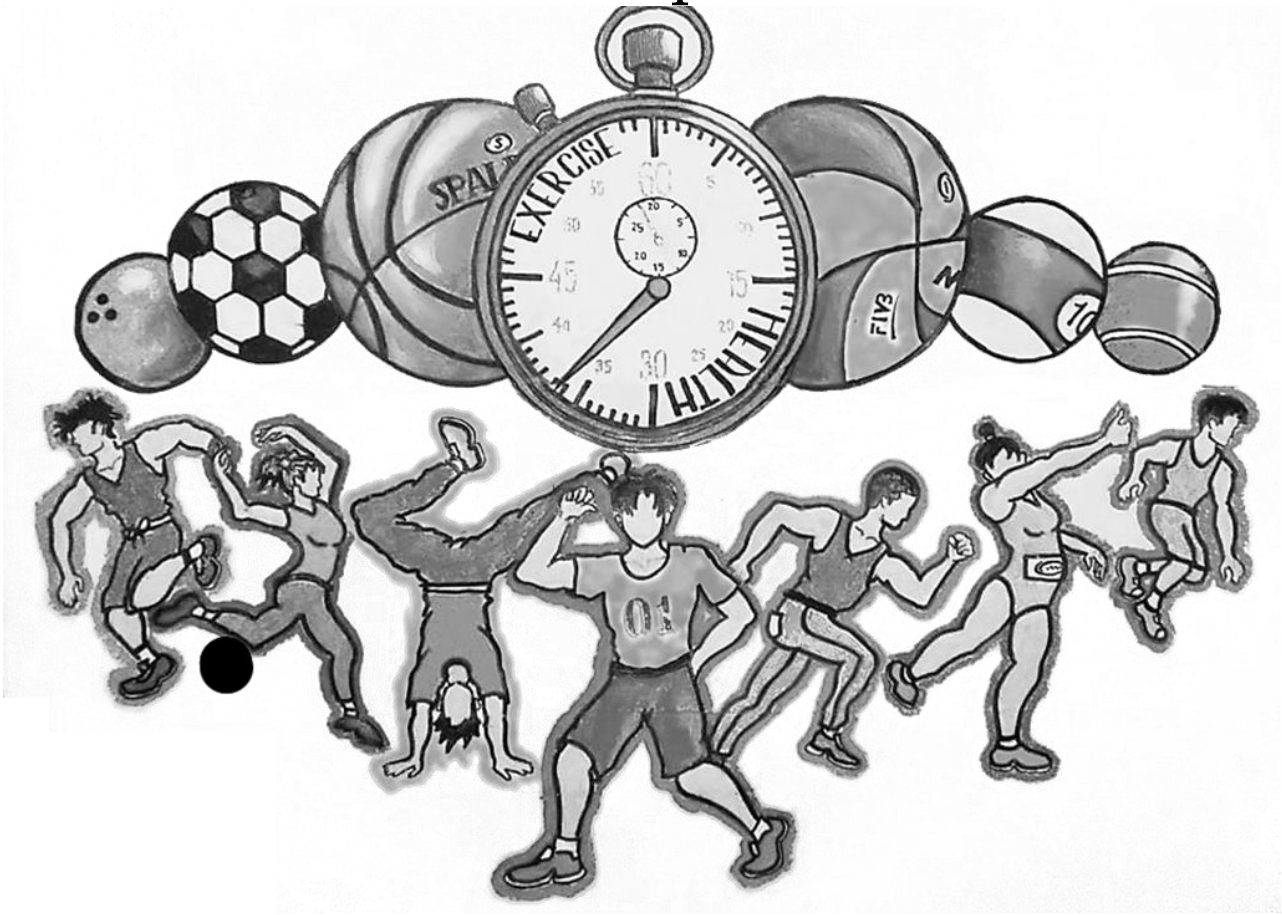
Senior High School

Department of Education
National Capital Region
SCHOOLS DIVISION OFFICE
MARIKINA CITY

HOPE 2

2nd Semester
Module 3:
Sports and the Different Training Principles



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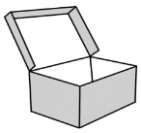


What I Need to Know

This Module was designed & written to help you to understand the concept of Dance & how they can help to improve one's health through regular participation.

The lesson is arranged to follow the standard sequence of the course.

