide a support system for the neurons.
2. Cell Body has a nucleus with at least five nucleolus and contains many of the typical cytoplasmic organelles.
3. Dendrites are usually, but not always, long and branching, which increases their surface area to receive signals from other neurons.
4. Myelinated fibers make up the white matter in the CNS, while cell bodies and unmyelinated fibers make the gray matter.
5. The cytoplasm, nucleus, and outer cell membrane of the Schwann cell form a tight covering around the myelin and around the axon itself at the nodes of Ranvier.
6. Afferent, or sensory, neurons carry impulses from the CNS to peripheral sense receptors.
7. Sensory, neurons carry impulses from peripheral sense receptors to the CNS.

2. Provide the appropriate translations for the given words from the text.

Cell body (soma), dendrites, cytoplasm, efferent neurons, axon collaterals, oligodendrocytes, single axon, centrioles, afferent processes, efferent neurons, neurilemma, nourish, interneurons neurons, schwannoma, telodendria, myelin.

3. Fill the words in the gaps from the box.

cytoplasmic extensions, synaptic bulbs, neurilemma, efferent neurons, the peripheral nervous system, mitosis, cytoplasm, efferent neurons, oligodendrocytes

1. If a neuron is destroyed, it cannot be replaced because neurons do not go through_____.
2. Dendrites and axons are _____, or processes, that project from the cell body.
3. The distal ends of the telodendria are slightly enlarged to form _____.
4. In the CNS, _____ produce myelin, but there is no_____, which is why fibers within the CNS do not regenerate.
5. _____ transmit impulses from the CNS to effector organs such as muscles and glands.
6. Schwannomas are benign tumors of _____ which commonly occur in their sporadic, solitary form in otherwise normal individuals.
7. The_____, nucleus, and outer cell membrane of the Schwann cell form a tight covering around the myelin and around the axon itself at the nodes of Ranvier.
8. Interneurons neurons are located entirely within the CNS in which they form the connecting link between the afferent and_____.

Tasks for Self-Study Work

Text 1

Wellness and Physical Education

Wellness is a state of optimal well-being that broadens, extends, and reaches beyond the traditional ideas of fitness and health. It is a way of doing, a way of being, and a way of becoming, a predisposition to adopt and embrace key principles in one's life that leads to high levels of well-being and life satisfaction. Wellness can be defined as a state [rather than a trait] of being in which a person's awareness, understanding, and active decision making capacity are aligned with a set of values and aspirations. Notably, wellness generally refers to an individual's functioning and is viewed as the umbrella overarching well-being and is best illustrated as an ongoing process, a wellness journey rather than an endpoint.

Wellness requires a conscious commitment and the appreciation that everything one does, thinks, feels, and believes has an impact on the well-being of self and others. This positive and holistic approach to living is the quality of life we enjoy when the physical, psychological, spiritual, social, and environmental dimensions in our lives are in balance – when no dimension is being neglected or overemphasized.

Students who are engaged in constructing and applying physical education knowledge naturally build the ability to continue learning in this area of study. Throughout their study of physical education, students will develop a holistic balance in the attitudes, understandings, skills, tactics, and strategies necessary to learn in various movement activity settings. Students will develop skills in transferring this learning to a variety of contexts which will support them as lifelong learners.

(From "Prince Edward Island Physical Education Curriculum. Wellness")

Answer these questions:

1. What is wellness as a state?
2. Wellness refers to an individual's functioning, doesn't it?
3. What do students who are engaged in constructing and applying physical education knowledge naturally build?
4. What do students develop throughout their study of physical education?

Text 2

Human Body and Movement Analysis

All life forms on earth, including humans, are constantly subjected to the universal force of gravitation, and thus to forces from within and surrounding the body. Through the study of the interaction of these forces and their effects, the form, function and motion of our bodies can be examined and the resulting knowledge applied to promote quality of life. Under gravity and other loads, and controlled by the nervous system, human movement is achieved through a complex and highly coordinated mechanical interaction between bones, muscles, ligaments and joints within the musculoskeletal system.

Any injury to, or lesion in, any of the individual elements of the musculoskeletal system will change the mechanical interaction and cause degradation, instability or disability of movement. On the other hand, proper modification, manipulation and control of the mechanical environment can help prevent injury, correct abnormality, and speed healing and rehabilitation.

