

Physical Education and Health

Teacher's Guide

This learning resource was collaboratively developed and reviewed by educators from public and private schools, colleges, and/or universities. We encourage teachers and other education stakeholders to email their feedback, comments, and recommendations to the Department of Education at action@deped.gov.ph.

We value your feedback and recommendations.

**Department of Education
Republic of the Philippines**

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Lesson 1: A Way to Get Fit

Objectives:

At the end of the lesson, the students are expected to:

1. Understand the benefits of aerobic, muscle strengthening, and bone strengthening activities
2. Explain how aerobic, muscle strengthening, and bone strengthening activities work
3. Appreciate the importance of FITT in doing physical activities

Activity 1: Let Me Think

Directions: Ask the students to prepare a table with two columns on a sheet of paper like the one below. Ask them to list down the most frequent activities they did in the past and the ones they do at present. Let them write as many as they can.

When I was a kid, I used to...	Now I'm a young adult, I do...
1. Play "Tumbang Preso"	1. Jog 20 minutes every morning.
2. _____	2. _____
3. _____	3. _____
4. _____	4. _____
5. _____	5. _____

Processing Questions

1. What were the physical activities in your childhood that you still do today? Do you spend more time now in doing these activities as compared to before? Cite an example.
2. Do you know the benefits of the physical activities that you do? Can you cite some of these benefits?

Reading:

What is physical activity? It is any movement made by the muscles of the body that requires exertion of energy such as running, swimming, dancing, etc. Exercising is considered physical activity but more structured and planned. Regular physical activity promotes a healthy lifestyle as it improves our health and helps lower risks of illnesses. It is necessary for us to engage in physical activities to enhance our level of fitness.

Many of us exercise and do physical activities at home, in school, and at the gym. Some of these include aerobic, muscle strengthening, and bone strengthening activities, all of which are good for body composition. It is important to know the nature of these physical activities for a better understanding of what it does to our body.

Aerobic, Muscle and Bone Strengthening Activities: How Do They Work and Differ?

Aerobic Activities

Aerobic activities are also called "cardio" exercises. Normally, these activities increase our heart and breathing rate. They cause us to sweat profusely and breathe

harder. Our heart pumps blood more vigorously, causing oxygen to circulate throughout our body. This allows us to sustain our aerobic exercise for a few minutes. Such activities like jogging, running, swimming and dancing are some examples of aerobic exercises which improve our cardiorespiratory fitness. They also help lower risks of cardiovascular disease, diabetes, and osteoporosis. Most aerobic activities can be done on a daily basis. To be physically fit, it is important to engage in aerobic activities.

Guidelines for Aerobic Exercise

- **Frequency** - Always consider the number of aerobic exercise sessions per week. When doing cardio exercises, especially to lose weight, frequency is an important factor to make it more effective. Start cardio exercises for at least 3 days a week for the first few weeks, with not more than 2 days' rest between sessions. Afterwards, we can gradually increase the frequency of exercise to 5 days a week.
- **Intensity** – To be effective, aerobic exercises should be done in moderate intensity, that is, our heart rate should be 60 to 80% of our maximum heart rate. First, determine the target heart rate by getting the maximum heart rate and the recommended heart rate range. This will then tell how hard we should exercise during our training.
- **Time** – More time spent doing aerobic exercises means more calories burned and an increase in endurance. We can at least do 20 minutes per session at first, then gradually increase it to 60 minutes.
- **Type** - Running, jogging, sprinting, swimming, and playing contact sports such as basketball are some activities that we can do to improve our heart rate. It is also important to try different exercises and activities to avoid boredom.

Muscle Strengthening Activities

Muscle strengthening activities are exercises in which groups of muscles work or hold against a force or some weight. Muscle strengthening activities help build good muscle strength. When muscles do more work, it becomes stronger. Therefore, having strong and healthy muscles enable us to perform everyday physical tasks. With strong and capable muscles, we can rearrange the furniture in our living room and carry heavy grocery bags from the market to our home.

During muscle strengthening activity, muscle contraction occurs. The repetitive contractions during exercise can cause damage to the muscle fibers. Our body repairs these muscle fibers when they get damaged. The repair happens after exercise while muscles are at rest. New muscle fibers are produced to replace or repair those that were damaged. The muscles in our body then start to grow larger and stronger. This stimulation and repair process is called *muscle hypertrophy*. It is important to note that these muscle-strengthening activities—short high intensity exercises—should be alternately scheduled in a week allowing rebuilding of muscles during rest periods. Ideally, one to two days of rest lets our muscles rest and recover.

Exercises like push-ups, sit-ups, squats, and lifting weights are some examples of muscle strengthening activities that you can do if you want to have strong and lean muscles. Remember that before you start doing these activities, be sure to do dynamic warm-up to avoid injury.

Bone Strengthening Activities

Bone growth is stimulated by physical stress brought about by physical activity. As skeletal muscles contract, they pull their attachment on bones causing physical stress. This consequently stimulates bone tissue, making it stronger and thicker. Such bone strengthening activities can increase bone density throughout our skeletal system. This is called *bone hypertrophy*.

Many forms of physical activity like running, skipping rope, and playing basketball help keep our bones fit. Bones also support groups of muscles to reduce risk of falling. It is important to understand that bone-strengthening exercises do not only focus on bone health, it also focuses on improving muscle strength, coordination, and balance.

Each strengthening activity mentioned works differently from the other as each focuses on different target areas in the body. But each contributes to the ultimate goal of being fit. Being fit is important and requires a proper plan and much effort and discipline. If we want to live healthy, we need to optimize our daily physical activities to achieve our desired level of fitness.

Activity 2: Question Time!

Directions: Answer the following questions below.

1. Differentiate aerobic, muscle strengthening, and bone strengthening activities.
2. How do these activities contribute to your overall health? Cite at least 5 benefits.
3. Explain the importance of Frequency, Intensity, Time, and Type (FITT) in doing exercises.

Summary

Aerobic Activities	Muscle Strengthening Activities	Bone Strengthening Activities
During aerobic activity, oxygen is delivered to the muscles in our body allowing us to sustain the physical activity for few minutes.	Muscle contraction occurs during a muscle strengthening activity. The repetitive contractions during exercise cause damage to muscle fibers. However, these muscle fibers are ready to be repaired once they get damaged. The repair of muscle fibers happens after exercise while muscles are at rest. There will be new muscle fibers produced to replace and repair those fibers that were damaged. The muscles in the body then start to grow larger and stronger.	Bone growth is stimulated by physical stress. As skeletal muscles contract, they pull their attachment on bones causing physical stress. This consequently stimulates bone tissue, making it stronger and thicker. Such bone strengthening activities can increase bone density throughout our skeletal system.

	Needs improvement 1 pts	Approaching standards 2 pts	Good 3 pts	Excellent 4 pts
Ideas and Content	There is no clear or specific explanation in answer to the question.	You put thought into this, but there is no real evidence of learning. More specific information is needed or you need to follow the directions more closely.	What you are writing about is clear. You answered the question. Some support may be lacking, or your sentences may be a bit awkward. Overall, a decent job.	What you are writing about is clear and well-expressed, including specific examples to demonstrate what you learned. Well done!
Use of terms	No terms from the lesson are used.	Only one term from the lesson is used in the answer. Try for a few more, next time.	Your answer included several terms from the lesson, demonstrating adequate understanding of the material.	Your answer included all the terms from the lesson that applied to the question asked. All terms are fully defined and used in the proper context.
Sentence Fluency	Sentences are incomplete or too long. It makes reading them difficult.	Some sentences are complete and easy to understand. Others require some work.	Sentences are complete and able to be understood.	Sentences are complete and they connect to one another easily when they are read out loud. Your writing 'flows.'
Conventions	Few end marks or capital letters. Answers contain numerous spelling or structural errors.	Mistakes using end marks or capitals as well as spelling mistakes make the writing hard to read.	Use of punctuation marks and capitals, as well as spelling, is mostly correct. Few errors exist in your answer.	No punctuation or structural mistakes. No spelling errors. Your writing shows full awareness of the rules of English use.

References

- Bone Hypertrophy*. (2016). Retrieved from <http://oxfordindex.oup.com/view/10.1093/oi/authority.20110803095517493>
- Factors Affecting Bone Development, Growth and Repair. Retrieved from <http://www.our-sma-angels.com/crystal/web%20pages/a%20&%20p/bonefacts.htm>
- Glass, S., Hatzel, B. and Albrecht R. *2 Ways Bone Modeling Occurs Throughout Life: Hypertrophy and Atrophy*.<http://www.dummies.com/how-to/content/2-ways-bone-modeling-occurs-throughout-life-hypert.html>
- http://www.medicinenet.com/aerobic_exercise/article.htm
- Quinn, Elizabeth. (2016. May 25). *4 Basic Strength Training Principles to Build Muscles*. Retrieved from <https://www.verywell.com/basic-strength-training-principles-3120727>
- Quinn, Elizabeth. (2016. May 9). *What is the Definition of Muscle Hypertrophy?* . Retrieved from <https://www.verywell.com/muscle-hypertrophy-definition-3120349>
- Strengthening Muscles and Bones*. Retrieved from <https://www.presidentschallenge.org/motivated/strengthening.shtml>
- Weil, Richard (MEd,CDE). (2016. Jan 1). *Aerobic Exercise*. Retrieved from <http://study.com/academy/lesson/what-is-aerobic-exercise-definition-benefits-examples.html>
- “What is Physical Activity?” as retrieved from <https://www.nhlbi.nih.gov/health/health-topics/topics/phys>

Lesson 2: Energy Systems

Objectives:

At the end of the lesson, the students should be able to:

1. Enumerate and identify the three energy systems
2. Explain the differences among the three energy systems and how they work
3. Perform physical activities that use three energy systems

Activity 1: Let's Find Out

Directions: Ask the students if they have ever done push-ups and running. Let them recite in class what the two activities have in common.



Reading:

Our body needs specific amount of energy when we do physical activities. When we exercise, a low or high amount of energy is supplied to muscles depending on the duration, intensity, and nature of the exercise. Activities like sprinting and jumping require a large amount of energy used in short a period of time. On the other hand, marathon running and long-distance swimming require low but steady amount of energy over a longer period of time. It is important for our body to get the energy it needs to effectively perform these physical activities.

The food that we eat is a source of energy. Eating before doing exercise can contribute to performance. There is a complex chemical process called *cellular respiration* in which our body takes in food and uses it to convert and produce *adenosine triphosphate* (ATP). ATP supplies energy to muscle cells for muscular contraction during physical activity. *Creatine phosphate* (CP), like ATP, is stored in muscle cells. When it is broken down, a large amount of energy is released. Three energy systems work together as we exercise. However, a specific energy system can dominate depending on the intensity and of type of activity that is being done.

What Are The Three Energy Systems?

Anaerobic A-Lactic (ATP-CP) Energy System

Anaerobic A-Lactic or *ATP-CP* is a dominant source of muscle energy for high intensity physical activities. It provides high bursts of start up energy that lasts around ten seconds or less. ATP-CP provides immediate energy without requiring

any oxygen (*anaerobic*) and does not produce lactic acid (*a-lactic*). Many athletes who participate in sports competitions require short amounts of acceleration. Athletic events like the shot put, weight lifting, and 100-meter sprint are examples of physical activities that utilize the ATP-CP energy system. However, the ATP-CP system will not supply ATP again until the muscles have rested and have been able to regenerate.

Anaerobic Lactic (Glycolytic) Energy System

Anaerobic Lactic is also known as the glycolytic energy system, an energy system that supplies energy for medium to high intensity physical activities. These high intensity activities usually last from ten seconds to two minutes. When an athlete sprints for 400 meters, lactic acid builds up in blood and muscle cells. Normally, there is a shortness of breath, and a burning sensation in the muscles once lactic acid is produced. Same as with ATP-CP, the anaerobic lactic system does not require oxygen but is capable of supplying energy for high intensity activities. The difference between the two systems is amount of time that the system can work. Thus, if an athlete exceeds ten seconds while sprinting, the anaerobic lactic system kicks in to provide energy.

Aerobic Energy System

Most of sports and activities use aerobic energy system. Aerobic energy system provides energy for low intensity physical activities that last from two minutes to a few hours. Aerobic energy system, compared to ATP-CP and glycolytic energy system, requires much longer oxygen in muscles in doing physical activities like long distance swimming running and playing sports (e.g. basketball, soccer, futsal). If a person exercises for 8 minutes, aerobic energy system will become a dominant source of that person’s energy. Aerobic energy system continually produces ATP energy to muscles as long as oxygen is available to muscles in the body. Unlike anaerobic lactic system, aerobic energy system does not produce lactic acid since oxygen is available to the muscles.

Most sports and physical activities use these energy systems. Though there are times when one energy system dominates during a specific type of physical activity, it is important to understand that all energy systems are active. Each energy system changes during the activity depending on its duration and intensity. Therefore, once we engage in physical activities or sports, all three energy systems may be in use but in varying degrees.

Activity 2: Let’s Get Energized

In this activity, the students should learn different physical activities that use energy system.

Directions: Divide the class into 5 groups. Ask each group to think of and list down physical activities that use any or all of the three energy systems. Let them do these activities.


Anaerobic A-Lactic System	Anaerobic Lactic System	Aerobic Energy System

Activity 3: Let's Reflect

In this activity, the students should be able to understand how energy system work and how they differ from one another.

Directions: After doing Activity 2, answer the following questions below.

1. How will you differentiate anaerobic a-lactic and anaerobic lactic system? What do they have in common? Explain.
2. How does the aerobic energy system work in our body? How does it differ from 2 anaerobic systems? Explain.

 Short Answers				
	Needs improvement 1 pts	Approaching standards 2 pts	Good 3 pts	Excellent 4 pts
Ideas and Content	There is no clear or specific explanation in answer to the question.	You put thought into this, but there is no real evidence of learning. More specific information is needed or you need to follow the directions more closely.	What you are writing about is clear. You answered the question. Some support may be lacking, or your sentences may be a bit awkward. Overall, a decent job.	What you are writing about is clear and well-expressed, including specific examples to demonstrate what you learned. Well done!
Use of terms	No terms from the lesson are used.	Only one term from the lesson is used in the answer. Try for a few more, next time.	Your answer included several terms from the lesson, demonstrating adequate understanding of the material.	Your answer included all the terms from the lesson that applied to the question asked. All terms are fully defined and used in the proper context.
Sentence Fluency	Sentences are incomplete or too long. It makes reading them difficult.	Some sentences are complete and easy to understand. Others require some work.	Sentences are complete and able to be understood.	Sentences are complete and they connect to one another easily when they are read out loud. Your writing 'flows.'
Conventions	Few end marks or capital letters. Answers contain numerous spelling or structural errors.	Mistakes using end marks or capitals as well as spelling mistakes make the writing hard to read.	Use of punctuation marks and capitals, as well as spelling, is mostly correct. Few errors exist in your answer.	No punctuation or structural mistakes. No spelling errors. Your writing shows full awareness of the rules of English use.

Summary

Energy System	Intensity	Duration	Lactic Acid Production	Oxygen Requirement	Examples
Anaerobic A Lactic	High	Lasts 10 seconds or less	Does not produce lactic acid	Does not require oxygen	Shot put, 100-meter sprint
Anaerobic Lactic	Medium to High	Lasts 10 seconds to 2 minutes	Produces lactic acid	Does not require oxygen	400 to 800-meter sprint
Aerobic Energy System	Low	Lasts 2 minutes to a few hours	Does not produce lactic acid	Requires oxygen	3-km run, long distance swimming, playing sports (e.g. basketball, football, futsal)

References

- Rogers, Paul. (2010. Nov 8). *All About Energy Systems For Physical Activity*. Retrieved from <http://foodfithealth.com/blog/energy-systems-physical-activity/>
- Muscle Metabolism: Synthesis of ATP (2016). Retrieved from <http://study.com/academy/lesson/muscle-metabolism-processes-to-generate-atp.html>
- Namblar, Bindu. (2011. Oct 6). *3 Basic Energy Systems To Perfect Goal Oriented Exercise*. Retrieved from <http://www.bodybuilding.com/fun/3-energy-systems-help-trainer.htm>
- Exercise Energy Systems. (2016). Exercise Energy Systems. Retrieved from <http://www.shapesense.com/fitness-exercise/articles/exercise-energy-systems.aspx>
- Sports and Nutrition: Fueling You Performance. (2015. July 13). Retrieved from <http://youngwomenshealth.org/2013/07/23/sports-nutrition/>
- IRubric Short Answer. Retrieved from <http://rubistar.4teachers.org/>

Lesson 3: Let's Be Health Aware!

Objectives:

At the end of the lesson, the students should be able to:

1. Enumerate the effects of bad health habits
2. Enumerate and explain best practices in maintaining good health habits
3. Write a persuasive essay about maintaining healthy habits

Activity 1: Describe Me in My Picture

Directions: Ask the students to describe the person in the picture below. Use the space provided for their thoughts. Ask them what may have caused the person to be that way. Let them do this activity for 10 minutes.



Reading:

Many of us try to live a healthy lifestyle. We do various things to become fit and to achieve our desired physique — oftentimes without first knowing and understanding the consequences. Our health becomes at risk and prone to different risks that can affect our capacity to do daily physical activity. We need to realize that there are some common health practices — particularly when dealing with stress— that need to be corrected right away, especially among the young ones. Some stress-coping measures affect or show in a person's eating or sleeping habits.

Eating Habits, Sleep, and Stress Management: What Goes Wrong?

Eating Habits

We can always eat the food that we want. There is nothing wrong with eating. It only goes wrong if we consume less or more than what our body needs; also when we eat unhealthy food. This can lead to being underweight, overweight, or even obese. It is alarming to see that many are suffering from malnutrition, overweight, and obesity.

Underweight people are often found to suffer from malnutrition due to lack of adequate nutrients in the body. Many of them do not get the right amount of calories to fuel their bodies thus, they tend to lack the energy to do regular tasks at home, school, and work. Their immune system also gets weak and compromised, making them prone to health risk issues such as anemia and osteoporosis.

Anorexia nervosa is an eating disorder wherein a person is abnormally underweight, has an intense fear of gaining, and an abnormal understanding of body weight, often due to coping with emotional problems stemming from self-worth.

People with anorexia use extreme efforts to prevent weight gain and keep on losing weight by restricting food intake, exercising excessively, or misusing diet aids, diuretics, and laxatives. These tend to significantly interfere with activities in their lives.

(<http://www.mayoclinic.org/diseases-conditions/anorexia/home/ovc-20179508>)

Overeating is also found to be one of the leading causes of overweight and obesity. Eating too much, especially processed food and sugary drinks, coupled with a sedentary lifestyle contribute significantly to weight gain. The calories consumed, particularly from fats and sugars, have to be burned off through physical activity or exercise. Otherwise, these calories will be just be stored in the body as fat.