The module is divided into two lessons namely:

- Lesson 1 – Principles of Training
- Lesson 2 – FITT Principle
- Lesson 3 – Maintaining Health Related Fitness

Learning Competencies and Objectives:

- Self – assesses health-related fitness (HRF), status, barriers to physical activity assessment participation and one's diet.
- Engages in moderate to vigorous physical activities (MVPA's) for at least 60 minutes most days of the week in a variety of settings in-and -out of school.

After going through this module, you are expected to:

- Determine/ Identify the different Training Principles and the purpose of the following in physical activities specifically in sports
- Execute properly the different Training principles and FITT principles through home fitness workout.

What I Know

Write **TRUE** if the statement is correct and **FALSE** if not. Do it in your notebook.

1. Training principles are the fundamental guidelines that form the basis for the development of an exercise training program?

2. Reversibility indicates that as you get fitter and fitter, you may not get as big a benefit for each additional amount of activity that you perform?

3. Diminishing return is a term adopted from medicine. To know what response benefit will occur from taking a specific dose?

4. Specifically, the training principle that the body adapts to the particular type and amount of stress placed on it?

5. Progressive principle, physical activity should be increased progressively for safe and effective results?

6. Overload principle is the most basic of all physical activity?

7. Physical training the performance of different types of activities that cause the body to adapt and improve its level of fitness

8. Exercise planned, structured, repetitive movement of the body, intended to improve or maintain physical fitness?

9. Physical activity: any body movement carried out by the skeletal muscles requiring energy?

10. Overtraining is a condition caused by training too much too intensely, characterized by lack of energy, decreased physical performance, fatigue, depression, aching muscles and joints, and susceptibility to injury.

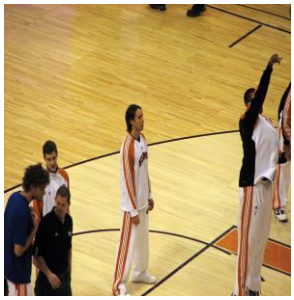
LESSON 1

What's In

What is your favorite sport? Why do you like it? Share your unforgettable experience in playing this game.

What's New

Direction: Study pictures A and B.

A	B
 https://commons.wikimedia.org/wiki/File:Steve_Nash_warmup.jpg	 https://upload.wikimedia.org/wikipedia/commons/3/3a/CamEd_women%E2%80%99s_basketball_at_the_annual_CamEd_Women%E2%80%99s_Basketball_Cup.jpg
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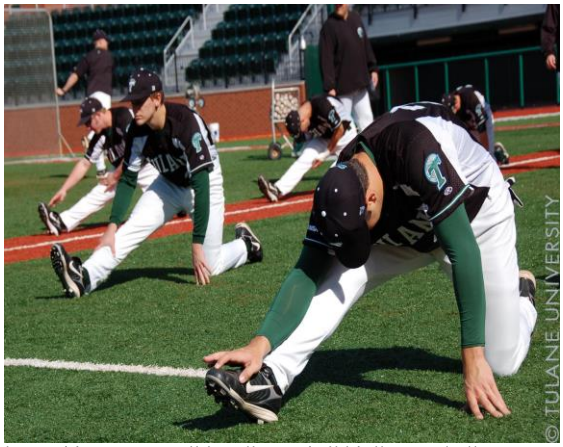

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https://commons.wikimedia.org/wiki/File:Volleyball_match_-_warming_up.jpg

https://www.flickr.com/photos/nathaninsandiego/29550744620

Questions;

1. When you see the pictures what first comes into your mind when you see the pictures?
2. What can you say about the pictures in column A? Column B?
3. What is the connection of picture A to picture B?
4. What is the significance of doing the activities in picture A in preparation of the activities in picture B?
5. What are the different Principles of training?
6. What are the different specifications and uses of every princ

What is It

PRINCIPLES OF TRAINING

- Fundamental guidelines that form the basis for the development of an exercise training program
- Training is a long-term process that is progressive to meet the individual level of fitness and conditioning.
- Training uses both general and event specific exercises to develop individuals for their sports. Training is a cyclical process: tear down, recovery, super compensation and build up (adaptation)

Six Principles of Training:

1. **Overload principle-** is the most basic of all physical activity principles, this principle indicates that "doing more than normal" is necessary.

   Example:
   - In order for a muscle to get stronger, it must be overloaded, working against a load greater than normal.

   - To increase flexibility, a muscle must be stretched longer than its normal. By stretching it more than normal it can adapt and can be stretched gradually to that point if needed.

- Can do 10 rounds in track oval. To increase muscular endurance, muscles must be exposed to sustained exercise for a long period of time.