Therefore, understanding the biomechanics and loading of each element during movement using motion analysis is helpful for studying disease etiology, making decisions about treatment, and evaluating treatment effects.

(From "Biomechanics of human movement and its clinical applications" by Tung-Wu Lu)

Answer these questions:

1. What forces do all life forms on earth are subjected to?
2. How is human movement achieved?
3. What can change the mechanical interaction of musculoskeletal system?
4. Can proper modification, manipulation and control of the mechanical environment prevent injury?

Text 3

**Energy Production. Aerobic and Anaerobic
Respiratory Systems**

Aerobic exercise takes place in the presence of oxygen. It is lower intensity, longer duration exercise. Aerobic exercise can be sustained for a prolonged period of time because there is lots of glucose available and no great build-up of lactic acid.

Examples of aerobic activities include marathon running, 5,000 metres, distance swimming, jogging back to reposition in football, dancing, canoeing and cross-country skiing.

Glucose + oxygen → energy + water + carbon dioxide

Glucose from carbohydrates and fats supply the energy for the aerobic energy system and can supply energy for long periods of time.

Carbohydrate food sources include rice, bread, potatoes, bananas and energy drinks. Fat food sources include butter, oils, cheese, milk and nuts.

The anaerobic respiratory system supplies energy very quickly for sports such as vaulting in gymnastics or throwing a javelin where the activity only lasts a few seconds.

Anaerobic exercise is performed in the absence of oxygen. It is high-intensity, short duration exercise. Anaerobic exercise can only be sustained for a short time, mainly because of the build-up of lactic acid.

Examples of anaerobic activities include sprinting, long jump, making a tackle in football, shooting at goal in netball and serving in tennis.

This system breaks down glucose into lactic acid. Glucose is derived from carbohydrates. It produces energy very quickly.

Glucose → energy + lactic acid

The lactic acid energy system produces the majority of the energy for moderate to high intensity activities such as running 400 metres. However, lactic acid is a fatiguing by-product of this energy pathway and causes pain and discomfort in the working muscles. It is for this reason that the winner of a 400 m race is typically the athlete who slows down the least.

Oxygen debt is the lack of oxygen and the build-up of lactic acid that causes fatigue.

The anaerobic systems require oxygen to restore them which is called an oxygen debt.

After taking part in exercise, a person continues to breathe more deeply and rapidly than when at rest to take in additional oxygen to repay this oxygen debt.

The oxygen is then used to break down lactic acid to carbon dioxide and water replenish the creatine phosphate stores.

(Retrieved from: <https://efmurgi.wordpress.com/2019/09/27/aerobic-and-anaerobic-exercise/>)

Answer these questions:

1. When does aerobic exercise take place?
2. What are the main examples of aerobic activities?
3. What is anaerobic exercise?
4. What do the examples of anaerobic activities include?

Text 4

Exercise: Not a Passing Fad

The benefits of physical activity and exercise are universally recognized – and have been for far longer than one might think. Our

Paleolithic ancestors regularly engaged in physical activity to survive. However, rather than chasing after a soccer ball to win a game or taking a leisurely stroll down a tree-lined path, they “worked out” by chasing after their next meal. For them, no exercise meant no food. How’s that for a health benefit?

With the advent of sedentary agriculture some 10,000 years ago, that same level of peak performance was no longer necessary. As our ancestors continued to devise more advanced means of acquiring food, physical activity declined. It wasn’t until the fourth century BCE, that the Greek physician Herodotus, recognized the importance of being physically active outside of a hunter-gatherer society. He practiced gymnastic medicine, a branch of Greek medicine that relied on vigorous exercise as a treatment. During that same time period, Hippocrates, who is often referred to as the Father of Modern Medicine, asserted, “If we could give every individual the right amount of nourishment and exercise, not too little and not too much, we would have found the safest way to health.” In the 12th century CE, the Jewish philosopher Rabbi Moses ben Maimon, a physician to the Sultan of Egypt, stated, “Anyone who lives a sedentary life and does not exercise, even if he eats good foods and takes care of himself according to proper medical principles, all his days will be painful ones and his strength will wane.” The 16th century theologian and scholar Robert Burton went so far as to declare that not exercising, or “idleness” as he referred to it in his widely read tome, *The Anatomy of Melancholy*, was the “bane of body and mind.” Burton also warned that the lack of exercise was the sole cause of melancholy (the name given depression at that time) and “many other maladies.” Burton claimed that idleness was one of the seven deadly, as well as “the nurse of naughtiness,” and the “chief author of mischief.” For Burton, exercise was not only essential for good health, but a means of avoiding eternal damnation.