Overweight and obese people often encounter a lot of physical and emotional struggles in their daily lives. They often have a hard time doing simple tasks such as tying their shoelaces or walking up a short flight of stairs. They also find themselves the subject of bullying. Furthermore, they are also at risk of developing other health conditions such as cardiovascular diseases, diabetes, among others.

Sleep Management

Sleep is essential to everyone's health. Normally, we need about 6 to 8 hours of night sleep everyday to allow the body to rest and regenerate. When we wake up in the morning after a good night's sleep, we feel fresh and energetic. We become effective and productive in our daily activities. However, a lot of people, in particular teens, practice bad sleeping habits such as the following:

- 1. Staying up all night** - This is the most common bad sleeping habit of most people. In order to submit a project, a paper, or some other work at the last minute, they cram to finish it, staying up all night until they are done. Some people just spend the night reading or doing other stuff that they just do not want to postpone for another time.
- 2. Internet Addiction** - Social media is massively addictive. Many people would spend a lot of their time browsing social media sites such as Facebook and YouTube. They are awake all night to converse and play with their friends and forgo sleeping on time. This results in tiredness and unproductiveness in work, in school, and even at home.
- 3. Eating Before Sleeping** - Eating could be one of the things we do that give us comfort—but should be discouraged just before bedtime. Eating before sleeping can cause discomfort preventing us from falling asleep easily. When we eat too close to our bedtime, it means that we go to our bed while digesting. This can cause acid reflux which makes a person lose sleep. It is best to eat 4 hours before falling asleep so we can be sure that our digestive system has done its job.

Stress Management

We need to deal with the fact that stress is part of our lives. Stress happens for many reasons – environmental factors, fatigue, too much work, illness, and loneliness. It is inevitable; hence, needs to be handled properly. Handling stress seems to be tough to do but we need to learn how to cope with it the right way. If not properly dealt with, it can lead to many health concerns—difficulties in sleeping, poor immunity, hypertension, and even heart disease. One may also perform poorly in physical activities because of stress. However, while some may be able to deal with stress, others may not and resort to ineffective—or worst, unhealthy—means of dealing with stress.

Examples of such means that can be detrimental to health are the following:

1. Smoking
2. Bad Eating Habits – Skipping meals and/or overeating
3. Excessive alcohol intake
4. Excessive sleeping
5. Procrastinating – Trying to hide and escape the problem using delaying tactics rather than facing the problem

According to the World Health Organization, in 2012, out of 56 million deaths worldwide, 38 million were due to cardiovascular diseases. Knowing this, making the decision to be aware of our health and to change to a healthier lifestyle—through balanced diet, regular physical activity, and enough sleep—would be to our advantage.

Activity 2: “Let’s Be Health Aware” Essay

In this activity, the students should understand the effects of various bad health habits and find ways or solutions towards maintaining good health habits.

Directions: Let the students imagine that they are writers in a Health Magazine. Instruct them to write a persuasive essay that talks about health awareness. Emphasize that you want an article that points out bad health habits and ways to change them. Let them also come up with best practices for maintaining good health. The article should be brief and easy to read. Use rubric given below. Let the students do this in 20 minutes.

CATEGORY	4 - Above Standards	3 - Meets Standards	2 - Approaching Standards	1 - Below Standards	Score
Position Statement	The position statement provides a clear, strong statement of the author's position on the topic.	The position statement provides a clear statement of the author's position on the topic.	A position statement is present, but does not make the author's position clear.	There is no position statement.	
Support for Position	Includes 3 or more pieces of evidence (facts, statistics, examples, real-life experiences) that support the position statement. The writer anticipates the reader's concerns, biases or arguments and has provided at least 1 counter-argument.	Includes 3 or more pieces of evidence (facts, statistics, examples, real-life experiences) that support the position statement.	Includes 2 pieces of evidence (facts, statistics, examples, real-life experiences) that support the position statement.	Includes 1 or fewer pieces of evidence (facts, statistics, examples, real-life experiences).	
Accuracy	All supportive facts and statistics are reported accurately.	Almost all supportive facts and statistics are reported accurately.	Most supportive facts and statistics are reported accurately.	Most supportive facts and statistics were inaccurately reported.	
Evidence and Examples	All of the evidence and examples are specific, relevant and explanations are given that show how each piece of evidence supports the author's position.	Most of the evidence and examples are specific, relevant and explanations are given that show how each piece of evidence supports the author's position.	At least one of the pieces of evidence and examples is relevant and has an explanation that shows how that piece of evidence supports the author's position.	Evidence and examples are NOT relevant AND/OR are not explained.	

Summary

Skipping meals, overeating, too much intake of processed food, lack of sleep, staying up late, and the inability to cope with highly stressful environment are all part of having an unhealthy lifestyle. This can lead to failure in performing daily tasks as these affect the physical and even emotional state of a person. Being exposed to a prolonged state of stress may compromise our immune system and even lead to health conditions such as cardiovascular diseases, diabetes, and cancer. It is therefore a wise to be aware of your health and to correct bad health practices as early as now—or suffer the consequences.

References

- 9 Bad Eating Habits and How To Break Them.* (2014. Jan 13). Retrieved from <http://www.everydayhealth.com/diet-and-nutrition-pictures/bad-eating-habits-and-how-to-break-them.aspx>
- Martinez, Eliza. What Are The Dangers of Being Underweight?.* Retrieved from <http://healthyliving.azcentral.com/dangers-being-underweight-8137.html>
- What are the Health Risks of Overweight and Obesity?.* Retrieved from <https://www.nhlbi.nih.gov/health/health-topics/topics/obe/risks>
- Obesity and Overweight.* (2015. Jan). Retrieved from <http://www.who.int/mediacentre/factsheets/fs311/en/>
- Causes of Obesity.* (2016. Jun 15). Retrieved from <http://www.nhs.uk/Conditions/Obesity/Pages/Causes.aspx>
- Five Bad Sleeping Habits That You Should Stop Doing Right Now.* (2014. July 14) Retrieved from <https://saalemph.wordpress.com/2014/07/14/five-bad-sleeping-habits-you-should-stop-doing-right-now/>
- Stress Management: Unhealthy Ways of Coping Stress.* (2015). Retrieved from <https://stress.knoji.com/stress-management-unhealthy-ways-of-coping-with-stress/>
- Healthy Ways To Gain Weight If You're Underweight.* (2011. Sep). Retrieved from <http://familydoctor.org/familydoctor/en/prevention-wellness/food-nutrition/healthy-food-choices/healthy-ways-to-gain-weight-if-youre-underweight.html>
- What is Anorexia Nervosa?.* (2016). Retrieved from <http://www.mayoclinic.org/diseases-conditions/anorexia/home/ovc-20179508>
- Balentine, Jerry R. (DO, FACEP). *Obesity.* (2015. Dec 9). Retrieved from http://www.medicinenet.com/obesity_weight_loss/page3.htm
- Consequences of Obesity.* (2014). Retrieved from <https://www.more-life.co.uk/Default.aspx?PageName=Consequences+of+Obesity>
- Eikermann, Doug. *Twenty Disadvantages to Being Overweight.* (2013). Retrieved from <http://slingingthebull.com/twenty-disadvantages-to-being-overweight/>
- Cline, John D. (Ph.D). *Sleep and the Internet Addict.* (2011. Sep 11) Retrieved from <https://www.psychologytoday.com/blog/sleepless-in-america/201109/sleep-and-the-internet-addict>
- Elgan, Mike. *Social Media Addiction Is A Bigger Problem Than You Think.* (2015. Dec 14). Retrieved from <http://www.computerworld.com/article/3014439/internet/social-media-addiction-is-a-bigger-problem-than-you-think.html>
- World Health Organization Fact Sheet (2014, May) retrieved from <http://www.who.int/mediacentre/factsheets/fs310/en/index2.html>

Lesson 4: Eat Right for a Healthy Life

Objectives:

At the end of the lesson, the students should be able to

1. Identify and explain different eating habits
2. Assess eating habit through a self-check
3. Create a weekly meal planner

Activity 1: 4 Pics 2 Words

Directions: Ask the students to what the four pictures have in common by filling in the missing letters in blanks provided. Let them do this activity in 5 minutes.

Answer:

**E A T I N G
H A B I T**



Processing Questions

1. What are your eating habits? Do you eat a lot or less? Why?
2. How does food help you in doing your tasks in school?
3. What do you mean by bad eating habit? Explain

Reading:

Eating is part of our daily routine. We eat food to increase our energy, to replenish our strength, and to power our minds to think more clearly to handle problems. In our country, it has been tradition to prepare delicious food during celebrations—which happens several times in a year. During these times, most of us would pile up our plate with every type of food we see, and will not realize until later that we have already consumed a large amount of food. This shows that we usually don't mind the amount of food that we eat. Some people choose to eat only a certain food group. Vegetarians, for example, choose to eat only fruits and vegetables. Others vary the food they eat and how they eat according to factors such as culture, location, age, and/or state of fitness or health. Each of us has preference in the type of food we chose and the way we eat. There are four types of eating we should know of and understand.

Four Types of Eating That You Should Know

Fueling for Performance

Before heavy training, an athlete needs the right kind of food that can provide the proper fuel for his or her energy requirement. There should be a balance among all food groups: carbohydrates, protein, fats, minerals, vitamins, and water that will provide the body what it needs for an effective and optimum performance. Athletes usually practice this sort of structured diet for good body composition, athletic performance, and recovery. In addition, athletes need to eat a variety of food to stabilize the condition of the body. They need to eat regular meals and snacks and get enough calories to fuel the body for training and athletic events. Athletes also need to drink more fluids as compared to non-athletes. This helps them to avoid dehydration which can cause dizziness, muscle cramps, and lightheadedness.

Emotional Eating

Emotional eating is the practice of consuming large amounts of food in response to emotions instead of hunger. Many people turn to food as a source of comfort, a stress reliever, or as a reward. Eating as a coping mechanism is unhealthy because the problem is not addressed. Eating makes someone feel better for a while but the emotion (or its cause) remains unaddressed. Overcoming this unhealthy habit means teaching an emotional eater healthier ways to deal with stress and to develop better eating habits. If it is not resolved, emotional eating can lead to obesity and weight gain.

Social Eating

Many times in our lives, we get invited to partake of all the scrumptious food on the table during celebrations. Oftentimes, we indulge even if we are not hungry for the sake of being sociable and to not offend the host or the group. This is called Social Eating. Sometimes, peer pressure is the reason why one feels compelled to consume more calories than planned. Social eating can directly affect a person's health, leading to obesity and other health-related problems. While most of us try to maintain a good eating habit, attending social events with lots of eating can get in the way. This only makes a healthy eating habit difficult to maintain.

Distracted Eating

Have you tried eating while watching your favorite show or sports team on TV? Eating while watching TV for extended periods of time poses a serious risk to your health. Many do not pay attention to their meal as they are distracted with what they are watching, thus they tend to eat more. Others spend time eating junk food, sweets and soft drinks while watching TV. This type of diet leads to overweight, obesity, and even increased risk to diseases like diabetes and hypertension. Aside from consuming too much food, it promotes an unhealthy lifestyle—leading a sedentary lifestyle rather than going out and doing physical activities.

Eating is important but we must learn to manage it properly. Too much or too little food consumed is unhealthy. It is better to maintain a balanced diet and healthy lifestyle to prevent illness. No one has control over our eating habits except ourselves.

Activity 2: Self-Check

In this activity, the students should know the difference between the four types of eating through self-check.

Directions: Ask each student to reflect and assess his or her eating habit by writing “Yes” or “No” on table below. Tell them to do the self-check activity for 5 minutes.

My Eating Habits	Yes/No
1. I go to the party and eat a lot with my family or friends.	
2. I don't mind if I eat a lot.	
3. I make sure that I don't eat before doing my exercises.	
4. Food is my stress reliever.	
5. Whenever I'm happy, I love to eat.	
6. I eat less when I am depressed.	
7. I feel compelled to eat every time we have a celebration.	
8. I don't eat food when I'm watching TV or any sport event.	
9. I eat my meals regularly. I make sure that I don't skip any meal.	
10. I eat more than three meals in a day.	

Activity 3: I Realize

In this activity, students should be able to understand the effects of bad and good eating habits.

Directions: Ask the students to answer the following questions. Instruct them to refer to their answers in the Activity 2 self-check. Tell them to finish the activity in 10 minutes.

1. Do you have a healthy eating habit? Why do you say so?
2. In your self-check, what are some eating habits you think should change? Why?
3. What eating habits should you continue? Why?

Below is the rubric provided you can use in assessing the answers of your students.

	Needs improvement 1 pts	Approaching standards 2 pts	Good 3 pts	Excellent 4 pts
Ideas and Content	There is no clear or specific explanation in answer to the question.	You put thought into this, but there is no real evidence of learning. More specific information is needed or you need to follow the directions more closely.	What you are writing about is clear. You answered the question. Some support may be lacking, or your sentences may be a bit awkward. Overall, a decent job.	What you are writing about is clear and well-expressed, including specific examples to demonstrate what you learned. Well done!
Use of terms	No terms from the lesson are used.	Only one term from the lesson is used in the answer. Try for a few more, next time.	Your answer included several terms from the lesson, demonstrating adequate understanding of the material.	Your answer included all the terms from the lesson that applied to the question asked. All terms are fully

	Needs improvement 1 pts	Approaching standards 2 pts	Good 3 pts	Excellent 4 pts
				defined and used in the proper context.
Sentence Fluency	Sentences are incomplete or too long. It makes reading them difficult.	Some sentences are complete and easy to understand. Others require some work.	Sentences are complete and able to be understood.	Sentences are complete and they connect to one another easily when they are read out loud. Your writing 'flows.'

Processing Questions

1. Why is it important to have a healthy eating habit?
2. Cite benefits of healthy eating habits. How will that help you in performing a task?
3. How will you promote healthy eating habit in the school? In the community?

Activity 4: My Weekly Meal Planner

In this activity, the students should know how to choose the right food by making a food guide or a weekly meal planner.

Directions: Ask the students to make a weekly meal planner by filling out the table below. Ask them to schedule the food that they will eat from Monday to Sunday. Provide example to start. Let them do this task in 20 minutes.

Meal	<i>Monday</i>	<i>Tuesday</i>	<i>Wednesday</i>	<i>Thursday</i>	<i>Friday</i>	<i>Saturday</i>	<i>Sunday</i>
Breakfast	Fried Egg 1 cup of rice Water						
Lunch	" <i>Sinigang na Baboy</i> " 1 cup of Rice Water						
Snacks	Banana Cue, Water						
Dinner	" <i>Pinakbet</i> " Fried Fish 1 c up of Rice Water						

Summary

Eating is important. We need to eat for us to perform well. In this lesson, we have learned that people have different eating habits.

- Fueling for Performance - Athletes follow a structured diet for good body composition, athletic performance, and recovery. They eat a balanced diet of carbohydrates, protein, fats, minerals, and vitamins to be effective in their performance.
- Emotional Eating - It is habitually consuming large amount of food in response to emotions instead of hunger. Food is seen as a source of comfort, stress reliever, or reward to make one feel better.
- Social Eating - This is eating with peers just for the sake of being sociable. Peer pressure is the main reason why one feels compelled to consume more calories than what is planned.
- Distracted Eating – People who spend more time eating while watching TV is prone to being overweight, obese, and increased risks to diseases like diabetes and hypertension. Too much TV-watching and making it part of one's lifestyle is unhealthy because it makes a person spend less time in doing physical activities.

References

- 9 *Bad Eating Habits and How to Break Them*. (2014. Jan 13). Retrieved from <http://www.everydayhealth.com/diet-and-nutrition-pictures/bad-eating-habits-and-how-to-break-them.aspx>
- Berger, Vincent. (2005). *Emotional Eating*. Retrieved from http://www.psychologistanywhereanytime.com/weight_and_eating_disorders/psychologist_weight_emotional_eating.htm
- Causes of Obesity*. (2016. Jun 15). Retrieved from <http://www.nhs.uk/Conditions/Obesity/Pages/Causes.aspx>
- Edwards, Roxanne D. (MD). *Emotional Eating*. (2016. Apr 1). Retrieved from http://www.medicinenet.com/emotional_eating/article.htm
- Franklin, Lauren. (2013. Sep 29). *Social Eating Poses Serious Problems for College Students*. Retrieved from <http://www.dailytexanonline.com/opinion/2013/09/29/social-eating-poses-serious-problems-for-college-students>
- LeWine, Howard (M.D). (2013. Mar 29). *Distracted Eating May Add To Weight Gain*. Retrieved from <http://www.health.harvard.edu/blog/distracted-eating-may-add-to-weight-gain-201303296037>
- Nordqvist, Christian. (2015. Oct 1). *The Eight Most Popular Diets Today*. Retrieved from http://www.medicalnewstoday.com/articles/5847.php#vegetarian_diet
- Ovuorie, Tobore. (2014. Sep 5). *Watching TV While Eating Bad for Health- Nutritionist*. retrieved from <http://www.premiumtimesng.com/arts-entertainment/167760-watching-tv-while-eating-bad-for-health-nutritionist.html>
- Sheehan, Krista. *What Does a Vegetarian Diet Consist Of?*. Retrieved from <http://healthyeating.sfgate.com/vegetarian-diet-consist-of-2568.html>
- Smith, M., Segal, J., and Segal R. (2016. Apr). *Emotional Eating VS Mindful Eating*. Retrieved from <http://www.helpguide.org/articles/diet-weight-loss/emotional-eating.htm>
- Social Eating*. (2012. Feb 27). Retrieved from <http://www.urbandictionary.com/define.php?term=social+eating>
- Sports and Nutrition – Fueling Your Performance*. (2015. Jul 13). Retrieved from <http://youngmenshealthsite.org/guides/sports-nutrition/>
- Study Suggests TV Watching Lowers Physical Activity*. (2006. Jul 31). Retrieved from <https://www.sciencedaily.com/releases/2006/07/060731165525.htm>
- What Are the Health Risks of Overweight and Obesity?*. (2012. Jul 13). Retrieved from <https://www.nhlbi.nih.gov/health/health-topics/topics/obe/risks>

Lesson 5: Managing Stress through Physical Activity

Objectives:

At the end of the lesson, the students should be able to:

1. Discuss stress and its symptoms
2. Identify the benefits of physical activity in coping with stress
3. Make an information sheet material in managing stress

Pre-Activity: What bothers you?

Directions: For 5 minutes, let the students list down their experiences from the previous week that made them feel uncomfortable. Let them describe the way they cope with the uncomfortable experiences they had using the table below.