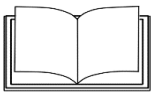
2. **Progression principle-** Indicates that overload should not be increased too slowly or too rapidly if benefits are to results. The corollary of the overload principle that indicates the need to gradually increase overload to achieve optimal benefits.
   Example:
- Do not double the load, if you can do 5 laps at the track oval, don't overload it with 10 laps immediately. Increasing the load gradually adds half a round first.
- In dieting, don't stop eating right away. You can practice your stomach by eating small amounts of food, gradually minimizing the food you eat.

3. **Specificity-** The training principle that the body adapts to the particular type and amount of stress placed on it.
   Example:
- Designing your warm-ups, workout, cooldown programs for specific activities. Training is most effective when it closely resembles the activity for which you are preparing.
- Some gymnastics have a good upper body development but poor leg development. They used more on their upper extremities.
- Swimmers, they also have stronger upper extremities than their lower, specially fliers, athletes.

4. **Dose response-** A term adopted from medicine. With medicine it is important to know what response(benefit) will occur from taking a specific dose.
   Example:
- If you work your cardio, your cardio will be developed. If you focus more on muscular strength it will develop
- What you want what you get
- Higher workout higher benefits

5. **Reversibility-** The benefits achieved from overload last as long as overload continues.
   Example:
- Before I was very active, I did training, 2 times a day and it was nothing for me. Now that I'm not that active, whenever I do training, I cannot do what I could do before.

6. **Diminishing return-** This indicates that, as you get fitter and fitter, you may not get as big a benefit for each additional amount of activity that you perform.
   Example:
- Keep increasing physical activity by equal increments, each additional



What's More

On the following table, check the different Training Principles, and kindly put 3 sample exercises that you can do at home. use each training principle to help and improve your sports skills.

Principles of Training	**Sample of Exercises**	**Days**		**Time Duration**	
1. Overload Principle					
2. Progression Principle					
3. Specificity Principle					
4. Specificity Principle					
5. Specificity Principle					

What I Have Learned

Complete the following statement:

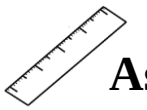
1. I learned that the Principle of Training is important because ……
   _____
2. I realized the specific fitness goal in sports can achieve thru Training Principles how? …….
   _____

What I Can Do

Let's Commit to Be Fit

Direction: Make your own exercise schedule to improve your Cardiovascular Endurance Applying Overload Principle in 1 week.

Days	Time	Set/Repetitions	Legend
Goal: - Using Overload Principle make a schedule of exercises to improve your Fitness level	-Duration time of your activity	-Set is the number of cycle of reps that you complete. - Rep is the number of times you perform a specific exercise. Example: 12x push ups- Rep 3x12 push ups- Set	- Hard - Easy - Easy to Moderate - Rest day
MONDAY			
TUESDAY			
WEDNESDAY			
THURSDAY			
FRIDAY			
SATURDAY			
SUNDAY			



Assessment

1. Training uses both general and event specific exercises to develop individuals for their sports. Training is a cyclical process: tear down, recovery, super compensation and build up adaptation?
   A. Overload principle
   B. Progression principle
   C. Reversibility principle
   D. Principle of training

2. Can do 10 rounds in track oval. To increase muscular endurance, muscles must be exposed to sustained exercise for a long period of time?
   A. Principle of training
   B. Overload principle
   C. Specificity principle
   D. Dose response principle

3. Designing your warm-ups, workout, cooldown programs for specific activities. Training is most effective when it closely resembles the activity for which you are preparing?
   A. Overload principle
   B. Dose response principle
   C. Reversibility principle
   D. Specificity principle

4. This indicates that, as you get fitter and fitter, you may not get as big as benefit for each additional amount of activity that you perform
   A. Diminishing return principle
   B. Specificity principle
   C. Overload principle
   D. Reversibility principle

5. Do not double the load, if you can do 5 laps at the track oval, don't overload it with 10 laps immediately. Increase the load gradually adds half a round first
   A. Overload principle
   B. Diminishing principle
   C. Progression principle
   D. Reversibility principle

6. Higher workout higher benefits:
   A. Dose response principle
   B. Principle of training
   C. Dose response principle
   D. Overload principle

7. Before I was very active, I do training 2 times a day and it's nothing for me. Now that I'm not that active, whenever I do training, I cannot do, what I can do before:
   A. Specificity principle
   B. Reversibility principle
   C. Dose response principle
   D. Overload principle