By the 16th century, the benefits of exercise were widely accepted, at least among the wealthy and the educated, who had access to leisure. During this time period, H. Mercurialis defined exercise as “the deliberate and planned movement of the human frame, accompanied by breathlessness, and undertaken for the sake of health or fitness.” This definition is still widely used today.

In retrospect, the perceived benefits of exercise have changed very little since Herodicus or the American Indians. Mounting research supports historical assertions that exercise is vital to sustaining health and quality of life. Culturally, sports play a huge role in growth and development of youth and adults. Physically, there is indisputable evidence that regular exercise promotes healthy functioning of the brain, heart, and the skeletal and muscular systems. Exercise also reduces risk for chronic diseases, such as cancer, diabetes, and obesity. Regular exercise can even improve emotional health and overall wellbeing.

(From “Fitness Principles” by Scott Flynn)

Answer these questions:

1. What benefits of physical activity and exercise are universally recognized?
2. How do our Paleolithic ancestors regularly engaged in physical activity to survive?
3. Is exercise vital to sustaining health and quality of life?
4. Does exercise reduce risk for chronic diseases?

Text 5

Physical Education and Physical Culture. What is the Difference?

Physical education is a socially constructed activity which is informed by, and informs wider physical culture. Individual experiences of physical education as well as messages from wider physical culture, shape understandings of the nature and purpose of

physical education, where physical education is defined by what is done in its name.

Physical culture is a specialised form of discourse concerned with meaning-making centred on bodily practices which constitute sport, physical recreation and exercise where discourse refers to all meaning-making activity, whether this is intentional or unintentional, explicit or implicit, overt or reflexive. Engagement in physical culture includes roles that range from participation in sporting and physical activities, coaching and volunteering as well as supporting sporting icons and teams as a fan. Physical education professionals have defined physical education within wider physical culture in relation to school sport, physical activity and lifelong learning. It is suggested that school physical education is a part of youth physical culture that informs and is informed by physical culture. However, it is suggested that in reality school physical education practices have failed to keep pace with changes in wider physical culture leading to a lack of connection between experiences provided to children in school contexts and the types of physical activity opportunities they pursue outside of school.

(From "What is PE?" by M. Coulter and D. Ní Chróinín)

Answer these questions:

1. What is physical education?
2. What is meant by physical culture?
3. What is the main difference between physical education and physical culture?
4. What does engagement in physical culture include?

Text 6

Football Makes History

Some would say history is just one damned thing after the other, that it should be put to rest in the past and that bygones should be bygones. These people are not necessarily wrong, but in an ever-

complex world of globalised societies and rising exclusivist identity-politics, the stories we tell ourselves about the past help us define ourselves in the present and orient toward an unpredictable future.

Some would say football is nothing more than 22 people chasing a ball around a pitch for 90 minutes. Also those people are not necessarily wrong, but history is made up of whatever people have come to value, and certainly football – a game played and watched by billions for over 100 years – seems highly valued.

We would say that football history is made up of millions of stories, of individuals and communities, of movements and processes, which can open doors to the conversations we need to have in the present. Players who came from nothing to become international super-stars. Clubs which have been established to foster minority identities and belonging. People who have faced exclusion in a racist and bigoted past.

Our European Football stories, starting with your local neighbourhood club, can not only excite the football and history fans but in particular create a space where those that are marginalised in European societies are included, feel belonging so that everybody can seek active citizenship.

Sport – and particularly football – appeals to millions of Europeans, regardless of their sexual orientation, colour, gender, age, nationality or religion, often becoming a defining factor of identities and communities. The rich local cultural heritage of football and its shared history covering the turbulent 20th century history offers direct access to addressing past and present diversity. In addition, it helps to promote shared values, equality, non-discrimination and social inclusion with an integrated perspective, encompassing and innovating formal and non-formal learning, as well as youth work.

(Retrieved from: <https://www.euroclio.eu/project/football-makes-history/>)

Answer these questions:

1. Does football make history? What do you think?
2. Does sport often become a defining factor of identities and communities? Use specific reasons and examples to support your opinion.
3. Is local cultural heritage of football rich? Use some details to support your answer.
4. The rich local cultural heritage of football helps to promote shared values, equality, non-discrimination, social inclusion with an integrated perspective, encompassing and innovating formal, non-formal learning and youth work, doesn't it? Do you agree or disagree with the following statement?