Places	Uncomfortable / Demanding Situation	Actions you took to make yourself feel better
Home		
School		
Community		

Reading:

Stress and its Characteristics

In the daily challenges of life, individuals often encounter discomfort—circumstances and events that disturb one’s physical, mental, and emotional states. The body’s response to the discomfort it experiences is called **stress**. Stress is the body’s way of reacting to an external stimulus such as a discomfort. It activates the sympathetic nervous system, which brings about a fight or flight response wherein cortisol and adrenaline is released into the bloodstream. These hormones stimulate your heart to pump faster, making your blood pressure rise. Your muscles start to contract, your breathing quickens, and your senses become more sensitive. These changes in your body caused by stress increases your stamina and strength, makes you react quickly, and keeps you more focused.

Stress affects all—it is part of one’s life. The human body and its system are equipped to respond to stress. Most of the events that happen to you and around you contribute stress to your body.

The effects of stress differ for each individual, based on their ability to adjust to certain changes from the environment and the people around them. Some are able to cope easily, but others have hard time.

On the one hand, stress can be helpful for it can keep a person alert and set to avoid vulnerability. On the other hand, it becomes detrimental when a person is subjected to stress without relief or relaxation between situations. Stress-related tension may build up and consume the person. A negative stress reaction is referred

to as **distress**. Distress triggers mental, emotional and physical problems and, even worse, certain symptoms or diseases.

Symptoms of Stress

Emotional

- Nervousness, gets easily upset, moody
- Overwhelming feeling and sometimes uncontrollable experience in relaxing the mind
- Low-self esteem, loneliness and the feeling of being worthless

Mental

- Lack of focus
- Disturb mind setting

Physical

- Weak and lesser strength, easily gets cold and infection
- Headache
- Upset stomach, including diarrhea and constipation
- Loss of appetite
- Aches, pains, tense muscles
- Sleeplessness

Coping with Stress through Physical Activity

Stress is inevitable and eliminating it entirely from one's life is impossible. Changes in daily events are beyond any person's capacity. However, one's reaction to stressful changes can be managed. Regular exercise is sometimes done to cope with stress. Spending time with friends or family, sleeping, watching movies, as well as listening to music, also work. These coping techniques are said to be of help but most health professionals recommend participation and engagement in physical activity and exercise as preferred strategy.

Many of the physical symptoms of stress can be managed through physical activity. **Physical activity** is defined as any bodily movement that works your skeletal muscles and physical skills, that requires strength and energy expenditure. This includes any motion performed throughout the day. Walking, running, dancing, swimming, yoga, and gardening are a few examples of physical activity.

Types of Physical Activity

1. **Aerobic** - light to moderate-intensity physical activity that requires more oxygen than sedentary behavior, and thus promotes cardiovascular fitness and other health benefits (e.g., weight bearing exercises like jumping rope, cycling, swimming, running playing football, basketball, or volleyball).
2. **Anaerobic** - high-intensity physical activity that is done in a short duration of time requiring high energy. Anaerobic activities are strength-base activities in the absence of oxygen (e.g., sprinting during running, swimming, or cycling) requires maximal performance during the brief period.
3. **Lifestyle** - physical activities which have been a part of our daily routine (e.g., walking, climbing stairs, sweeping or raking the yard), which is usually light to moderate in intensity.

4. **Physical activity play** - an intense play activity that requires substantial energy expenditure (e.g. playing tag, jumping rope).
5. **Play** - simple and self-reflected activities with flexible rules for the purpose of enjoyment.
6. **Sports** - a physical activity requiring skill and physical prowess that is governed by set of rules and regulations that is often done in a competition. There are two categories of sports: individual and team.

Physical Activities Mechanism in Coping with Stress

Keeping your body physically active can help **improve overall disposition, increase the release of endorphins** and **offer meditation-like qualities**. Exercise can also **reduce the fight or flight response often triggered by stress**.

Mood Booster

Engaging in physical activity can improve moods and make us feel better, increasing self-confidence, thus reducing stress. Exercise can also improve our quality and ability to sleep, resulting in a fully rested body which can definitely have a positive impact on our overall disposition and cognitive function.

Endorphin Release

Participating in physical activity can result in an increase in endorphin levels. Endorphins are chemicals or neurotransmitter hormones that are secreted from the brain and nervous system. It activates the body's opiate receptors thus it has analgesic properties that can make you feel good. It also gives a person the feeling of achievement and being in control.

Mind Stimulator

Exercise can be a form of meditation. While involved in an engrossing physical activity, we may find that we are concentrating strictly on the physical work. We tend to forget the problems and worries you have at present. With this, our mind is somehow freed and stimulated to work and find solutions to our stress.

Reduction of Fight or Flight Response

Stress, either big or small, activates our flight or fight response and in doing so, deluges our body with different hormones including cortisol, adrenaline, and noradrenaline. Over-secretion of these hormones is brought about by stress, thus must be controlled and returned to normal state. Otherwise it could interfere with body functions leading to adrenal fatigue. Physical activity or movement metabolizes the hormones triggered by stress, processing these chemicals and returning them to normal levels. Once these hormones have been metabolized, the level of homeostasis improves, regulating the internal conditions of the body, thus bringing in a state of balance and stability. In this manner, we feel calm and ready to gear up and face the world once again.

Activity 1: Be a stress manager!

Directions:

1. With a partner, instruct the students to interview 15 other classmates and ask about their sources of stress, and what they do to cope with it.
2. Ask them to make graphs, tables, and charts to help them interpret their data. Ask them to present their findings in an oral report and to give recommendations in managing stress through physical activity.
3. Instruct them to produce their own information sheet on stress management to be given to their peers to help them manage their stress too.

Activity 2: Checking what's on your mind.

Directions: Let the student do this in a whole sheet of paper.

1. Participation in physical activity helps in managing stress by _____.
2. Why is the release of hormones and its processes important to stress response?
3. When I am in a stressful situation, I'll find time to _____ because _____.

Summary

Engaging in physical activity and participating in sports have significant benefits to our health. It is acknowledged as one of the most effective strategies for managing stress.

Living an active life through physical activity can help in elevating your mood and activating our body parts resulting to improvement in overall disposition. The body system functions to increase release of endorphins also known as a 'natural pain-killer'. Also, concentrating on the physical activity offers meditation-like qualities where your focus is on the movement giving you a sense of relief, free from worries and stress.

Physical activity and movement metabolize and process stress-generated hormones returning it to normal levels reducing further symptoms of stress.

References:

- Physical Activity Reduces Stress (April 17,2016) retrieved from <http://www.adaa.org/understanding-anxiety/related-illnesses/other-related-conditions/stress/physical-activity-reduces-st>
- What is Physical Activity retrieved (April 17,2016) from <https://www.k-state.edu/kines/kineseducation/whatispa.html>
- Stress Management Health Centre. Retrieved (April18,2016) <http://www.webmd.boots.com/stress-management/physical-stress-symptoms>
- White, Mary Gormandy, M.A., SPHR - Corporate Trainer & Consultant "Physical Activity and Stress Management" (April 17,2016) retrieved from <http://stress.lovetoknow.com/physical-activity-stress-management>
- What is stress? Retrieved (April 18,2016) from <http://www.helpguide.org/articles/stress/stress-symptoms-causes-and-effects.htm>
- Exercise for Stress and Anxiety retrieved (April 18,201) from <http://www.adaa.org/living-with-anxiety/managing-anxiety/exercise-stress-and-anxiety>

Lesson 6: Self-testing Activity for a Healthy Me!

Objectives:

At the end of the lesson, the students should be able to:

1. Discuss the significance of assessing health–related fitness component
2. Administer self–assessment on health–related fitness (HRF), barriers on physical activity, and on one’s diet
3. Reflect on the test results and suggest future plans for improvement

Processing Question: What is the significance of assessing health-related fitness?

Keeping the body physically active enables the body systems to function properly with vigor and alertness. Staying in shape allows the individual to perform daily tasks efficiently and effectively resulting to better output and performance.

Pre-activity: Getting ready for Physical Activity

Directions: Prior to any physical activity, it will help to know the students’ general health status through the Physical Activity Readiness (PAR–Q) & YOU questionnaire. Ask the students to fill-up the PAR-Q and to answer the questions honestly. *This questionnaire, if given before participation in physical activity, can be of use for legal or administrative purposes.*

Physical Activity Readiness Questionnaire - PAR-Q (revised 2002)		PAR-Q & YOU	
Regular physical activity is fun and healthy and increasingly more people are starting to become more active every day. Being more active is very safe for most people. However, some people should check with their doctor before they start becoming much more physically active.			
If you are planning to become much more physically active than you are now, start by answering the seven questions in the box below. If you are between the ages of 15 and 69, the PAR-Q will tell you if you should check with your doctor before you start.			
Common sense is your best guide when you answer these questions. Please read the questions carefully and answer each one honestly: check YES or NO.			
YES	NO		
<input type="checkbox"/>	<input type="checkbox"/>	1. Has your doctor ever said that you have a heart condition and that you should only do physical activity recommended by a doctor?	
<input type="checkbox"/>	<input type="checkbox"/>	2. Do you feel pain in your chest when you do physical activity?	
<input type="checkbox"/>	<input type="checkbox"/>	3. In the past month, have you had chest pain when you were not doing physical activity?	
<input type="checkbox"/>	<input type="checkbox"/>	4. Do you lose your balance because of dizziness or do you ever lose consciousness?	
<input type="checkbox"/>	<input type="checkbox"/>	5. Do you have a bone or joint problem (for example, back, knee or hip) that could be made worse by a change in your physical activity?	
<input type="checkbox"/>	<input type="checkbox"/>	6. Is your doctor currently prescribing drugs (for example, water pills) for your blood pressure or heart condition?	
<input type="checkbox"/>	<input type="checkbox"/>	7. Do you know of any other reason why you should not do physical activity?	

Physical Fitness Testing

Assessing one's health status will help the person know about one's strengths and weaknesses. Awareness of individuals' health-related fitness and its relevant interpretations will aid the person to efficiently create an action plan in observing a healthy lifestyle and selecting appropriate activities for areas that need improvement.

Instruct the students to be in proper attire, prepare needed materials, and get ready to perform the following activities.

Activity 1: Self-testing Activities for Health-related fitness

I. Anthropometric Measurements

Purpose:	To measure body composition
Equipment:	weighing scale, tape measure
Goal:	Take body measurements
Preliminary:	Prepare needed materials

Procedure:

1. *Height.* Stand with trunk straight. Measure the distance from the floor to the top of the forehead. Record the score in centimeters (cm).
2. *Weight.* Stand on a weighing scale free from any object for weight accuracy. Record in kilograms (kg).
3. *Waistline.* Locate your upper hipbone. Find the proper spot by placing your hands around your waist, squeezing slightly, and then moving your fingers downward until you feel the top curve of your hips. Place a tape measure around your bare stomach just above the upper hipbone. Record in centimeters (cm).
4. *Hipline.* Place tape measure in the widest part of hip in line with the pubis.
5. Computation/s
 - a. Body Mass Index (BMI) - measure of body mass based on height and weight that aid in determining weight categories.

$$\text{BMI} = \frac{\text{Weight in kg}}{(\text{Height in m}) \times (\text{Height in m})}$$

- b. Waist to Hip Ratio (WHR) - measure stored body fats percentage by the relative measurement of waist and hip

$$\text{WHR} = \frac{\text{Waist Circumference (cm)}}{\text{Hip Circumference (cm)}}$$

II. 3-Minute Step Test

Purpose:	Test for Cardiovascular Endurance level based on how quickly your heart rate will come back down after a physical activity
Equipment:	stopwatch, 12-inch bench box, a metronome
Goal:	In a constant pace, step on and off the bench for 3 minutes straight

Procedure:

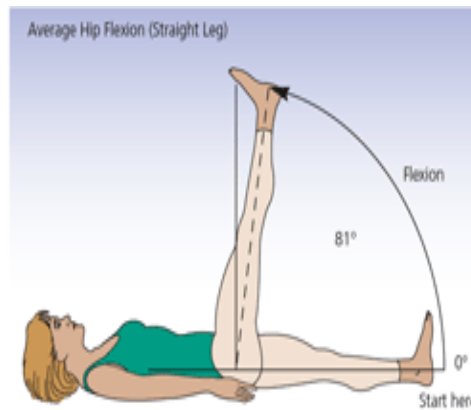
1. Stand close to the 12-inch bench box while your partner sets the metronome in 96 beats per minute (bpm).
2. When ready to begin, start the stopwatch, step one foot at a time to the beat (up, up, down, down). When 3 minutes is up, stop immediately and get your pulse rate.
3. Record the Exercise Heart Rate: _____ bpm

III. Hamstring and Hip Flexor Test

Purpose: To test flexibility of the hamstring and hips
Equipment: protractor
Goal: Keeping both legs straight, lift one leg to the maximum angle while the other leg remain flat on the floor
Preliminary: Illustrate angles on a poster board and paste it on the wall.

Procedure:

1. Lie on your back on the floor beside a wall.
2. Slowly lift one leg off the floor. Keep the other leg flat on the floor.
3. Keep both legs straight.
4. Continue to lift the leg until either leg begins to bend or the lower leg begins to lift off the floor.
5. Place a yardstick against the wall to mark the spot to where the leg was lifted. Lower the leg.
6. Using a protractor, measure the angle created by the floor and the yardstick. The greater the angle the better your score.
7. Repeat with the other leg.



IV. Zipper Test

Purpose: Test for the shoulder flexibility
Equipment: tape measure
Goal: Raise one arm across your back with bent elbow and fingers reaching down
Preliminary: Prepare needed materials



Procedure:

1. In a standing position, raise one arm across your back, bend the elbow and reach down as far as possible. Simultaneously, bring the other arm down behind the back trying to cross fingers over those with the other hand.
2. Measure the distance of overlapped fingers in cm. If they fail to meet, score it as a minus or <0. Write zero if the fingertips just touched with no overlap.
3. Repeat the procedure with the other hand. Record the score.

V. Curl-up (Dynamic)

Purpose:	Test abdominal muscles strength and endurance
Equipment:	mat, adhesive tape
Goal:	Perform curl-up with proper pacing (3 seconds per curl)
Preliminary:	Prepare the mat. Place two tape marks 4 ½ inches apart on the floor.

Procedure:

1. Sit on a mat in a long sitting position. Bend your legs more than 90 degrees with feet remaining flat on the floor.
2. Lay down with arms extended at the sides, palm facing down with fingers extended touching the 1st tape mark.
3. From that position, curl your trunk up with heels in contact with the floor until your fingers reach the 2nd marker.
4. Upon reaching the second marker, lower back to the starting position. Repeat one-curl up every 3 seconds.
5. Continue the curl-ups and stop when you are unable to keep the pace. Record the number of repetitions.



Tape marks, 4 ½ inches apart

<http://www.mansionathletics.com/us-games-curl-up-mat-1388274-exercise-fitness-coaching-assessment.htm>

VI. 90-degree Push-up (Dynamic)

Purpose:	Test for the strength and endurance of the upper arm muscles
Equipment:	mat
Goal:	To perform a proper push-up
Preliminary:	Prepare needed material

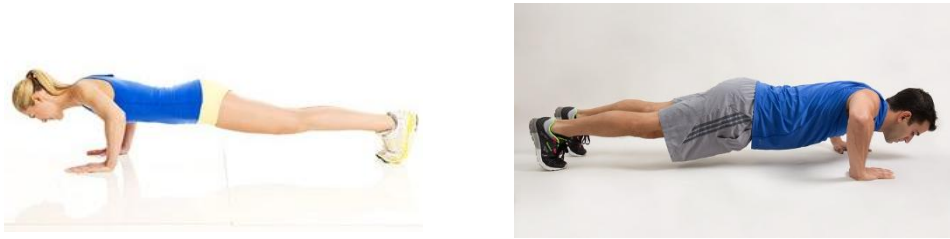
Procedure:

1. From prone lying position, place the hands just outside the shoulders with elbows bent.
2. *Males:* Support the body in a push-up position from the toes with back, hip and legs align.
Females: Support the body in a push-up position from the knees instead of toes, with back, hip, and legs aligned.
3. Lower the body until the upper arm is parallel to the floor or a 90 degrees angle of the bent elbow.
4. Repeat as many times as possible.

VII. Flexed-Arm Support (Static)

Purpose:	Test the muscular strength of the shoulder and upper arm
Equipment:	mat, stopwatch
Goal:	Hold the push-up position not more than 35 seconds

Procedure:



1. Use the Push-up procedure 1 & 2 for preparatory position. From the starting position, lower the body until the upper arm is parallel to the floor and elbow flexed at 90 degrees (see images above).
2. Hold the position as long as possible.
3. Record the obtained holding position.

Measuring your fitness level is one way to find out your level of physical fitness. Below are references for interpretation.

BMI Categories: Underweight = <18.5 Normal weight = 18.5–24.9 Overweight = 25–29.9 Obesity = BMI of 30 or greater	Waist to Hip Ratio	Men	Women
	Ideal	0.8	0.7
	Low risk	<0.95	<0.8
	Moderate Risk	0.96 – 0.99	0.81 – 0.84
	High Risk	>1.0	>0.85

Rating Scale for Dynamic Muscular Endurance

Age16-26	Male		Female	
	Curl-ups	Push-ups	Curl-ups	Push-ups
High Performance Zone	Can do more than 35	Can do more than 29	Can do more than 25	Can do more than 17
Good fitness zone	24-34	20-28	18-24	12-16
Marginal Zone	15-23	16-19	10-17	8-11
Low Zone	14 and below	15 and below	9 and below	7 and below

Rating Scale for Static Endurance

Classification	Score in seconds
High- performance zone	30 and above
Good fitness zone	20 – 29
Marginal Zone	10 - 19
Low Zone	10

Rating Scale for Flexibility

Classification	Men		Women	
	Shoulder Flexibility (inches)	Hamstring & Hip Flexor Flexibility (degrees)	Shoulder Flexibility (inches)	Hamstring & Hip Flexor Flexibility (degrees)
High Performance	R 5+ L 4+	111 & above	R 6+ L 5+	111 & above
Good Fitness Zone	1-4 1-3	80-110	2-5 2-4	80-110
Marginal Zone	0 0	60-79	1 1	60-79
Low Zone	<0 <0	<60	<1 <1	<60

Activity 2: Self-Assessment Card: Health-related fitness status

Directions: Tell the students to fill up necessary information needed. Interpretations will be based on the chart above. Complete the column for analysis/implications in two or three sentences only.