8. Fundamental guidelines that form the basis for the development of an exercise training program
   A. Overload principle
   B. Principle of training
   C. Specificity principle
   D. Dose response principle

9. To increase flexibility, a muscle must be stretched longer than its normal. By stretching it more than normal it can adapt and can be stretch gradually to that point if needed
   A. Overload principle
   B. Progression principle
   C. Reversibility principle
   D. Dose response principle

10. The training principle that the body adapts to the particular type and amount of stress placed on it.?
   A. Dose response principle
   B. Specificity principle
   C. Reversibility principle
   D. Diminishing return principle

Additional Activities

Individual class Activity: Make your own Health Related Fitness Profile to find out your fitness profile according to HRF this quarter. The table below is sample of this activity

Principle of Training Application in Sports

Let's do it!

List of Principle of training	Kindly give a List of sports that you think is applicable to apply the following training. 1pt each.	Explain briefly the reason why the training principle you give is useful to the sports you choose. 2 points each.
1. Overload principle		
2. Progression principle		
3. Specificity principle		

4. Reversibility principle		
5. Reversibility principle		

**********END OF LESSON 1**********

LESSON 2 – FITT Principle

What's In

Directions : Give at least three principles of training, Explain each briefly.

What's New

Directions: Make your self assessment on the following in terms of **sports** by completing the table below.

Frequency	Intensity	Time	Type of Training

1. What is the function of FITT in Physical Activity or playing sports?
2. How FITT(Frequency, Intensity, Time and Type of Training will help you to improve your Physical activity and Sports performance?
3. What are your reasons to start Exercise?
4. What is your reason for playing sports?
5. How can FIT help you to organize a training plan?
6. How FITT functions are used to prevent sports injuries?
7. Why FITT giving a lot of benefits in playing sports?
8. How often do you

What is It

Lesson 2: Frequency, Intensity, Time, Type (FITT)

Frequency- how often

- Developing fitness requires regular exercise. Optimum exercise frequency, expressed in number of days per week, varies with the component being developed and the individual fitness goals.

  Example:
  For most people, a frequency of 3-5 days per week for cardio respiratory endurance exercise and 2 or more days per week for resistance and flexibility training is appropriate for a general fitness program.

Intensity- how hard

- Fitness benefits occur when a person exercises harder than his or her normal level of activity. The appropriate exercise intensity varies with each fitness component.

  Example:
  -to develop cardiorespiratory endurance. You must raise your heart rate above normal
  - to develop muscular strength, you mast lift a heavier weight than normal
  - to develop flexibility, you must stretch muscles beyond their normal length

  -High intensity exercise poses a greater risk of injury than low intensity exercise.
  - If you are a nonathletic adult, it's probably best to emphasize low-to moderate-intensity activity of longer duration.

Time- how long (duration)

- Fitness benefits occur when you exercise for an extended period of time.

  Example:

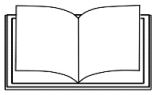
- For cardiorespiratory endurance exercise, 20-60 minutes is recommended; exercise can take place in a single session or in several sessions of 10 or more minutes. The greater the intensity of exercise, the less time needed to obtain fitness benefits.
- For high-intensity exercise, such as running, 20-30 minutes is appropriate.
- For moderate intensity exercise such as walking, 45-60 minutes may be needed.
- High intensity exercise poses a greater risk of injury than low intensity exercise.

Type- (Mode of Activity)

- The type of exercise in which you should engage varies with each fitness component and with your personal fitness goals.

  Example:

- To develop cardiorespiratory endurance, you need to engage in continuous activities involving large muscle- groups walking, jogging, cycling or swimming. Resistive exercises develop muscular strength and endurance, while stretching exercises build flexibility.



What's More

On the following table below kindly make your own exercise program to improve Muscular endurance, Flexibility and Muscular strength using the application of FITT Principle in your exercise plan.

FITT FORMULA USE TO IMPROVE SPORTS FITNESS GOAL

Let's do it!

Sports Fitness goal + FITT	**MUSCULAR ENDURANCE**	**FLEXIBILITY**	**MUSCULAR STRENGTH**
1. FREQUENCY			
2. INTENSITY			
3. TIME			
4. TYPE			

What I Have Learned

Read and answer the questions below. Write the answer in your notebook.