Text 7

Health Benefits of Physical Activity

Regular physical activity provides numerous and substantial health benefits. Regular physical activity reduces the risk of premature mortality and the risk of many chronic diseases. It improves our mood and psychological well-being. It is effective treatment for many chronic diseases and reduces the risk of disability. It enhances our ability to perform the tasks of everyday life and thereby promotes independent living.

Broadly speaking, physical activity is movement of the body caused by skeletal muscle contractions. However, in public health, physical activity refers to the types of movement that have health benefits. These movements usually involve the large muscle groups of the body and substantial energy expenditure. In other words, physical activity is shorthand for health-enhancing physical activity. As discussed later, the evidence of health benefits is strongest for aerobic activity. So when context makes it clear, physical activity sometimes refers to only health-enhancing aerobic activity.

Physical activity belongs to the group of behavioral risk factors affecting health that include tobacco use, diet, drug and alcohol use,

and sexual behavior. These risk factors are also referred to as lifestyle factors.

Physical fitness refers to the physiologic capacity of systems of the body that are affected by physical activity. For example, maximal aerobic capacity is a fitness measure of maximal ability to perform aerobic work. Other common measures of physical fitness are muscle strength and endurance, range of motion around a joint (flexibility), and body composition measures such as percent body fat.

Public health scientists usually use exercise to refer to the subset of physical activity done for the purpose of increasing physical fitness. However, the public does not make this distinction.

A well-known physiologic effect of physical activity is that it expends energy. Scientists measure energy expenditure in units like kilocalories and kilojoules. In popular usage, the term kilocalorie is abbreviated as calorie. Besides physical activity, the body expends some energy when we eat, called the thermic effect of food. Some energy is used just to keep the body alive, and this basal energy expenditure is measured using the basal metabolic rate. The sum of these three sources of energy expenditure is called total energy expenditure, or TEE.

So if you walk on a treadmill for a mile, and the LED displays 100 calories expended, what does this mean? Most likely, this is the gross energy expenditure during the walk, which is the sum of basal expenditure and activity expenditure. If so, the net caloric expenditure due to the physical activity alone is fewer than 100 calories. Generic formulas are also used to estimate the number of calories expended while using exercise equipment, and these rarely take into account age, sex, and body weight, so these formulas may not accurately estimate calories expended during exercise.

(From "Health Benefits of Physical Activity" by David M. Buchner)

Answer these questions:

1. Why are regular exercises so important in life of every person?
2. What is physical activity?
3. What is physical fitness?
4. What is energy expenditure? Use specific reasons and details to explain your answers.

Text 8

Sport and Injuries

The performance of an athlete is affected by numerous factors. These can be roughly grouped into three categories which are physiological, biomechanical, and psychological factors. Biomechanical factors have a profound effect on how an athlete controls and compensates movement patterns during the performance of a movement or series of movements. From a biomechanical point of view, these compensations often lead to faulty movement patterns, which decrease the sports performance.

For example, if a javelin thrower had an overactive infraspinatus muscle in the shoulder, it would significantly affect the thrower's ability to deliver a consistent high velocity throw. This is due to the shoulder's inability to control the arm at high speed before and after the throw. The same concept applies to all arm-related events, such as golf and tennis.

A motion analysis system enables one to record movement and then to measure positions, angles of joints, speed and distance of movement, and to compare the same movements performed at different times. Such an analysis gives the athlete or the physician clear information on the reasons of injury, muscle weakness, and degree of improvement. In general, this methodology is called Human Motion Analysis (HMA). Nowadays, the methods can be brought together as whole under the definition of marker-based

methods, which are the main methods in the laboratory and clinical environments. Marker-based methods are defined as methods that rely on anatomically positioned markers recorded by camera systems. These systems work by measuring the location of markers attached to the subject.

There are many causes of injury ranging from poor technique, not enough preparation, inadequate strength, insufficient range of movement in the relevant structures, and many others. Correct biomechanical function is a critical factor, but is generally less understood. Biomechanical measurement methods and modeling play an important role in understanding the kinematics and kinetics part of the movement. In fact, advanced biomechanical modeling simulation tools can help model the physical world at sufficient speed with a desired accuracy. Finally, biomechanical screening can be used as an integral part of sports injury prevention and management program for optimal performance.