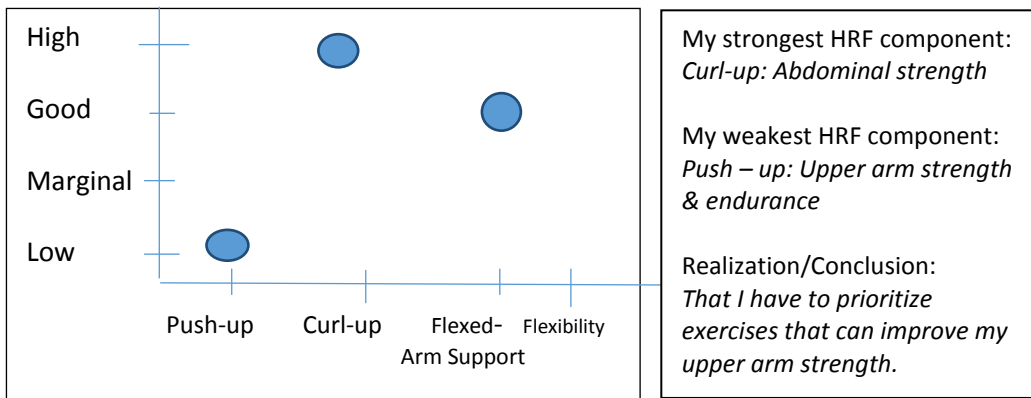
1. Body Composition

Test	BMI Result Interpretation	Analysis
BMI		
Waist to hip Ratio		

2. Cardiovascular Endurance

3- minute Step Test	Recovery PR & Interpretation	Implications

3. Muscular Strength, Endurance, Flexibility



Mark with a dot the performance description obtained.

Health-related fitness components:

Cardiovascular endurance is the ability of the heart, lungs, and blood vessels to supply oxygen to your body tissues during sustained physical activity. This allows the body to endure physical movement for a period of time. Also, efficient delivery of oxygen to its tissues will take place giving the person a lower breathing rate and the ability to perform the task longer.

Muscular Strength is the maximum amount of force a muscle can exert in a single effort. Achievement of muscular strength depends on factors like gender, age, and inherited physical attributes. Having strong muscles is beneficial to everyday living. The muscles support the skeleton enabling movement to occur and the strength to support the body while standing up.

Muscular Endurance is the ability of the muscle to continue to perform without fatigue.

Flexibility is the ability to bend and move the joints through the full range of motion.

Body Composition is the percentages of fat, bone, water, and muscle in a human body; it is often the ratio of lean tissue to fat tissue in the body.

Barriers to Physical Activity

Getting involved in physical activities can be attributed to personal and environmental factors. A person may experience a variety of challenges along the way. This hinders the person to be physically active, hence, referred to as barriers.

Personal barriers

With the current trends in technology and development, people's lives have become convenient and easier as well as less active. They may also have reasons or own justifications of their inactivity that forms their attitude towards physical movement, letting them live a sedentary life.

Some common explanations (barriers) that people cite for resistance to exercise are:

- insufficient time to exercise
- inconvenience of exercise
- lack of self-motivation
- non-enjoyment, boredom of exercise
- lack of confidence in their ability to be physically active (low self-efficacy)
- fear of being injured or having been injured recently
- lack of self-management skills, such as the ability to set personal goals, monitor progress, or reward progress toward such goals
- lack of encouragement, support, or companionship from family and friends
- non-availability of parks, sidewalks, bicycle trails, or safe and pleasant walking paths close to home or the workplace

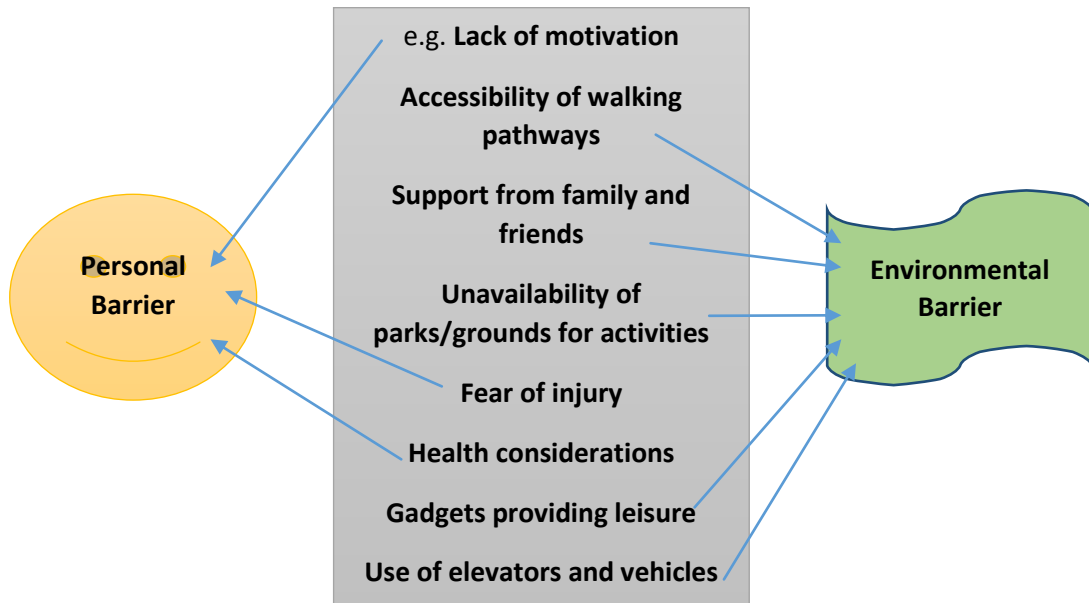
Environmental barriers

Some may not notice but the space and the setting where people live greatly influence a person's participation to physical activity. The constant exposure and the daily interaction with the people and things around has a great impact on a person's preference towards bodily execution and movement.

The environment in which we live has a great influence on our level of physical activity. Many factors in our environment affect us. Obvious factors include the accessibility of walking paths, cycling trails, and recreation facilities. Factors such as traffic, availability of public transportation, crime, and pollution may also have an effect. Other environmental factors include our social environment, such as support from family and friends, and community spirit. It is possible to make changes in our environment through campaigns to support active transportation, legislation for safer communities, and the creation of new recreation.

Activity 3: Lead me to where I am!

Directions: Listed below are examples of physical activity barriers. Instruct the students to draw a line connecting its type whether its a *personal* or an *environmental* barrier.



Guide questions:

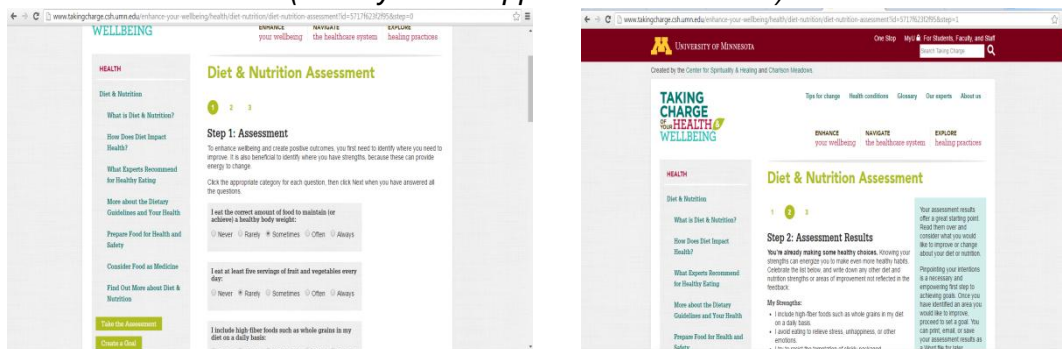
1. During the pre-activity on Par-Q & You, have you encountered any physical activity barrier? Is there any personal or environmental barrier? If yes, please list it down.
2. Cite some ways to overcome situations that hinder you to engage in physical activity.

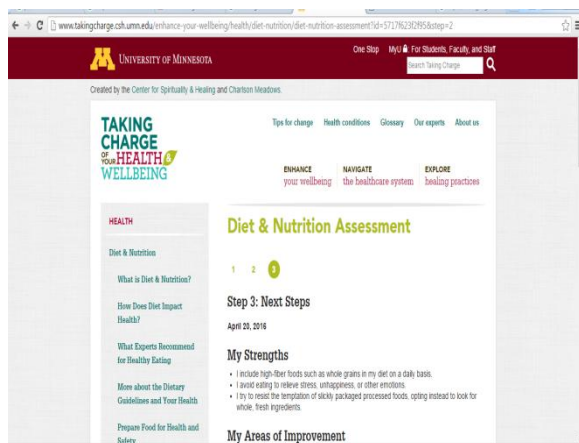
Activity 4: Diet and Nutrition Assessment

Directions:

1. Surf the net and open the site
<http://www.takingcharge.csh.umn.edu/enhance-your-wellbeing/health/diet-nutrition/diet-nutrition-assessment?id=5717f623f2f95&step=0>
2. On that site, undergo steps 1-3. Print the downloaded assessment results reflecting your diet and nutrition.
3. Set at least 5 goals for the items that needs improvement.

(Activity 4 as it appear on the Internet)





Diet & Nutrition Assessment Results

April 20, 2016

My Strengths

- I include high-fiber foods such as whole grains in my diet on a daily basis.
- I avoid eating to relieve stress, unhappiness, or other emotions.
- I try to resist the temptation of slickly packaged processed foods, opting instead to look for whole, fresh ingredients.

My Areas of Improvement

- I don't always eat the correct amount of food to maintain a healthy body weight.
- I don't always eat the recommended five servings of fruit and vegetables each day.
- I don't eat enough of a variety of foods.
- I eat foods that are high in saturated fat or trans-fatty acids (whole milk, fatty meats, snack foods).
- I don't always drink eight glasses of water a day.
- I don't always limit my intake of salt and sugar.
- I drink more than the recommended alcoholic amount.

Summary:

Fitness level assessment determines the current health status of an individual. Assessing one's health status will help a person be informed of his or her strengths and weaknesses leading him/her to observe a healthy lifestyle and to select appropriate activities for improvement.

To maintain general fitness, develop the health-related physical activities that include cardiovascular endurance, muscular strength, muscular endurance, flexibility and body composition.

References:

(http://www.furman.edu/sites/live_well/getmoving/pages/par-q.aspx)

(http://www.edu.gov.mb.ca/k12/cur/physlth/frame_found_gr11/rm/module_b_lesson_4.pdf)

Benefits of fitness testing. Retrieved from <http://www.topendsports.com/testing/guide-benefit.htm>
<http://www.teachpe.com/fitness/testing.php>

Corbin, Charles B. et.al (2006) *Concepts of Fitness and Wellness: A Comprehensive Lifestyle Approach* Sixth Edition, Mc-Graw Hill, USA.

Diet and Nutrition Assessment. Retrieved (April 20, 2016) from
<http://www.takingcharge.csh.umn.edu/enhance-your-wellbeing/health/diet-nutrition/diet-nutrition-assessment?id=5717f623f2f95&step=1>

Dr. Mercola. *3 Fitness Tests to Assess Your General Fitness and Health Risks.* February 14, 2014. Retrieved (April 20, 2016) from <http://fitness.mercola.com/sites/fitness/archive/2014/02/14/3-fitness-tests.aspx>

Fitness Homework What is a Muscular Strength Workout. Retrieved from www.pecentral.org/.../FitnessHomeworkWhatisa%20MuscularStrengthWor...

Par – Q & You. Retrieved (April 19, 2016) from <http://www.furman.edu/sites/LiveWell/GetMoving/Documents/PAR-Q2.jpg>

Smith, Craig. *The Recovery Heart Rate Time After Cardio Exercise* April 23, 2015 retrieved from <http://www.livestrong.com/article/260805-the-recovery-heart-rate-time-after-cardio-exercise/>

The 3-minute step test (retrieved April 20, 2016) from http://www.sparkpeople.com/resource/fitness_articles.asp?id=1115

Lesson 7: Fitness Goals

Objectives:

At the end of the lesson, the students should be able to:

1. Discuss Principle of Physical Activity and the FITT
2. Make a FITT fitness plan based on training principles to achieve/and or maintain health-related fitness
3. Perform moderate to vigorous physical activities following the designed fitness plan

Pre-activity

Teacher will do a review by asking students some questions.

1. What is fitness?
2. Enumerate activities done to improve fitness.
3. What is the significance of improving our fitness?

Improving fitness is an important goal for achieving optimum health. If carefully planned, performed, monitored, and evaluated, positive health-related outcomes will be achieved and that reduces their risks to acquiring health problems.

To maximize the results of a physical fitness program there is a need to be acquainted with the Principles of Exercise and appropriate modification of the FITT—Frequency, Intensity, Type, and Time.

The Principles of Physical Activity

Overload Principle. This is the most basic principle that indicates doing “more than normal” for improvement to happen. In order for the skeletal muscles to get stronger, additional load must be added and greater load exerted than what was used to.

Principle of Progression. It is a gradual increase in exerting effort or load that is done not too slowly, nor too rapidly. This principle aids safe and effective results.

Principle of Specificity. This suggests that overloading must specifically train a desired body part for it to improve. For example, cardiovascular fitness may only improve flexibility to a small degree, and so jogging and running will not be a part of the exercise program for developing flexibility. Instead, select exercises with emphasis on stretching out the muscles and joints. Use the appropriate type of exercise that directly improves your target muscles.

Principle of Reversibility. Development of muscles will take place if regular movement and execution is done, and if activity ceases, it will be reversed. This shows that benefit and changes achieved from overload will last only if training is continuous. The effect of training is lost if the training is discontinued.

The FITT Principle of Physical Activity

Frequency

The **frequency** of exercise refers to number of times a physical activity is done in each week. According to the American College of Sports Medicine guidelines, it is recommended to exercise 3-5 days per week and for more optimal results, exercise can be done in most days of the week with a combination of light-moderate-vigorous activity.

Intensity

The rate at which the activity is performed is called **Intensity**. It is also referred to as the magnitude of the effort required to perform an activity or exercise. It describes how easy or how hard a person has to work in a certain activity, and it varies from one person to another. The determination of intensity depends on some individual factors such as exercise experience, relative level of fitness, and needs of fitness.

The intensity level target may be determined by computing the **target heart rate (THR) range** based on the results of an exercise stress test, considering the resting and exercise heart rate, with 60% to 80% intensity level. (*Karvonen's Formula*)

Instruct the students to go over the recorded fitness results from the self-testing activity. These will be used in computing their target heart rate (THR). Let them compute their THR following the procedure below.

Activity 1: My Target Heart Rate

Directions: Compute your Target Heart Rate Range in 4 steps. Fill in the blanks below.

1. Get the Maximum Heart Rate. Age : 15 RHR: 60
$$\text{MHR} = 220 - \frac{\quad}{\text{(your age)}}$$
$$\text{MHR} = \underline{\quad}$$
MHR = 220 - 15
MHR = 205

2. Determine the Heart Rate Reserve.
$$\text{HRR} = \text{MHR} - \frac{\quad}{\text{(Resting Heart Rate)}}$$
HRR = 205 - 60
(*Please refer to Self-testing activities)
$$\text{HRR} = \underline{\quad}$$
HRR = 145

3. Take 60% and 80% of the HRR
a. $60\% \times \text{HRR} = \underline{\quad}$ **60% x 145 = 87**
b. $80\% \times \text{HRR} = \underline{\quad}$ **80% x 145 = 116**

4. Add each HRR to Resting Heart Rate (RHR) to obtain the Target Heart Rate (THR) range.
a. $60\% \text{ HRR } \mathbf{87} + \frac{\mathbf{60}}{\text{(RHR)}} = \underline{\mathbf{147}}$ beats per minute
b. $80\% \text{ HRR } \mathbf{116} + \frac{\mathbf{60}}{\text{(RHR)}} = \underline{\mathbf{176}}$ beats per minute

Therefore, your target heart rate range is $\frac{\mathbf{147}}{\text{(4.a)}}$ to $\frac{\mathbf{176}}{\text{(4.b)}}$ beats per minute.

*(When performing physical activities, your heart rate is within the normal range therefore you have to select moderate – vigorous activities that will make your heart pump within the THR range of **from 147 to 176 bpm.**)*

Type

The **type** of activity is determined by following the principle of progression and specificity. To attain a higher level of fitness, select the type of physical activity that challenges the body to accept an increase in work and answers your need.

Activity 2:

Instruct the students to get a piece of paper and to perform Activity 2 in 3 minutes. Let them copy the table and fill-in words from the word pool.

Directions: Identify what HRF component these physical activities belong to. Choose your answer from the word pool and write your answers on the table provided for.

Cardiovascular Fitness	Flexibility	Muscular Strength & Endurance
Walking Swimming Jogging Brisk walking	Yoga Stretching Dynamic Stretching Lunges	Squats Body-weight exercises Planks Sit-ups Lunges

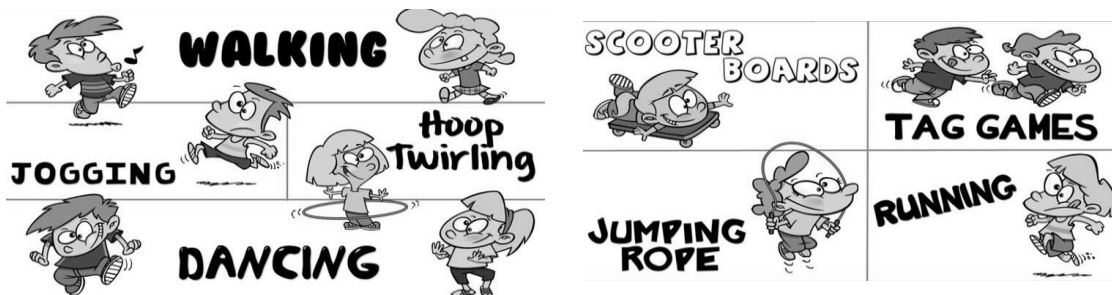
Walking	Jogging	Lunges
Dynamic stretching	Swimming	Yoga
Stretching	Squats	Sit-ups
Body-weight exercises	Brisk walking	Planks

Time

Time is the *duration* or the length of session of a physical activity. It is inversely related to Intensity since the more intense a work is done, the shorter time it is performed.

Here are some examples of physical activities and exercises that you may integrate in your own fitness plan. Remember that the intensity of exercise as well as the type of activity to be done will vary for each person, as it is based on the fitness level results during self-testing.

Cardiovascular Fitness



Aerobic Exercises to improve Cardiovascular Endurance

- walking
- jogging
- cycling/biking
- hiking
- skating
- rollerblading
- step aerobics
- cardio machines e.g. treadmill
- sports e.g. football, basketball, volleyball

Flexibility Fitness

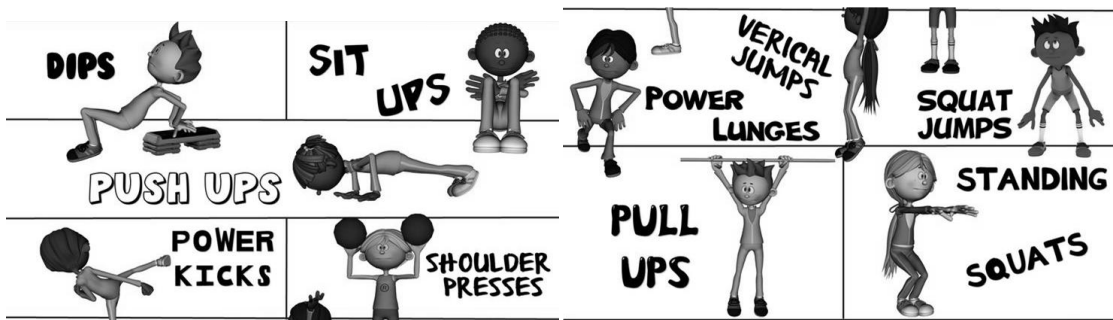


<https://www.washington.edu/wholeu/2015/02/09/week-five-dare-to-do/>

Muscular Strength and Endurance Fitness



<http://triathlete-europe.competitor.com/2013/10/30/get-peloton-strong>



<https://www.pinterest.com/pin/461196818068640351/>

Activity 3: How intense are you?