1. What the different Principle of FITT?

2. What are the uses of FITT Principle to achieve fitness goals?

3. How can the FITT Principle be used to improve the level of fitness in order to sustain the demand of playing sports?

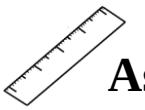
What I Can Do

On the table below, kindly choose 1 Level of Fitness between, Beginner, Intermediate, Advanced and provide a **one week** training program plan on how to gradually achieve the training goal below. Use the principle of FITT as a guide of your training plan. (Provide your own sheet of paper)

HOME WORKOUT

Training Goal: LOSE WEIGHT/ MUSCLE TONING

Level of FITNESS	FREQUENCY-how often	INTENSITY-how hard	TIME-duration	TYPE-mode of activity
BEGINNER:				
INTERMEDIATE:				
ADVANCED:				



Assessment

1. This is the exercise in which you should engage varies with each fitness component and with your personal fitness goals?
   A. Frequency B. Intensity C. Time D. Type

2. Fitness benefits occur when a person exercises harder than his or her normal level of activity?
   A. Frequency B. Intensity C. Time D. Type

3. Fitness benefits occur when you exercise for an extended period of time?
   A. Frequency B. Intensity C. Time D. Type

4. The Optimum exercise expressed in the number of days per week, varies with the component being developed and the individual fitness goals.?
   A. Frequency B. Intensity C. Time D. Type

5. Resistive exercises develop muscular strength and endurance, while stretching exercises build flexibility?
   A. Frequency B. Intensity C. Time D. Type

6. For most people, a frequency of 3-5 days per week for cardio respiratory endurance exercise and 2 or more days per week for resistance and flexibility training is appropriate for a general fitness program?
   A. Frequency B. Intensity C. Time D. Type

7. To develop cardiorespiratory endurance. You must raise your heart rate above normal.
   A. FITT B. Frequency C. Intensity D. Time

8. For moderate intensity exercise such as walking, 45-60 minutes may be needed?
   A. FITT B. Intensity C. Time D. Type

9. If you are a nonathletic adult, it's probably best to emphasize low-to moderate-intensity activity of longer duration?
   A. Frequency B. Intensity C. Time D. Type

10. To develop cardiorespiratory endurance, you need to engage in continuous activities involving large muscle- groups walking, jogging, cycling or swimming?
   A. FITT B. Intensity C. Time D. Type

Additional Activities

Must try this!

Direction: Make your own training program plan in one week on the table below, at your comfortable time. Use the knowledge that you gain in FITT principles. The goal of one week, plan will do up to 1 month regularly.

Note: Record to your notebook the personal assessment that you observe every week. I suggest sat is the best day to record all your remarks in your fitness activities.

Personal Fitness Daily Schedule in One week

TIME	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SAT	SUNDAY
AM							Rest day
6:00-7:00 AM							
8:00-9:00							
10:00-11:00							
RECOVERY TIME							
PM							
3:00-4:00							
5:00-6:00							
7:00-8:00							
RECOVERY TIME							

LESSON 3

What's In

Complete the following statements:

1. What is the meaning of an acronym? _____

   F-

   I-

   T-

   T-

2. What is the use of FITT Principles to improve sport activity performance? _____.

What's New

1. What is Health Related Fitness?
2. What is the best way to maintain good health related fitness levels?
3. How good HRF can you get?
4. What are the different benefits of doing regular exercise?

What is It

Lesson 3: Maintaining good Health Related Fitness

HEALTH RELATED FITNESS (HRF)- is the Ability to become and stay Physically Healthy**.**

Health related fitness is made up of 5 components.

1. Cardiovascular fitness
2. Muscular endurance
3. Strength
4. Flexibility
5. Body composition

Two Best ways to maintain a good HRF level.

- **Exercise** – Planned, structured repetitive movement of the body intended to improve or maintain physical fitness.
  Example of Home exercise:

- **Circuit training exercises** 20-30 second each
- Squats
- Push-ups
- Jumping jack
- Lunges
- Plank
- Side lifts

Repetitions – In exercise one complete motion on an exercise is called a rep.

Sets – A set consists of several reps or repetitions.

- **Physical Activity** – Anybody movement carried out by the skeletal muscles and requiring energy.

Example of Home exercise:

Moderate Intensity Activities – is usually made up of exercises that get your heart rate up to 50% to 60% higher than its rate when you are at rest.

- Walking briskly
- Water aerobics

- Bicycling
- Tennis doubles
- Ballroom dancing
- General gardening

Vigorous Intensity Activities – is anything that causes you to breathe hard and fast and reach a certain maximum heart rate.