(From “Biomechanical Measurement Methods to Analyze the Mechanisms of Sport Injuries” by Serdar Arıtan)

Answer these questions:

1. What factors affect the performance of an athlete?
2. What is motion analysis software?
3. What are the main causes of injury?
4. Why is biomechanical screening used?

Text 9

Prevention of Soccer Injuries

Soccer is the most popular sport in the world, with about 200 million participants including both sexes and across all age groups and carries a certain risk of injury for its participants, from 13 to 35 injuries per 1,000 playerhours of competition. Unfortunately, less is known about the prevention, risk factors, mechanisms, injury severity of soccer-related injuries and their resulting time lost to

play while players recover.

Soccer injuries can happen during training (pre-seasonal and seasonal) and during competitions; and predominantly affect the ankle and knee as well as the muscles of the thigh and calf.

The main risk factors are:

1. Player factors (joint instability, muscle tightness, insufficient warm-up and stretching, irregular cool down, inadequate rehabilitation, lack of proprioceptive training)

2. Equipment (shoes and shin guards)

3. Playing surface (grass vs. artificial turf)

4. Game rules

5. Previous injury

6. Other (e.g., Score celebrations)

The four dominating injury types in soccer are:

1. Sprains to the ankle

2. Sprains to the knee

3. Strains to the hamstrings

4. Strains to the groin

These account for more than 50% of all injuries, and prevention programs for soccer should therefore target these.

In the scientific literature on prevention of sports injury, there seems to be good evidence for the effectiveness of prevention interventions. Because one of the most important risk factors for a sports injury is a previous injury, prevention should begin as soon as players train or play on an organized level.

Prevention strategies should be targeted:

1. Sports participant (host)

2. Potential hazard (agent of injury)

3. Surrounding environment

The prevention program includes general interventions such as improvement of:

1. Warm-up and regular cool down
2. Taping of unstable ankles, shin guards
3. Adequate rehabilitation,
4. Promotion of the spirit of fair play

Preventive ankle, knee, groin, and hamstring exercises are essential measures for injury prevention.

(From "Prevention of Soccer Injuries" by Haluk H. Öztekin)

Answer these questions:

1. When can soccer injuries happen?
2. What are the main risk factors?
3. What are the four dominating injury types in soccer?
4. What are the main prevention strategies?

Text 10

Sport for Life

Many changes take place within our bodies throughout the life cycle. Understanding these normal age-related changes and how exercise makes us more resilient to deterioration is an important component of successful aging. This does not mean that knowledge alone will motivate people to exercise.

But awareness of basic changes in adulthood can help individuals to cope with, address, or prevent health problems through exercise.

Early adult years are marked by periods of rapid muscle growth, improvements in agility, flexibility, strength and speed. It is important to lay the foundation of a strong skeletal system by ensuring adequate nutrition and muscle development during this time. By their thirties, most people will have reached their peak level of physical fitness. Effort begins to switch from growth to maintenance. Professional athletes often retire around this age, while amateurs may find that injuries, work, and family

commitments increasingly take up their time. New parents frequently suffer a decline in physical activity.

During one's forties and fifties muscle strength and endurance begin to insidiously erode, while recovery from minor injuries takes longer and major injuries may permanently limit movement. During this time, the early stages of osteoporosis will develop among many people, particularly women. This is also an important time to consider transitioning from high to low impact sports.

Participating in a variety of activities can help the body increase its resilience to injury and stress, and in preventing chronic health conditions. Endurance sports, such as hiking, running, swimming and cycling help to manage weight and cardiovascular fitness.

Studying the effects of sedentary behaviour on human physiology is like watching a movie in fast forward; the biologic age appears to advance faster than expected from the chronologic age. This area of research over the past decade has led insights into the impact movement, or inactivity, has on humans. Increased sitting time is associated with increased abdominal girth, cardiovascular disease, dementia, and all-cause mortality. Regular activity on the other hand is associated with increased cardiovascular fitness, lower risk of heart disease, stroke, dementia, diabetes, and osteoporosis. Resistance training has been shown to increase brain activity and lift one's mood.

(From "Sport for Life" by Paul Jurbala)

Answer these questions:

1. What periods are early adult years marked by?
2. What is important during this time?
3. Do most people reach their peak level of physical fitness by their thirties? Do you agree or disagree with the following statement?
4. When do professional athletes often retire?

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