Directions: Perform one activity at a time and supply the information by filling-up the table.

Describe the activity based on the following:	Walking around for 5 minutes	Brisk walking for 4 minutes	3-minute jump jacks
How are you feeling?	Feels easy	Feels somewhat hard	Feels very hard
How is your breathing?	No noticeable changes	Breathing quickens but not out of breath	Breathing is deep and rapid
How is your sweat?	You don't break out sweat unless humid	Slightly sweating	Develop a sweat after 3 mins
How is your talking ability?	Carry-out conversation or even sing	Carry-out conversation but cannot sing	Difficulty, can't say more than a few words without stopping for breath

Reflection:

1. Which among the three (walking around, brisk walking, 3-minute jump jacks) is considered:
 - a) Light activity: walking around for 5 minutes
Justification: _____
 - b) Moderate activity: brisk walking for 4 minutes
Justification: _____
 - c) Vigorous Activity: 3 minute jump jacks
Justification: _____

Moderate-intensity Physical Activity (Approximately 3-6 METs)	Vigorous-intensity Physical Activity (Approximately >6 METs)
Requires a moderate amount of effort and noticeably accelerates the heart rate.	Requires a large amount of effort and causes rapid breathing and a substantial increase in heart rate.
Examples of moderate-intensity exercise include:	Examples of vigorous-intensity exercise include:
• Brisk walking	• Running
• Dancing	• Walking / climbing briskly up a hill
• Gardening	• Fast cycling
• Housework and domestic chores	• Aerobics
• Traditional hunting and gathering	• Fast swimming
• Active involvement in games and sports with children / walking domestic animals	• Competitive sports and games (e.g. Traditional Games, Football, Volleyball, Hockey, Basketball)
• General building tasks (e.g. roofing, thatching, painting)	• Heavy shovelling or digging ditches
• Carrying / moving moderate loads (<20kg)	• Carrying / moving heavy loads (>20kg)

http://www.who.int/dietphysicalactivity/physical_activity_intensity/en/

“MET” is another name for metabolic equivalent, a measure of exercise intensity based on oxygen consumption. More specifically, a single **MET** is defined as the amount of oxygen a person consumes (or the energy expended) per unit of body weight during 1 minute of rest. It is equal to about 3.5 milliliters (ml) of oxygen consumption per kilogram (kg) of body weight per minute, or 1 kilocalorie (kcal) per kg of body weight per hour.

Source: www.idealit.com/fitness-library/using-mets-program-design

Activity 4: My Fitness Plan

Directions: Let the students go over their results for the self-testing activities as bases for Activity 4.

- A. Determine your weakest component and strongest component. Refer to results obtained during the self-testing activities. Rank them by writing 1- 4, where 1 is the weakest and thus, should be given top priority in making your fitness plan.
 - _____ Cardiovascular Endurance (3-min step test)
 - _____ Muscular strength and endurance of arm (push-up/flexed)
 - _____ Muscular strength and endurance of abdominal (curl-up)
 - _____ Flexibility of the hamstring muscles (hamstring & hip flexor test)
 - _____ Flexibility of the shoulder muscles and joints (zipper test)

- B. Following the fitness plan design shown below, select activities guided by the Principles of Exercise and the FITT goals.

FITT Goals	Frequency	Intensity	Type	Time
Parts of the Fitness Plan	(Indicate days of the week)	Light, Moderate to Vigorous	Form of exercises, selected physical activities	(Total fitness plan not less than 60 minutes)
Warm-up				
Work-out			(Prioritize the weakest component based on data in Activity 4A) a. _____ Activity/Exercises	
			b. _____ Activity/Exercises	
			c. _____ Activity/Exercises	
			d. _____ Activity/Exercises	
			e. _____	
Cool-down				

Activity 5: My Daily Fitness Record!

Directions: To keep track of their engagement in physical activity, after they make their fitness plan, instruct them to perform it and record on the table shown in Activity 5.

Schedule Week 1	Resting Heart Rate	Exercise Heart Rate	Recovery Heart Rate	Remarks
Day 1_____				
Day 2_____				
Day 3 _____				
Day 4 _____				
Day 5 _____				

Summary:

The Principles of Training suggest that overloading is the key to muscle development and that it entails doing more than the body is used to. The benefit brought about by overloading will only last if the overloading is continuous, otherwise, the muscle development will go back to its original state.

It is important to take in consideration the FITT principle in achieving the optimum fitness development. FITT stands for frequency, intensity, time, and type. FITT sets the guidelines in your physical activity program and used as basis for your fitness routine for better results.

The more frequent an activity is done, the greater chances of fitness development. Exercise execution is also relative to Intensity.

How hard or how easy the task is accomplished defines the magnitude of work, referred to as intensity. The intensity of your activity is determined by the body's response characterized by the number of times the heart pumps measured in beats per minute. Computing the target heart rate (THR) range will give you an idea on your workable heart rate according to your capacity.

Selection of appropriate activities will help you achieve the desired results by being able to specify the target muscles for development.

Engaging in moderate to vigorous physical activity in different settings can help avoid boredom, thus making activities more exciting and interesting.

References

- Anspaugh, David J. et.al. *Wellness; Concepts and Applications (1997)*, USA, Mc-Graw-Hill Companies.
http://www.health.com/health/gallery/0,,20629237_6,00.html
- <http://www.topendsports.com/fitness/karvonen-formula.htm>
- Powers, Scott K. et.al.. *Exercise Physiology Fourth Edition (2001)*, New York, USA, Mc Graw-Hill Companies, Inc.
- Salyer, Jessica *The Top 5 Muscular Endurance Exercises* November 15, 2015.
<http://www.healthline.com/health/fitness-exercise/muscular-endurance-exercises>
- Smith, Jessica, ME. Using METs in making a program design. February 1, 2006. www.idealife.com/fitness-library/using-mets-program-design
- The F.I.T.T. Principle - Here's What You Need to Know for Great Workouts* retrieved (April 23, 2016) from <https://www.verywell.com/f-i-t-t-principle-what-you-need-for-great-workouts-1231593>
- What is Moderate-intensity and Vigorous-intensity Physical Activity?*
http://www.who.int/dietphysicalactivity/physical_activity_intensity/en/

Lesson 8: Exercise for Fitness

Warm-up Activity: Rank 'Em!

Directions: Let them rank the following physical activities according to the level of effort they would have to exert to accomplish them. Rank first (1st) the physical activity that requires the most level of effort to accomplish and 10th the physical activity least requiring level of effort. Let them explain their rankings.

- | | |
|--|---|
| _____ competitive badminton for 30 minutes | _____ volleyball spiking and blocking drills for 10 minutes |
| _____ running uphill for 5 minutes | _____ 3-on-3 basketball for 30 minutes |
| _____ sprinting for 20 seconds | _____ swimming 10 laps continuously |
| _____ climbing 1 flight of stairs | _____ 3k fun run in 1 hour |
| _____ leisurely biking | _____ walking in the mall |

Explain the differences in the level of effort needed to accomplish various physical activities. Emphasize that the rankings of each student may differ from others because of the differences in fitness levels.

Ask how the students gauged the level of effort necessary to accomplish the different physical activities. Use their answers to connect to the topic of discussion.

Reading:

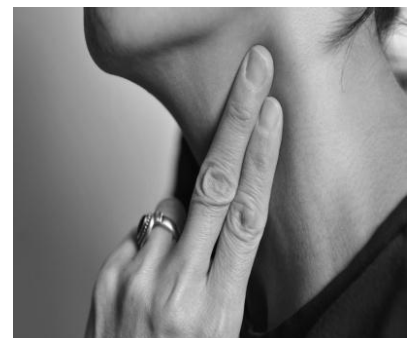
When you engage in physical activities for health and fitness improvements, you need to monitor the effort you are giving. This is because the effort given in doing physical activities contributes to the achievement of your fitness goals. By monitoring your effort, you will be able to know if you are reaching at least a moderate intensity level and at most a vigorous one.

Remember, it is important that your body is challenged to do more than what it is used to for changes to occur. If the physical activity you do is too easy for your body, changes (if any) would be minimal. Hence, your body should be challenged. You need to sustain moderate to vigorous intensity of physical activity for your body to be challenged.

You will be able to monitor your effort through physiological indicators. Physiological indicators are those signs that are physiologic in nature or have to do with bodily processes. These include heart rate, rate of perceived exertion (RPE), and pacing. Each of these physiological indicators is important. However, depending on your fitness goal and personal preference, each indicator has its own advantages.

Heart Rate. Also known as pulse rate, this is the number of times a person's heart beats per minute. It indicates the effort your heart is doing based on the demands you place on your body. The more demanding your physical activity is, the faster the heart rate.

Each time your heart beats, it pumps blood into the arteries of your body. The surge of blood causes a pulse, which is what you feel by holding your fingers against an artery. The major arteries that



are easy to locate and frequently used for pulse counts are the radial artery (just below the base of the thumb) and the carotid artery (just below the sides of jaw). Some people find it easier to locate the carotid artery but locating the radial artery is easier for others.

To determine your pulse rate, locate your pulse using your index and middle fingers. Press gently to feel the pulse. Count the number of beats in 10 seconds and multiply by 6 to get your number of beats per minute. The 15-second count is also used by multiplying by 4 to get the number of beats per minute.



Image taken from http://mindily.org/tutorial/howto/lowering_heart_rate

The heart rate provides a good indicator of the relative challenge experienced during physical activity. Using the heart rate as a physiological indicator, maximal heart rate (max HR) is typically used. Recommendations for physical activity indicate that

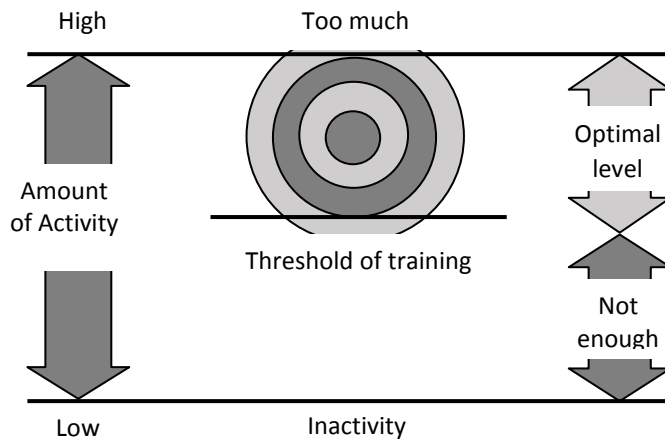


Figure 2: Physical activity target zone

physical activities used as exercises should be between 60 to 85 percent of your max HR to maintain or improve cardiovascular fitness. This means that for each exerciser, getting the max HR and the heart rates equivalent to 60 to 85 percent of the max HR are important in achieving your fitness goals. Think of it as 60% heart rate is your moderate intensity and 85% heart is the limit of your vigorous intensity.

Take note of the concepts of threshold of training and target zone. The threshold of training is the minimum amount of physical activity (frequency, intensity, and time) necessary to produce benefits. The target zone, on the other hand, begins at the threshold of training and stops at the point where the physical activity becomes counterproductive.

You can think of threshold of training as American College of Sports Medicine's (ACSM) minimum recommendation of training intensity (60%) and the target zone ranging from 65 to 85 percent training intensities. Hence, you need to reach these training intensities to produce health, wellness, or fitness benefits. You can compute your target heart rate for these training intensities by following several steps.

According to Hoeger and Hoeger (2011), research indicates a more favorable prediction using the computation below than the equation $220 - \text{age}$. Here are the steps to get your target heart rate.

1. Estimate your maximal heart rate (max HR/MHR) according to the following formula:

$$\text{maxHR/MHR} = 207 - (0.7 \times \text{age})$$

2. Check your resting heart rate (RHR) sometime in the evening after sitting quietly for 15 to 20 minutes. You may take your pulse for 30 seconds and multiply by 2, or take it for a full minute.
3. Determine heart rate reserve (HRR) using this formula:

$$\text{HRR} = \text{MHR} - \text{RHR}$$

4. Calculate the training intensity at 30, 40, 60, and 85 percent. Multiply HRR by the respective 0.30, 0.40, 0.60, and 0.85, and then add the HRR to all four training intensities. Example:

$$60\% \text{ Training Intensity} = \text{HRR} \times 0.60 + \text{RHR}$$

Activity 1: My Target

Directions: Ask the students to compute their threshold of training and target zones. Ask them to identify physical activities that they could do to reach these.

Emphasize accurate computations so that students will be guided accordingly. Once they already know their respective computations, they should keep these in mind whenever they engage in physical activities so that they can reap the benefits of engaging in physical activity.

Although counting the heart rate during exercise is quite difficult, it is still one of the best ways to accurately count exercise heart rate values. To do this, while exercising, continue moving while quickly locating the pulse, then stop and take a 10-second count. Multiply the number by 6 to convert the heart rate to beats per minute. This measurement can be used to make necessary adjustments to reach your target zone.



Figure 3 Heart Rate Monitor
http://zenergy.com/blog/detail/using_a_heart_rate_monitor

Heart rate monitors can also be used to get your heart rate during physical activity. These monitors, which are strapped on your chest, work along with wristwatches that register the heart rate. Since the wristwatch will show your heart rate as you move, you can adjust the level of effort accordingly. Most models of heart rate monitors show the heart rate along with calories burnt, target zone, and time or duration of exercise. However, more sophisticated models may feature other information.

Rate of Perceived Exertion (RPE)

This is an assessment of the intensity of exercise based on how you feel. It is basically a subjective assessment of effort which ranges from 6 (very, very light) to 20 (very, very hard) with 1 point increments in between. The target zone for aerobic activity is from 12 to 16.

If you are engaged in physical activity, you rate your effort level based on how light or how hard you perceive it. A rating of 6 means that your effort level is “very, very light” while a rating of 18 means that your effort is more or less “very, very hard.” Think of each rating in the RPE as a reflection of your heart rate during the physical activity, that is, when multiplied by 10. This means that an RPE of 6 is about a heart

rate of 60 while an RPE of 18 is about 180 beats per minute. Since an RPE of 6 means your heart rate is only at 60 beats per minute, your physical exertion is very minimal, while an RPE of 18 means that your heart is doing 180 beats per minute, pushing yourself to the limit.

Ratings of Perceived Exertion (RPE)	
Rating	Description
6	Very, very light
7	
8	Very light
9	
10	Fairly light
11	
12	Somewhat hard
13	
14	Hard
15	
16	Very hard
17	
18	Very, very hard
19	
20	

Source: Data from Borg from Corbin et al (2008)

Activity 2: Rate it this time

Directions: Ask the students to look at their answers in the warm-up activity. Now knowing about RPE, ask them to rate the different physical activities according to their perceived exertion if they were to accomplish those physical activities. Let them explain their answers.

Ask the students to compare their rankings with the RPE they gave for each physical activity. Let them analyze if the physical activities they ranked high (1st to 3rd) were also rated high in perceived exertion.

Let the students compare their answers and emphasize that RPE is relative and is dependent on several factors such as a person’s fitness level.

A practical way to know your level of effort is to try singing or talking while engaged in physical activity. If you are still able to sing during physical exertion, then the RPE is probably just between 6 to 8. However, if you cannot hold a conversation, then the level of effort is high and the RPE is probably between 14 to 17.

If you are jogging and are still able to sing, you could jog a bit faster to increase RPE. However, if you cannot talk anymore, you could lower the effort level by jogging slower or inserting brisk walks between jogs. Remember, the recommended target level of effort is from 12 to 16 (120 to 160 beats per minute) for your health to improve. So rate your physical exertion to be able to maximize the effects of your participation in physical activity.

Using the RPE also avoids the need to stop and count the heart rate during exercise. With practice, most people can recognize when they are in the target zone using RPE. It now becomes easier to make necessary adjustments in the effort exerted since you have perceived the physical exertion accordingly.

Pace and Pacing. These refer to the rate or speed of doing physical activities. This means that a person can take it slow when engaged in physical activities or do them quickly depending on the FITT Principle.

Pacing allows you to change the way you perform or complete an exercise or physical activity so that you can successfully see changes. It regulates your participation in physical activities through gradual and careful introduction of changes in the physical activity, whether an increase in intensity, frequency, or participation.

Depending on the fitness level of an individual, pacing may be through frequency, intensity, and time of doing physical activities. The normal frequency could be 3 to 4 times a week which can be increased or decreased depending on the

changes done in intensity and time. If intensity is increased, frequency and time could be decreased, or vice versa.

You must be able to pace your participation in physical activities well so that you will benefit more and not get injured. Remember to listen to your body, so pace yourself if needed.

Activity 3: Pace Yourself

Directions: Ask the students to look at their answers in Activity 3 and write them on the table below. If they were to do the different physical activities, how will they pace themselves? Ask them to complete the table.

Physical Activity	Frequency	Intensity	Time

Emphasize that pacing is relative to the fitness level of a person and that it will also depend on the body's response to physical activity participation and other factors.

When you make modifications or adjustments in your exercise program, you have to take note of the principles of progression and adaptation. Increase elements in your exercise program gradually so that your body can adapt accordingly. Take serious note of the principle of overload as well. Too easy a load will not be beneficial to your body in the long run.

If you have just started having a more active lifestyle, you may want to start with physical activities of relatively moderate intensity. Performing this type of activity at about 40 percent of your max HR or an RPE of 12 (somewhat hard) for several weeks would be recommended for gradual adaptation. Time spent on physical activity may be shorter than the recommended 30 minutes. However, as fitness improves, accumulated minutes should at least account for 30 minutes a day, and the FITT principle can be increased as well. The table below shows recommended progression.

Progression of Activity Frequency, Intensity, and Time Based on Fitness Level (Corbin et al,2008)			
	Low Fitness	Marginal Fitness	Good Fitness
Frequency	3 days a week	3 to 5 days a week	3 to 6 days a week
Intensity			
<i>Heart rate reserve (HRR)</i>	40-50%	50-60%	60-85%
<i>Maximum heart rate (maxHR)</i>	55-65%	65-75%	75-90%
<i>Relative perceived exertion (RPE)</i>	12-13	13-14	14-16
Time	10-30 min	20-40 min	30-60 min

It is important that you monitor your fitness improvements since these will eventually dictate your progression. If your body has adapted to the demands you place on it, then it would be best to progress to another level until you reach your optimum level of overload. This is the principle of progression. Following this principle, the load you place on your body should occur in gradual succession rather than in major bursts for safe and effective results. The new challenge now posed on your body is how to advance to another level.

However, as you become more fit, the rate of improvement levels off. As the principle of diminishing returns indicates, once you get more and more fit, the benefit you get for each additional amount of activity may not be the same as before. When your physical activity level is high, you can expect to have lesser improvements despite additional amounts of physical activity. When this happens, the challenge is on how to maintain that level of physical activity.

References

Corbin, C. B., Corbin, W. R., Welk, G. J., & Welk, Karen A. (2008). *Concepts of physical fitness: Active lifestyles for wellness* (14th ed.). New York: McGraw-Hill.

Hoeger, W. W. K. & Hoeger, S. A. (2011). *Fitness & wellness* (9th ed.). Australia: Wadsworth.

Images on how to get pulse rate retrieved from http://mindly.org/tutorial/howto/lower_resting_heart_rate

Image of heart rate monitor retrieved from http://zenergysv.com/blog/detail/using_a_heart_rate_monitor

Lesson 9: Exercise for Fitness

Warm-up Activity: Exercise Checklist

Directions: Divide the class into groups of 5-6 students and ask them to make a checklist of the important things needed by an exerciser during the following:

- a. Summer time in Cebu
- b. Christmas season in Baguio
- c. Rainy season in Davao

Ask them to present their checklists in class.

Make the warm-up activity interesting for the learners. You can show different pictures of exercisers which they can use as guide in making their checklists. When the students present their checklists, they can tick the things off using the pictures.

Introduce the discussion by using their answers from the warm-up activity. Use them to jumpstart the topic on personal safety protocols or precautions that an exerciser needs to observe and follow to avoid certain exercise- and weather-related conditions.

Reading:

As you engage in moderate to vigorous physical activity, you need to observe some personal safety precautions to avoid certain conditions related to physical activity participation. These conditions include dehydration, overexertion, hypothermia, and hyperthermia.

Each of these conditions should be taken seriously because each poses health risks to an exerciser. These conditions are usually associated with exercising in different types of environment, like a hot or cold environment. However, dehydration and overexertion may be experienced even when exercising in environments that do not have extreme temperatures.

Each condition will be discussed with ample safety precautions to guide you as you engage in moderate to vigorous physical activities.

Dehydration

This refers to excessive loss of water from the body, usually through perspiration or sweating, urination, or evaporation.

During participation in physical activities, the body regulates its temperature depending on the intensity of the activity. During moderate to vigorous physical activities, the body perspires or sweats and you get thirsty.

Sweating. On a normal day, the body loses about 2.5 liters of water from the lungs and skin, from urine and feces, and from perspiration. The body must replace this through proper hydration. To offset fluid losses, it is suggested that 150 to 250ml of fluid should be taken every 15 minutes.

Thirst. Thirst is a sensation of dryness in the mouth and throat associated with a desire for liquids. Maintaining water balance is an important consideration

during exercise. Physical activity results in increased heat production, and evaporation of sweat from the skin allows the body to dissipate this heat and maintain a normal body temperature. The amount of fluid lost as sweat varies according to factors such as the intensity and duration of activity and the air temperature or humidity.

Most of the time, an individual waits for thirst to kick in before replenishing lost water. However, it is advisable to replenish lost fluids even before feeling thirsty. This is especially important when an individual exercises in the heat or does so for an extended period of time.

Activity 1: Analyzing fluid replenishment advertisement

Directions: Show different sports-related advertisements on fluid replenishment. Ask the students to take note of the claims presented in the advertisements like replenishment information, effects of drinking the product, etc. Ask the students to explain their answers.

Make sure to present clear videos or pictures of the different advertisements. Show these videos one after another before asking the students to explain their answers. After these, present to the class the nutritional facts of each sports drink by bringing actual bottles of each drink. Compare the drinks and discuss the advantages of using them as fluid replenishments.

- *What are the recommendations for fluid replacement during prolonged aerobic exercise?*

Adequate water replacement is the most important factor in preventing heat disorders. Drinking about 6 to 8 ounces of cool water every 15 to 20 minutes during exercise is ideal to prevent dehydration. Cold fluids are absorbed more rapidly in the stomach.

Commercial fluid replacement solutions or sports drinks that contain 6 to 8 percent glucose are optimal for fluid absorption and performance in most cases. These are recommended especially when exercise is strenuous and is carried out for more than an hour. However, water is sufficient for exercise lasting less than an hour. Palatability ensures greater fluid intake so choose a drink that suits your taste as well.

Another condition that you need to be aware of is overexertion or overtraining. This condition is actually independent of weather conditions, but you need to be aware of the signs and symptoms.

Overexertion or Overtraining

This refers to the detrimental cause of excessive training.

Some individuals engage in too much physical activity. Some exercisers and athletes often push themselves too hard in their pursuit of high-level performance. Thus, they are susceptible to a variety of hyperkinetic conditions known as overload syndrome. This condition is characterized by fatigue, irritability, and sleep problems, as well as increased risks for injuries.

In an over-trained status, performance is known to decline sharply and this can cause individuals to train even harder. This dip in performance may be mistaken for dip in physical effort so the exerciser or athlete increases the effort to pull up the performance.

A useful physical indicator of overtraining is a slightly elevated morning heart rate (4 or 5 beats more than normal values). Essentially, an elevated morning heart rate reveals that the body has to work too hard to recover from the exercise and is not in its normal resting mode.

When doing resistance training, an individual is likely overtraining and may not reap the full benefits of the program if the body is not allowed to recover completely in 2 or 3 days after maximal effort. Decrease in total number of sets or exercises, or both, is recommended.

You also need to pace your workout properly to avoid staleness. Staleness, or getting bored or uninterested, is usually a consequence of overtraining.

Activity 2: Identifying symptoms of overtraining

Directions: Ask the students to identify symptoms of overtraining by placing a check (✓) mark on the blanks. Ask them to share their answers with their seatmate.

- _____ 1. Has your performance decreased dramatically in the last week or two?
- _____ 2. Do you notice signs of unusual anxiety or anger?
- _____ 3. Do you feel depressed?
- _____ 4. Do you feel unusual fatigue?
- _____ 5. Are you less energetic than usual?
- _____ 6. Do you have trouble sleeping?
- _____ 7. Do your arms and/or legs feel heavy?
- _____ 8. Do you experience loss of appetite?
- _____ 9. Do you lack interest in training?

You may want to read aloud each question and explain statements that need emphasis. Elaborate on the answers of students. Emphasize that identifying symptoms of overtraining is important. Remind the students to analyze their experiences so that they will be able to identify these symptoms.

Introduce the next topic by asking the students about their feelings and experiences about the weather in the Philippines. You may want to mention students playing directly under the sun during lunchtime in your school, if there are any, and ask the students their opinions on this.

Reading:

Because the weather here in the Philippines is normally hot most of the year, exercisers should be conscious about it when engaging in physical activity whether indoors or outdoors. Since indoor conditions can easily be adjusted with cooling mechanisms such as air conditioners and electric fans, outdoor conditions pose more challenges to you as an exerciser. One of the things that one needs to be aware of is hyperthermia.

Hyperthermia

This is an alarming rise in body temperature, which is an effect of exercising in a very humid environment. It sets the stage for heat stress and even heat stroke, the potentially fatal collapse of the temperature-regulating mechanism.

In hot environments, the body is able to maintain temporary thermal balance during exercise through circulatory adjustments and evaporation of sweat. However, the body responds differently in a hot, dry environment. The body actually gains heat when the air temperature exceeds the temperature of the skin. Under these conditions, the evaporation of sweat allows the maintenance of thermal equilibrium. When humidity is also high and evaporation cannot take place, the body temperature continues to rise, and performance is severely impaired.

- *Is it safe to exercise in hot weather?*

Prolonged, vigorous exercise can be dangerous in hot and humid weather. Heat from exercise is released in the form of sweat, which cools the skin and the blood circulating near the body surface as it evaporates. The hotter the weather, the more water the body loses through sweat; the more humid the weather, the less efficient the sweating mechanism is at lowering body temperature.

If you lose too much water or if your body temperature rises too high, you may suffer from heat disorder such as heat exhaustion or heat stroke. Use caution when exercising if the temperature is above 80°F or if the humidity is above 60%. To exercise safely, watch for the signals of heat disorder, regardless of the weather.

Activity 3: *Donaire in Cebu*

Directions: Present the case of Nonito Donaire, Jr.'s April 23, 2016 title defense fight against Zolk Bedak in Cebu. Around that time, the Philippines was experiencing one of the hottest temperatures. Ask the students what the two boxers needed to do to be able to give out their best in such hot temperature.

You can show video reports on Donaire's training regimen to prepare for his fight in Cebu or present newspaper clippings instead. Emphasize that athletes like the two boxers need to adjust their training regimens and nutrition to suit the event venue conditions and weather temperatures.

You can also add here other athletes' adjustments in similar conditions such as Manny Pacquiao fighting in the US, Philippine Azkals playing in Europe, etc to emphasize the next topic.

Heat Acclimatization. On the first day of vigorous exercise in hot weather, one may experience near maximal heart rate, elevated skin and core temperatures, and severe fatigue. But after a few days of similar exposure, the same task can be accomplished with a reduced heart rate, made possible by improved blood distribution and increased blood volume. Skin and core temperatures are lower, since sweating begins at a lower temperature.

Highly fit individuals become acclimatized in 4 days while sedentary ones take about 8 days. The best way to get acclimatized is to work in the actual conditions (temperature and humidity) one has to endure.

Tips when Exercising in the Heat/Hot Weather
<ul style="list-style-type: none"> • Slow down exercise and add rest breaks to maintain prescribed target heart rate. As you become acclimatized, you can gradually increase intensity and duration. • Drink 2 cups of fluids 2 hours before you begin exercising and drink 4-8 ounces of fluid every 10-15 minutes during exercise (more frequently during high intensity activities). • Wear clothing that “breathes,” allowing air to circulate and cool the body. Wearing white or light colors will help by reflecting rather than absorbing heat. A hat can keep direct sun off your face. Do not wear rubber, plastic, or nonporous clothing. • Rest frequently in the shade. • Slow down or stop if you begin to feel uncomfortable. Watch for the signs of heat disorders. If they occur, act appropriately.

When you exercise in hot environments, you need to be aware of heat disorders.

Heat Disorders		
Problem	Signs and Symptoms	Treatment
Heat cramps – when considerable salt is lost in sweat. Take lightly salted foods and massage to relieve cramps.	History of exertion; muscle cramps, usually in the muscles used during exercise	<ul style="list-style-type: none"> • Stop exercising, drink fluids, and massage or stretch cramped muscles. • Cool the body. Stop exercising, get out of the heat, remove excess clothing, drink cold fluids, and apply cool and/or damp towels to the body.
Heat exhaustion – when heat stress exceeds the capacity of the temperature-regulating mechanism.	Fast, shallow breathing; weakness; dizziness; headache; moist or cool skin or profuse sweating; pale face; normal or slightly elevated temperature; weak pulse	<ul style="list-style-type: none"> • Get immediate medical attention, and try to lower body temperature. • Get out of the heat, remove excess clothing, drink cold fluids, and apply cool and/or damp towels to the body or immerse in cold water, but not to induce shivering.
Heat stroke – the temperature-regulating mechanism has given up	Noisy breathing; hot, flushed skin (may be dry or sweaty); red face; chills or shivering; disorientation; erratic behavior; high body temperature; no perspiration; full, rapid pulse; altered consciousness or unconsciousness; convulsions	<ul style="list-style-type: none"> • Person should be placed in shock or recovery position. If conscious, person may sip water. Raise the legs. • Fan person and use wrapped cold packs in the armpits and groin.

Cold temperatures do not pose a threat similar to that posed by hot, humid condition because of the metabolic heat generated through exercise. In the Philippines, there are only a number of places where cold temperatures can be experienced. Even so, exercisers should be aware that severe exposure to low temperatures and high winds can lead to frostbite, hypothermia, and even death.

Hypothermia

Excessively low body temperature, characterized by uncontrollable shivering, loss of coordination, and mental confusion

This occurs when the body begins to lose heat faster than it can be produced. Prolonged exertion leads to progressive muscular fatigue. As exposure continues and additional body heat is lost, the cold reaches the brain. One loses judgment and the ability to reason. Speech becomes slow and slurred and control of the hands is lost.

Signs, Symptoms, and Treatment of Hypothermia	
Signs and Symptoms	Treatment
Early signs <ul style="list-style-type: none">• Shivering• Pale, cold skin• Cold environment As the condition worsens <ul style="list-style-type: none">• No shivering, even though the person is cold• Increasing drowsiness• Irrational behavior and confusion• Slow, shallow breathing• Slow, weak pulse• Walking becomes clumsy and tendency of wanting to lie down and rest escalates	<ul style="list-style-type: none">• If the victim is unconscious, open airway and check for breathing.• If the victim is conscious, bring to shelter or keep in warm room.• Replace wet clothes with dry ones.• Give high energy foods and warm drinks.• Cover the head, hands, and feet because heat is lost through the extremities.• Do not let the victim lie down and rest since the core temperature is dropping. Without treatment, one might lose consciousness and die.• Transport the victim to a medical facility as quickly as possible

Constricting blood vessels (vasoconstriction) increases the stimulating capacity of the skin, but it also results in a marked reduction in the temperature of the extremities. Protective vasoconstriction often leads to discomfort in the fingers and toes. Blood is rerouted to the deeper, more vital body organs.

To relieve pain, it is necessary to warm the affected area or raise the core temperature. While shivering may cause some increase in temperature, gross muscular activity is far more effective in restoring heat to the troubled area. Shivering is the defense mechanism of the body against cold.

Core temperature is the temperature of the deep organs. The temperature of the body is normally at 37 degrees Celsius or 98.6 degrees Fahrenheit. It adjusts to enzyme activity within the muscles. Changes in core temperature can be reflected in the skin.

Activity 4: Sports clothing modeling

Directions: Group the students and assign the each of the following topics per group: basketball clothing, running clothing, sports-appropriate cold weather clothing. Identify characteristics or features of your assigned sports clothing. What features are common in the sports clothing that make them suited in Philippine weather? Assign 2-3 members of the group as sportswear models and present these types of clothing in class.

Emphasize that the students do not need to buy clothes for this presentation. Borrow from family members or bring their own for the modeling part. Ask each group to make a write-up for each piece of apparel as the models walk in class.

Ask each group to pay attention to the types of materials used in each clothing as well as the color palette. Have them answer this question: Are these helpful for exercisers?

- *Is it safe to exercise in cold weather?*

If you dress warmly in layers and do not stay out in very cold temperatures for too long, exercise can be safe even in subfreezing temperatures. Take both the temperature and wind-chill factor into account when choosing clothing. Cold weather clothing provides an insulating barrier to air and can be removed as temperature rises and put back on as it falls. Wool may be used as well as windproof or rainproof ones.

Dress in layers so you can remove them as you warm-up and put them back on if you get cold. A substantial amount of heat loss comes from the head and neck, so keep these areas covered. In subfreezing temperatures, protect the areas of the body most susceptible to frostbite such as the fingers, toes, ears, nose, and cheeks with warm socks, gloves, cap, or hood. Wear clothing that “breathes” and will absorb or drain moisture away from your body to avoid being overheated by trapped perspiration. Warm up thoroughly and drink plenty of fluids.

Cold Acclimatization. This refers to metabolic adjustments are done as well as improved tissue insulation. Large body mass, short extremities, and increased levels of body fat help to get acclimatized to cold weather.

Others Concerns:

Heat Rash – also called prickly heat, is a benign condition associated with a red, raised rash accompanied by sensations of prickling and tingling during sweating. It usually occurs when the skin is continuously wet with un-evaporated sweat. It is generally localized to areas covered by clothing.

Heat Syncope – heat collapse, is associated with rapid physical fatigue during overexposure to heat. This results in dizziness or fainting. It is quickly relieved placing the individual in a cool environment and replacing fluids.

Sun protection factor (SPF). Sunscreen applied to the skin can help prevent many of the damaging effects of ultraviolet radiation. A sunscreen’s effectiveness in absorbing the sunburn-inducing radiation is expressed as the sun protection factor (SPF). An SPF of 6 indicates that an individual can be exposed to ultraviolet light 6x longer than without a sunscreen.

Activity 5: Safety features in school

Directions: Group the students into 3-4 members per group and assign each group to visit a specific area in your school (e.g. playground, gym, canteen, etc). Ask each group to identify safety features in each area related to the exercise- and weather-related conditions discussed in class. Examples of safety features like water fountains, wash areas like sinks and faucets, exhaust fans, etc can be identified. Ask

each group to make recommendations on how to improve each area of the school they identified.

You can give each group a ready-made checklist on the best safety features from other schools or facilities or you can make your own checklist. You can also let the students make their own list.

Each group may take pictures of the areas assigned to them to support their presentation and recommendations. If possible, with your help, the students can present this information to the school administration so that improvements can be made.

References:

- Clark, M. A., Lucett, S., & Corn, R. J. (2008). *NASM Essentials of Personal Fitness Training* (3rd ed.). Philadelphia: Lippincott Williams & Wilkins.
- Corbin, C. B., Corbin, W. R., Welk, G. J., & Welk, Karen A. (2008). *Concepts of physical fitness: Active lifestyles for wellness* (14th ed.). New York: McGraw-Hill.
- Hoeger, W. W. K. & Hoeger, S. A. (2011). *Fitness & wellness* (9th ed.). Australia: Wadsworth.
- Kerwin-Nye, A. (2004). *First aid handbook: A complete guide to emergency procedures in the home, the workplace and outdoors*. Manila: WS Pacific Publications, Inc.
- Marieb, E. N. (2002). *Essentials of Human Anatomy & Physiology* (6th ed.). Singapore: Pearson Education Are Pte Ltd

Lesson 10: Exercise for Fitness

As you participate in physical activities, whether in school or in the community, it is good practice to know your school and community's resources in case of injury or emergency. Being familiar with it makes response to injuries or emergencies more immediate and efficient, thus lessening the severity of the injury or emergency.

Resources refer to the supplies, equipment, facilities, and services that can be utilized in case of a sports- or fitness-related injury or emergency. They include both material and human resources such as safety supplies, equipment, facilities, qualified and trained emergency personnel, as well as standard protocols set for such situations. Emergency response begins with the preparation of both equipment and personnel. When these have been prepared adequately, the school and community are deemed ready for an injury or emergency.

It is important that you are able to identify these resources so that injuries or emergencies will be addressed immediately and efficiently. These resources are discussed here.

First Aid Kit

First aid is the immediate care given to a person who has been injured or suddenly become ill. First aid deals with self-help and proper home care, especially if medical assistance is not immediately available. The goal of first aid is to alleviate suffering, prevent added/further injury or danger, and prolong life.

The first aid kit is a set of supplies and equipment used to administer first aid. In your school and community, first aid kits should be available, visible, and readily accessible in case of injuries or emergencies. It should also be regularly checked for completeness and freshness of supplies.



Image taken from www.emedco.com

The usual supplies found in a first aid kit include the following:

- triangular bandage
- rubbing alcohol
- gloves
- iodine
- tongue depressor
- swabs
- gauze
- scissors
- wound dressings
- athletic tape
- cotton
- penlight
- adhesive bandage
- forceps

Other equipment that should be included to aid in first aid are the following:

- spine board
- blankets
- sets of splints
- short board/Kendrick's extrication device
- wheelchair
- poles

The first aid kit is usually located in strategic places in school like the clinic, gym, playground, and security stations. In the community, first aid kits should be located in the community centers like community hall or office and recreation centers.

It is advisable that a signage be placed where the first aid kit and equipment are located. This can either be attached to a wall or post or suspended.

Activity 1: Search for it!

Directions: Ask the students to do an ocular visit of your school gym, community hall, and recreation center. Ask them to look for emergency response equipment and supplies including first aid kit, spine board, etc. Emphasize noting down if there are signage for these and if these are accessible in case of injury or emergency. Make them complete the checklist and write their observations.



First Aid kit sign (www.seton.ca)

	School Gym	Community Hall	Recreation Center
First aid kit			
Emergency numbers and phone			
Emergency equipment	<i>(List them here.)</i>		
Visibility			
Accessibility			
Observations			

Emphasize that it is important that emergency response supplies and equipment are easy to spot and retrieve. Signage should be strategically placed and supplies and equipment should be easy to retrieve.

Encourage the students to be detailed in their observations because, with your guidance, they can use these to suggest improvements to your school and their respective communities.

Emergency Numbers and Phone/Two-way Radio

Emergency numbers include police department, fire department, Philippine Red Cross (PRC), and other pertinent numbers. These numbers are usually compiled per area (i.e. locality, municipality, city) and written on a calling card or bookmark or even larger. In schools, emergency numbers could include the clinic, security, and other offices.

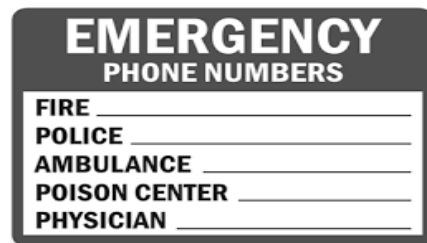


Image taken from www.smartsign.com

Emergency numbers should also be posted near phones and inside offices. It is advisable that in the gym and recreation centers, phones are visible so that school

personnel or other individuals can notify pertinent offices or departments in case of injury or emergency.

Emergency Response Procedure/Emergency Action Plan (EAP)

For schools and the community (and in any other institution), the presence of first aid kits, emergency numbers and phones, and equipment should not be the end of their emergency response. They should set procedures on how to respond to injuries or emergencies. These procedures are standard ways of responding to emergencies.



These procedures make up what is called an Emergency Action Plan (EAP). It is a plan developed for immediate implementation whenever the need arises, providing appropriate standards of emergency care to all present. The EAP usually include the following:

1. Emergency Personnel – detailed First Aid arrangements for on-site emergencies; may consist of teachers, physicians and nurses, athletic coaches, security and maintenance personnel (for schools), or community leaders, and homeowners' association president, (for community)
2. Emergency Communication – emergency numbers, phones/two-way radio, public announcement (PA) system
3. Emergency Equipment – first aid kit, wheelchair, spine board, stretcher, blankets, poles, etc
4. Medical Transportation – confirmation of local ambulance (c/o PRC), Basic Life Support, etc
5. Non-medical Transportation – wheelchairs, stretcher, etc
6. Emergency Contact List – clinic, local hospital, etc
7. Venue Information – transportations, identified entrance, exits, and access routes

School personnel (e.g. teachers, security and maintenance personnel) and community leaders know, understand, and follow these procedures every time an emergency happens because it has been standardized. These procedures are usually laid out in writing so that personnel crucial in the emergency response are notified and that immediate attention is given.

In the community, it is advisable to form a community emergency response team which will be the emergency personnel in your EAP. It is advisable that the members of the community know who forms this emergency response team.

You may not know all the procedures of your school and community in responding to emergencies. However, what is important is you know who to notify in case an emergency happens. The most immediate personnel you need to notify in case you are in your school especially in the gym are the PE teachers or any teacher present, maintenance personnel, or security personnel.

Activity 2: And the procedures are...?

Directions: Ask students to interview school personnel and community leaders regarding the emergency response procedures they follow. When interviewing school personnel, remind students to try to target those who they think are unlikely to experience injuries or emergencies to know what procedures these school personnel know and follow.

In class, ask students to compare their answers with their classmates who interviewed school personnel within the same office or nature of work (e.g. librarians, Math teachers, office staff) and share these with the class. For those belonging to the same community, ask students to compare their answers and present commonalities with the class as well.

Emphasize to the students to choose random school personnel to know if emergency response procedures in school are known and followed by all. Ask them as well to find out if emergency response procedures already exist in the community. This is crucial since awareness, presence of mind, and adherence of individuals to the emergency response procedures are factors in the effectiveness of emergency response.

Part of the services that the school and community should offer is training their personnel and community leaders in emergency responses. This is expected since the effectiveness of emergency response greatly relies on the knowledge and skills of school personnel and community leaders in first aid and other emergency responses.

The Philippine Red Cross (PRC) is the national branch of the International Red Cross that cares for the wounded, sick, and homeless and now, providing help during and following natural disasters. PRC gives training on basic life support, cardiopulmonary resuscitation (CPR), first aid, and many more. The school and community should set a schedule with PRC volunteers who can impart the necessary knowledge, training, and certifications to equip them in times of emergency and disasters.



Red Cross volunteers during a Basic Training course
(taken from <http://carmonagov.net/home/home/latest-news/303-carmona-forms-municipal-red-cross-143.html>)

Once certified, school personnel and community leaders should be able to respond to injuries and emergencies. However, certification should be renewed yearly or every two years, depending on the type of certification.

Entrance, Exit, and Access Routes

Adequate entry and exit points should be available in all areas. Access routes (paths of travel) going to the clinic, emergency exits, main gate, and others should also be known. Visible and strategically located signages are important so that these can easily be seen even from a distance. They should always be accessible and free from obstructions. Wide passageways are a must. A good estimate of the right width

of the passageway is to check if a wheelchair, spine board, or stretcher can be easily transported and still have room for first aiders or rescuers to maneuver.

Ramps and elevators make access easier and are necessary especially for structures that are higher than three storeys. They also make transport quicker.



Wheelchair ramp (Image taken from <http://stlouis.101mobility.com/wheelchair-ramps-stlouis.php>)

Activity 3: Real life injury situation

Directions: Ask the students to analyze a real life injury situation involving an athlete. Ask them what emergency response procedures they think were followed?



Ara Galang, De La Salle University volleyball player, got injured in a match versus National University in March 7, 2015. She was grimacing in pain and crying, and was later reported to have suffered serious injuries to her knees. What do you think were the emergency response procedures followed by the emergency personnel who attended to her?

Activity 4: Safety features in school

Directions: Ask the students to review their answers to Activity 5 on “Safety features in school” from the previous lesson. Based on the current lesson, let the students analyze their answers if it reflects your school as being equipped with necessary resources in case of injury or emergency. Give special attention to entrances, exits, and access routes. Once identified, ask each group to make recommendations to improve each area of the school to make it emergency-ready.

Activity 5: Safety features in the community

Directions: Instruct the students to do the same activity as in Activity 3 in their community. Ask them to identify safety features that are visible in the community and

those that only community leaders have access to. Ask them to make a short portfolio about your findings and make recommendations.

Activity 6: First Aid Certification and Basic Life Saving Course

Directions: Ask the students to identify local Red Cross office near your school or community. Inquire regarding necessary procedures to be able to have a first aid and basic life saving course in your school and/or community. Help them coordinate with the school administration and/or community leaders to have this arranged, if possible.

Emphasize that knowing first aid and basic life saving is not only in the hands of PE teachers. Personal knowledge is an advantage in case emergencies happen when participating in physical activity without the presence of teachers or when emergencies happen.

Make sure to refer to proper protocol and guidelines in conducting trainings to students. Coordinate properly with your school administrators for this.

References:

Kerwin-Nye, A. (2004). *First aid handbook: A complete guide to emergency procedures in the home, the workplace and outdoors*. Manila: WS Pacific Publications, Inc.

Image of first aid kit retrieved from
<http://shop.emedco.com/search?w=first%20aid%20kit%20sign&af=cat1:workplacesafety>

Image of hanging first aid kit sign retrieved from <http://www.seton.ca/3-sided-hanging-first-aid-signs-first-aid-kit-ac0499.html>

Image of emergency sign retrieved from <http://www.smartsign.com/custom-sign/custom-emergency-and-fire-sign/sku-s-3484.aspx>

Image of wheelchair ramp retrieved from <http://stlouis.101mobility.com/wheelchair-ramps-stlouis.php>

Lesson 11: Exercise for Fitness

Warm-up Activity:

Directions: Ask students to identify the different types of equipment and facilities that are usually found in a gym. How are these usually set up in the gym? Ask them to draw it and share their work with the class.

Emphasize that different types of equipment come in different sizes and shapes, and are also made of different materials. Strategic placement of equipment is observed to maximize space and ensure convenience of working out and safety of gym users.

Show pictures of actual gyms (both small-scale and full-scale) to compare and contrast gym features.

Reading:

When you engage in aerobic, muscle-, and bone-strengthening activities, you are likely to make use of different equipment and facilities. These resources help in your enjoyment and participation so you have to care for them. As a courtesy to other individuals who also make use of these equipment and facilities, you always need to observe the proper manners or etiquette inside a gym.

Depending on the venue or facility, there is a specific decorum expected from those who use them. The following are the different venues with its commonly expected etiquette.

Playing court or field

A playing court or field may be found indoors or outdoors, depending on the sport. Venues and facilities are usually ready-to-use where minimal setup is needed since these are specifically catered to a certain sport (e.g. basketball, football). However, some venues need to set up some equipment first, like volleyball, tennis, badminton, table tennis, taekwondo, judo, etc.

Depending on the venue arrangements (i.e., rented or otherwise), those who utilize and set up equipment are expected to properly fix, return, or store the equipment after use. It is common manners to keep the venue clean and as orderly as possible after use. Here are some examples:

- ✓ Wipe off wet spots caused by drinks and sweat
- ✓ Throw away used supplies and equipment like empty water bottles, athletic tapes, shuttlecock feathers in badminton, etc.

Activity 1: Your Own Design

Directions: Ask the students to make a signage about appropriate etiquette in the court. Tell them to make sure to think about the size, color, and contents of the signage. Ask them to think of strategic locations where they can post it in school or in the community recreation center.

Emphasize to the students that the visibility of a signage is important when thinking about its design. The font size and font color as well as the size and color of the actual signage are also important.

Make sure to check the wording the students will use on their signages especially if they push forth in posting these in their respective communities.

Dance areas or studios

These are either open or enclosed spaces with full-sized mirrors on one or more sides. They usually cater to different types of dancers, which is why most have wooden or metal railings called *barres*. Speakers and music players are usually



available for use and are set up in strategic locations (i.e., at the corners or center).

Like in playing courts and fields, depending on the venue arrangements, users of dance area or studios are expected to keep music players after use, turn off lights and ventilation when not in use, and maintain the venue orderly for the next users. Below are other expectations when using dance areas or studios:

- ✓ Keep footwear and other belongings on the sides or designated spots (i.e. lockers, benches, tables)
- ✓ Wipe off wet spots caused by drinks and sweat on the floor.
- ✓ If it is an open area, keep music at accepted volume so as not to disturb other users.
- ✓ Know the studio schedule every time so that you will not be rushed to move out for the next users.

Gym or weights area

These are usually indoor facilities with different types of equipment such as machine weights, free weights, balls, exercise machines (e.g. treadmill, stationary bike, rower, stair climber), mats, etc. They are strategically positioned to allow maneuverability and easy access for all those who work out.

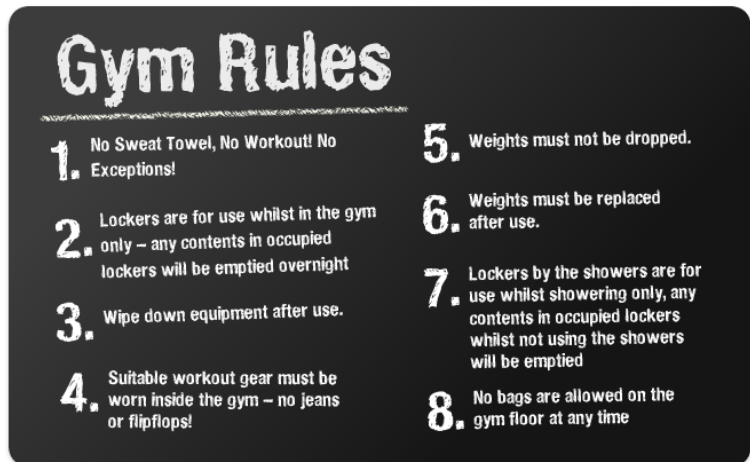


The different equipment are also accessible to all because the gym or weights area is accessible to everyone who works out. Hence, it is expected that you observe proper behavior during and after working out. Here are some of them:

- ✓ Avoid monopolizing use of the equipment. Share it with others by taking turns using them.
- ✓ Return equipment to its proper place.
- ✓ Do not slam or drop weights.
- ✓ Wipe off drinks and sweat off equipment and floor.
- ✓ Lower volume of music or wear earphones.
- ✓ Minimize grunting, refrain from yelling and using profanity.
- ✓ Wear appropriate clothes including footwear. Do not take them off to look at your body in the mirror.

Some gyms or weights areas have some reminders posted on strategic locations so that users will always be reminded. Read them and make sure to follow them to have a worry-free time working out.

Image taken from
<https://www.fitneass.com/wp-content/uploads/2014/07/Gym-Rules-Gym-Etiquette.png>



Activity 2: Are There Any?

Directions: Ask students to visit gyms or weights areas in their community. Tell them to look for signages about appropriate etiquette in the gym. Have them observe gym users if they follow these etiquette. Ask the students to pretend they were the gym manager; what actions would they take for gym users to observe proper gym etiquette? Let them share their answers with the class.

Emphasize to the students to ask permission from the gym owners first when they do the activity. If they take pictures of individuals, make sure that they ask consent from gym users as well.

You may provide a letter for the students to use when they visit gyms or weights area. Make sure that this is duly noted by school authorities.

References:

<http://dancewithmeusa.com/locations-2/dance-studio-glen-rock-nj/>

<https://www.fitneass.com/wp-content/uploads/2014/07/Gym-Rules-Gym-Etiquette.png>

Lesson 12: Exercise for Fitness

Warm-up Activity: Name 'Em!

Directions: Ask students to list as many categories of health- and fitness-related events as they can and name local and national events that fall under these categories. Have them share their answers with the class.

Emphasize that events are categorized differently so they have to think about their answers thoroughly. Guide them as they share their answers.

You can also show them pictures of different events and ask them to categorize them accordingly.

Reading:

As you become more involved in physical activities, you can elevate your participation by joining events that promote health and fitness as well as address health issues like diabetes, obesity, nutrition, smoking, and many more. By joining these events, you can learn more about these health concerns, what is being done to handle them—and at the same time, you also get to increase your physical activity.

The usual objective of the organizers of these events is to raise funds for awareness about these health issues. Depending on their advocacy, events may range from fun-filled activities that can engage entire families, to more physically demanding ones. Participation in these events not only increases your activity but also gives you an advocacy to work on. Your choice would depend on your interests and preferences. Here are some viable options for you.

Fun runs

These are usually 1-day events that focus on running various distances (i.e., 3k, 5k, 10k, or longer). They cater to a wide variety of participants—competitive or recreational runners, and even families. Whether you are a recreational or



competitive runner, fun runs are good ways to elevate participation in physical activities since some fun runs are held in different surfaces (e.g. concrete, off-road, beach) and with different challenges posed on runners like an uphill run.

Other than the fitness benefits you would get from joining fun runs, you also get to help out certain causes. Some organizations, associations, and companies organize fun runs as one of their cause-oriented events.

Other benefits of joining fun runs include meeting new friends, enjoying the outdoors, and bringing home participant race kits. Race kits, which usually include a race bib or shirt and other items from sponsors, are good incentives for your effort. You can even get additional giveaways depending on the event sponsors.

You can also use your participation in fun runs as a gauge of your physical fitness by trying to beat your own time, setting new records, or even aiming to finish among the top participants. If you do so, it is best that you prepare properly and scout for more opportunities to race.



33rd Annual

Dance events, competitions, or marathons

These events focus on dance as the main activity, whether as competition (e.g. streetdance, dancesport) or as recreation (e.g. aerobic dance marathons, Zumba™ events). These may last for hours depending on the event and variety of dances, intensity levels, and music usually used, thus, elevating participation.



Other than fitness benefits, you can get a lot out from joining dance competitions and marathons. If events are competition-based, usually cash prizes, trophies, and freebies are the main incentives, along with bragging rights. However, if the events are recreation-type, participant kits (e.g. event shirt, sponsor freebies) are the usual takeaway. However, the enjoyment and fun of dancing are the main attraction in these types of events.

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Many people are getting into exercising because of the popularity of some aerobic forms of exercises particularly Zumba™. The attractiveness of physical activities like Zumba™ comes from the lively music and instructors, colorful vibe, and relatively easy to follow dance routines. However, the most crucial effect that popular exercises like Zumba™ have is the encouragement and

support to participate in exercise, which in effect, makes people more aware of their health and fitness. That is why some groups and organizations choose Zumba™ at their event to promote awareness for their various causes. However, you can also engage in other aerobic exercises in the form of dances such social dance, streetdance, etc.

Sports tournaments

These are the most common type of health- and fitness-related organized events. They mainly focus on sports in a tournament type of play where individual players and/or teams compete. They are usually organized for school teams [(e.g. University Athletic Association of the Philippines (UAAP)]. However, sports associations, cause-oriented groups, organizations, brands, and companies also hold sports tournaments for various purposes, levels, and sports.



It may not be explicit that health and fitness are the main highlights when joining such events because the nature of such events is usually competitive. Athletes and competitors treat their health and fitness seriously because of this same nature. That is why they train not only for their sports skills but also for their conditioning. Through sport tournaments, athletes and competitors are actually good role models of health and fitness.

You can join sports tournaments of varying levels of competition and different sports. During summer, local government units (LGUs) hold sports leagues especially for basketball and volleyball. Several categories are open for basketball based on age groups. For both basketball and volleyball, teams usually represent different *barangays*, *sitios*, *puros*, or subdivisions. Some LGUs also hold sports programs or sports clinics for the youth and other individuals. The Sangguniang Kabataan (SK) or the youth leaders of the community commonly organize events like these.



In school, intramurals are the common sports competitions for students. Different grade or year levels compete against each other in different sports. Games



are usually played after classes where semi-finals and championship games are usually the highlights. Year levels are represented by team colors and are called by their common year level labels (i.e., green for 1st year/freshmen, yellow for 2nd year/sophomores, red for 3rd year/juniors, blue for 4th year/seniors).

INTRAMURAL SPORTS

You can also try out for your school's varsity teams. They represent your school in different sports competitions which usually include district level competitions. When successful, teams move to higher level competitions that could eventually lead to Palarong Pambansa. This is organized by the Department of Education (DepEd) which is the national competition for

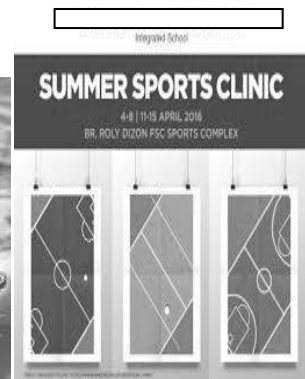
students. Here, student-athletes from all over the Philippines compete in different sports representing their respective regions. This is held in one particular region where events are held in different venues or locations.

You can also join sports tournaments organized by other institutions. Sports outlets, product brands, and companies organize sports tournaments. They usually advertise to invite participants so you might want to look for tournaments in sports that you like.



Summer sports clinics

These are short-course sports programs catering to school children. Sports clinics are offered by schools and product brands when school is over and students have their summer break. The usual sports offered include basketball, taekwondo, swimming, gymnastics, football, volleyball, and others. These last for several sessions spanning days or weeks, and usually culminate with an exhibition tournament.



Outdoor recreation events like cycling events, triathlon, marathons, and football

These are specialized events that target sports enthusiasts and athletes. These are held in specialized venues and locations, and usually have different categories for different levels of participants. Depending on the event, categories such as beginner,



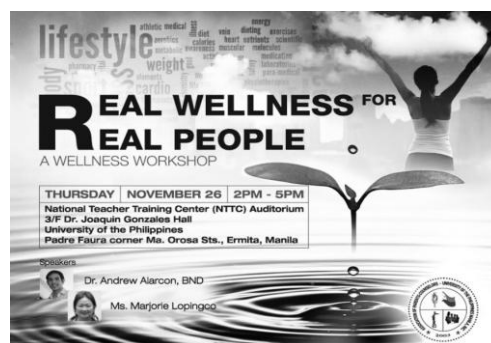
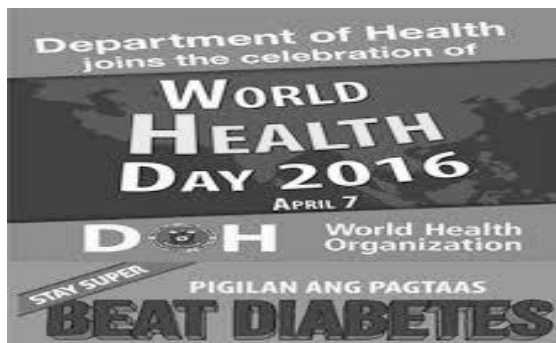
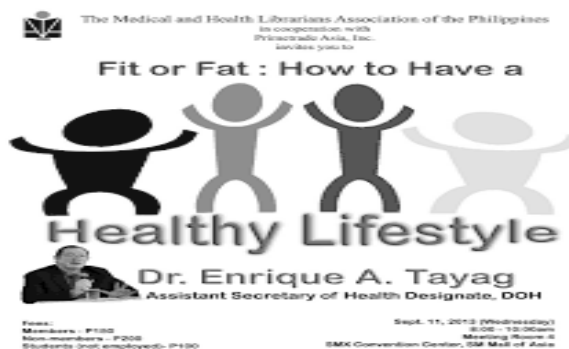
intermediate, and advanced are formed or opened.

When you join such events, you get to experience recreation-level of participation to a higher level of competition. You also get to experience a different atmosphere because of the ambiance in such events. Sponsors' booths and stalls are usually set up along with other related set ups.



Talks, seminars, or conferences

These are usually lecture-based events that cover topics discussed with an audience. Some events are held for different lengths (i.e., half-day, 1-day, 2-day, 3-day, weeklong) and some include workshops or hands on training. Some also are held with different formats like classroom-type lecture, panel discussions, parallel sessions, and the like. Credible resource persons and speakers are invited to speak so that reliable information are shared and learned.



Cause-oriented associations, product brands, companies, professional organizations, among others hold such events for various purposes, some to increase awareness, promote various causes, and to inform.

It would be beneficial for you to attend such events so you could learn more things about health and fitness, become more aware of related issues and concerns, and have a clearer understanding of these things.

School, club, community, or company events

These are events that are organized by schools, clubs, communities, and companies for specific purposes. These cover a wide range of activities like the ones mentioned above. Schools and companies commonly hold events to coincide



with special dates and occasions. Events are usually dependent on themes and duration is also relative to the celebration.

Aside from summer sports clinics, some communities also offer recreation programs within the year to encourage an active lifestyle.

Activity 1: What's Going On?

Directions: Ask the students to conduct an interview with their community leaders. Have them ask about the community activities provided for members of the community during the year. Let them probe on the successes of these activities in the previous years.

Emphasize that interviews should not be conducted stiffly. Advise them to be conversational. You can formulate guide questions for the students to use. Discuss as well how to conduct interviews in your class.

Activity 2: Join Now!

Directions: Ask the students to scout organized events that interest them. Have them join these events to maintain an active and healthy lifestyle. Let them complete the table below and show proof of participation (e.g., picture during the event, race bib, event giveaways, registration form, etc).

Date	Event Name	Type of Event	Organizers	Proof of Participation

Tell the students that the events they want to join can be of the same type. However, for the purposes of variation, encourage them to join other types of events. Proof of participation can be pictures during the event, shirt, or other items from the event.

Encourage them to spread out these events within the year so that they get to participate regularly. It will also enable them to have ample rest between events especially for those who participate to compete.

References:

- <http://definitelylibrarian.blogspot.com/2013/09/mahlap-forum-fit-or-fat-how-to-have.html>
- digostoday.com
- donboscoanlubang.edu.ph
- www.doh.gov.ph
- www.girodepilipinas.com
- www.iligan.gov.ph
- www.milo.com.ph
- www.philstar.com
- www.upm.edu.ph
- www.valenzuela.gov.ph

Lesson 13: Value of Participating in Physical Activities

Objectives:

At the end of the lesson, students should be able to:

1. Identify the value of participating in physical activities
2. Understand the health benefits of participating in physical activities
3. Describe the characteristics of a responsible leader in fitness activities

Activity 1: Assess your PA....

Directions: Instruct the students to close their eyes and think of all the activities that they do for the whole day. Ask them to list it all in the table below and tell whether the activity is healthy or not by putting the corresponding emoticon on the provided table beside the activities. Tell them to follow the given example.

DAILY ACTIVITY	HEALTHY 	UNHEALTHY 
Scrubbing the floor		

Processing questions:

1. How many healthy activities have you done the whole day? Do you think they are enough for you to be considered an active teenager?
2. What do you think should you do with your leisure hours to maximize your physical activities?
3. Do you think that the activities you have for the day can improve your health and make you physically active?

Reading:

In recent years, there has been a decline in physical activity among teenagers. There are lots of demands on their time, so they find it hard to be physically active. Yet physical activity keeps teenage bodies and minds fit and healthy. During adolescence, they need at least 60 minutes of activity every day.

With the rise of modern technology and proliferation of personal entertainment gadgets, peoples' life has become more sedentary. Their physical activities, whether recreational or regular, became limited. This has been most evident with teenagers nowadays. Few teenagers engage in physical activities and outdoor sports. Instead, they spend their leisure hours inside the house playing computer games or games on gadgets and watching television and movies. This sedentary lifestyle leads to poor health and limited activities.

Motivation is a great factor to influence them to an active lifestyle. They have to see and understand the reason for engaging in regular physical activity instead of playing with gadgets or watching TV.

Activity 2: Where do I Belong?

At the end of this activity, students are expected to identify and understand the difference between the physical activities that they do every day.

Directions: In the box below is a list of different physical activities. Instruct the students to classify the activities whether it is moderate activity or vigorous activity. Tell them to rewrite the activities in the appropriate column on the table.

walking	dancing	playing football	cycling	swimming
playing basketball	jogging	gardening	climbing	doing aerobics
MODERATE ACTIVITY			VIGOROUS ACTIVITY	
walking dancing swimming jogging gardening			dancing playing football cycling swimming playing basketball jogging climbing doing aerobics	

Physical activity simply means movement of the body that uses up energy. Walking, gardening, sweeping and mopping, mopping the floor, climbing the stairs, playing football, or dancing are all good examples of being active. However, for it to be beneficial for one's body, there are various factors to be considered such as the intensity, duration, and frequency of the physical activity performed.

Here are some points to consider:

1. Physical activity done at a moderate or vigorous intensity level is good for a teenager's health.
2. Moderate physical activities generally make you move. These could include brisk walking, dancing, biking, swimming and jogging. Even helping out with some of the more active chores inside and outside your home like gardening can be good.
3. Vigorous activities increase the heart rate and make you sweat and may let you enjoy being active even more. You may play games with lots of running involved, say, basketball. You may also be take up running or jogging, or other sports like football, tennis, and swimming.

Being physically active is an important part of a teenager's growth and development, especially if done regularly. Let them realize that it is a great way to spend time with friends, meet new people, feel good, and break up long stretches of playing online games and watching movies. It is invigorating to move the entire body, even by just cheering, or running after the ball. Being active every day can help teenagers achieve the following:

- improve heart health and fitness
- develop strong muscles
- develop strong bones

- develop good posture
- maintain a healthy weight
- improve concentration and memory
- learn new skills
- increase self-confidence
- reduce stress
- make and keep friendships
- improve sleep
- develop leadership skills and initiative
- awaken a sense of responsibility

According to the World Health Organization, in 2010, physical inactivity or the lack of physical activity has been identified as the fourth leading risk factor for global mortality (6% of deaths globally). Moreover, physical inactivity is estimated to be the main cause of approximately 21–25% of breast and colon cancer cases, 27% of diabetes cases, and approximately 30% of ischemic heart disease cases. The following are the common results of physical inactivity.

- increased risk of being overweight and obese
- hypertension/high blood pressure
- anxiety
- depression
- type 2 diabetes mellitus

It is alarming to see that these conditions, which were seen before to only affect adults are now affecting teenagers due to an improper diet and the lack of physical activities. The sedentary lifestyle that most of them practice leads to the deterioration of their health as well as their bodies.

Getting enough physical activity does not just happen. There should be conscious effort and the decision to engage in it. Not all teenagers are keen on doing physical activities. Others need motivation and encouragement to start an active lifestyle. Sometimes teens need to explore a range of different organized and recreational activities to find one that they like and enjoy. Simple, non-competitive activities will allow them to socialize in a positive way. These can help them feel good about doing physical activities rather than just sitting down playing video games. Getting teenagers involved in lots of fun physical activities keeps them active and healthy. It's easy when you help them find activities that they enjoy and that they can do as part of everyday family life.

Teenagers may also join groups like community youth clubs, such as scouting, which will keep them physically active while getting new knowledge or learning new skills. These groups often do lots of physical activities be it indoor or outdoor. They are good training grounds for future leaders, particularly in developing responsible young adults as they motivate them to have the initiative to do and finish tasks.

When teenagers get involved in groups like these, they may also feel a sense of achievement. They can be elected as leaders of the groups and could somehow get more involved in activities that could open doors for them to learn how to lead more efficiently. Cooperation and camaraderie will also become natural to them, building self-confidence and boosting their self-esteem.

Exposure to competition in groups such as in a basketball league could improve their leadership skills, give them a sense of responsibility, and inculcate

values on fair play. With these activities, teenagers will enjoy physical activities more and will make their leisure hours more productive and competitive leading them not only to a healthy lifestyle but to become responsible individuals.

Activity 3: P.A. Benefits

At the end of this activity, students should know and understand the different benefits that they can get from physical activities and the conditions that they are at risk of when they are physically inactive.

Directions: Below are jumbled letters/words of the different values they can get from getting enough physical activity and the conditions that they are at risk of when they have an inactive lifestyle. Ask the students to rearrange the letters to form the correct word and tell them to put them on the corresponding table where they belong.

trongs nobes	odog turesop	neyitax	thyealh ightwe	bisetoy
duceer serests	betisdia	romdpive	peels	ehtlhay reath
gihh dolob srespure	lopedev	edarlipesh	likls	presniodes
Benefits from doing physical activities			Conditions from not doing physical activities	
good posture strong bones healthy weight reduce stress healthy heart develop leadership skills improved sleep			depression anxiety obesity diabetes high blood pressure	

Summary

The term "physical activity" should not be mistaken with "exercise". Exercise, is a subcategory of physical activity that is planned, structured, repetitive, and purposeful in the sense that the improvement or maintenance of one or more components of physical fitness is the objective. Physical activity includes exercise as well as other activities which involve bodily movement and are done as part of playing, working, active transportation, house chores and recreational activities. Due to the rising technological advancement in our country, the physical activities of teenagers have become limited and are often neglected. Motivation and involvement is needed for them to be active. Once they are motivated they will open doors for physical activities that they will surely enjoy.

Motivation and parental guidance is needed to encourage teenagers to engage in physical activity so that they could enhance their skills as well as improve their body conditions and health, leading to a physically fit individual. It is also important to help them manage their time and lead them to use their leisure hours wisely.

Inspire and motivate them to join youth groups that could help them enjoy the physical activities and allow them to be competitive. These healthy competitions will develop their initiative and sense of leadership and responsibility. While competing, camaraderie, patience and cooperation will also be learned. We can have not only physically active and healthy teenagers but we will also develop well-mannered teenagers who can become future responsible leaders as well.

Lesson 14: Career Opportunities In Health And Fitness



Objectives:

At the end of the lesson, the learners should be able to:

1. Identify the potential career for health and fitness
2. Realize ones potential in health and fitness career
3. Create a fitness event for a particular health issue

Activity 1: Find Me!!!

Directions: In the box below are the ten different career opportunities in health and fitness. They are written horizontally and vertically. Let the students find the words and write them on their paper.

P	R	O	F	E	S	S	I	O	N	A	L	A	T	H	L	E	T	E
E	Q	U	I	X	U	I	N	U	U	T	T	T	H	E	M	E	A	F
I	N	G	T	P	R	E	S	R	T	H	U	H	R	A	F	I	R	I
N	T	M	N	N	V	P	I	S	R	L	O	L	O	R	R	U	N	T
S	O	A	E	S	I	F	D	B	I	E	Y	E	U	T	N	U	T	N
T	M	G	S	I	Q	I	E	L	T	T	F	T	G	O	L	N	B	E
R	Y	P	S	V	O	A	A	V	I	I	O	I	H	F	W	L	U	S
U	E	O	I	E	R	M	N	O	O	C	G	C	T	M	O	I	R	S
C	A	U	N	B	N	A	D	S	N	C	N	T	H	I	R	K	G	T
T	O	S	T	U	O	Z	O	Y	I	O	I	R	E	N	N	E	E	R
O	T	H	R	Y	W	I	U	P	S	A	K	A	R	E	P	L	R	A
R	I	O	U	L	T	N	T	O	T	C	N	I	A	U	V	Y	F	I
O	H	X	C	G	H	G	U	M	O	H	I	N	I	S	E	G	R	N
M	S	E	T	T	K	S	S	S	O	I	H	E	N	E	R	N	I	E
A	E	R	O	B	I	C	S	I	N	S	T	R	U	C	T	O	R	R
S	P	O	R	T	S	T	R	A	I	N	E	R	C	U	W	X	P	S
P	H	Y	S	I	C	A	L	T	H	E	R	A	P	I	S	T	E	Y

The health and fitness field offers many career opportunities. Individuals interested in helping others maintain their physical well-being may pursue degree and certification programs in this field of interest.

If you're interested in your physical well-being as well as that of others, you may consider an education in health and fitness. If you want to be of help in improving public nutrition standards, helping people recover their fitness after an injury, or just improving a person's overall wellness, a career in health and fitness may be right for you. Degree and certification programs are available in fields such as the following:

- nutrition
- athletic training
- physical therapy
- fitness trainers

These trainings can lead to careers as:

- nutritionists
- fitness trainers
- personal trainers
- aerobics instructors or coaches

In this field, one must be outgoing, in good health, organized, have good communication skills and able to motivate others. Meanwhile, other career opportunities await students inclined in health and fitness. They can pursue a career in the following fields:

- Professional athlete
- Physical education instructor
- Sports trainer
- Athletic coach

Activity 2: Pick and Match

Directions: Below are images of the different careers in health and fitness. Ask the students to name them and describe each.



1.



2.



3.



4.



5.

Activity 3: Think and Match!

Directions: List down at least ten things that interest you. Think of the different career opportunities suited for those interests and write it on the table below. Answer the questions that follow.

Interest	Career

Processing Questions:

1. Which among those interests takes most of your time? Why?
2. Does it fascinate you? How?
3. Do you think it will be your stepping stone for your future career? Why?

Activity 4: Event for the Issue

Directions: Due to the rise of modern technology, the lifestyle of many teenagers has become sedentary increasing their risk of being overweight and obese. The activity below will improve their awareness and motivate them to change their lifestyle for the better.

1. Divide the class into four (4) groups.
2. Instruct them to create a 4-minute Zumba exercise fitted for teenagers.
3. Let them practice the exercise and present it in class.
4. Let them lead the morning exercise during flag ceremony.
5. The Zumba exercise will be graded by the teacher using to the rubrics below.

Timing	5
Coordination	5
Music	5
Attitude	5
TOTAL	20

Summary

Oftentimes we ask other people about what their interest are because somehow we want to know what track they want to take. It is true that what interests us now will be the stepping stone for our future career. In choosing a career, it should be something that really fascinates and interests us. Though you may face challenges along the way, it would be easier for you to succeed knowing that you want what you are doing.

There are many career opportunities in health and fitness. Depending on their interest, one may pursue a career in professional athletics, nutrition, or fitness.

So for now, prepare yourself for what career you would like to take. Choose what really interests you and pursue it.