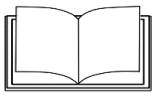
- Jogging or running
- Swimming laps
- Tennis singles
- Aerobic dancing
- Jumping rope
- Hiking uphill or with backpack

5 Tips Maintaining good HRF level

- Exercise regularly
- Eat healthy food
- Drink plenty of water
- Reduce stress
- Maintain healthy lifestyle

Benefits of doing regular exercises

- We will feel healthier
- Our heart will be stronger
- Our lungs will be more efficient and they will expand more when taking in air.
- It will improve illnesses like asthma
- Our immune system will be stronger, therefore less illness
- We will maintain a desired weight.
- We will be more alert and ready to work
- Our muscles will be stronger



What's More

On the table below, kindly Answer the following Activity.

1. Write **10 Exercises** that you can perform at home regularly at least twice a week.
2. Write it down how many **repetitions** and **sets** that you did on that specific exercise. (at your own comfortable pace)
3. In the last column, identify the level of effort that you think you give on the said exercise after you perform all the exercises.

Let's do it!

Exercise- At Home	Number of Repetitions	Number of Sets	Write the level of effort you give on that exercise Activities: 4 Vigorous 3 Moderate 2 Easy 1 Very easy
1.	1.	1.	1.
2	2.	2.	2.
3.	3.	3.	3.
4.	4.	4.	4.
5.	5.	5.	5.
6.	6.	6.	6.
7.	7.	7.	7.
8.	8.	8.	8.
9.	9.	9.	9.
10.	10.	10.	10.

What I Have Learned

1. The difference between Exercise and Physical Activity?

   _____

2. The Different exercise activity that I can do at home?

   _____

3. The Benefits of doing regular physical activity?

   _____

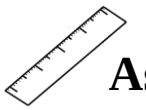
What I Can Do

Assessing your Physical and Sports Activity level is easier if you know how to classify different kinds of activities. Fitness experts categorize activities into the following three levels. Let's try your knowledge to answer this activity.

CLASSIFYING LEVELS OF SPORTS AND PHYSICAL ACTIVITY

LIGHT	MODERATE	VIGOROUS	Kindly Check if you want to.
Example: Walking slowly	Walking briskly	Walking briskly uphill	✓
1. Recreation jogging	Join in Fun run 3k	Join in Athletics Team in school	✓
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			

Reference: Physical Activity and Exercise for Health and Fitness. Pg.31
www.mhhe.com/fahey



Assessment

1. Is this the Ability to become and stay Physically Healthy?
   A. Exercise
   B. Physical Activity
   C. Health related fitness
   D. Vigorous activities

2. Anybody movement carried out by the skeletal muscles and requiring energy?
   A. HRF
   B. Exercise
   C. Physical activity
   D. Moderate intensity activities

3. Planned, structured repetitive movement of the body intended to improve or maintain physical fitness?
   A. Physical activity
   B. Exercise
   C. Vigorous intensity activities
   D. Moderate intensity activities

4. Is anything that causes you to breathe hard and fast and reach a certain maximum heart rate?
   A. Physical activity
   B. Exercise
   C. Moderate intensity activities
   D. Vigorous intensity activities

5. This consists of several reps or repetitions?
   A. Moderate intensity activities
   B. Vigorous intensity activities
   C. Sets
   D. Repetitions

6. This is usually made up of exercise that gets your heart rate up to 50% to 60% higher than its rate when you are at rest?
   A. Moderate intensity activities
   B. Vigorous intensity activities
   C. Sets
   D. Repetitions

7. In exercise one complete motion on an exercise is called?
   A. Moderate intensity activities
   B. Vigorous intensity activities
   C. Sets
   D. Repetitions

8. Walking briskly, water aerobics bicycling and tennis doubles are examples of what type of activity?
   A. Moderate intensity activities
   B. Vigorous intensity activities
   C. Benefits of physical activities
   D. Health related fitness

9. Jogging, running, swimming laps, tennis singles aerobic dancing is an example of what type of activities?
   A. Moderate intensity activities
   B. Vigorous intensity activities
   C. Physical activity
   D. Exercise

10. When we feel you are Healthier and having muscles stronger what is this for?

A. Moderate intensity activities
B. Vigorous intensity activities
C. Benefits of physical activities
D. Health related fitness

Additional Activities

Must try this!

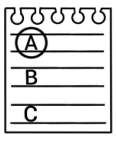
Direction: Activity- Kindly give 10 lists of physical activities or sports activities that you wanted to do in a safe area, recommended by IATF to prevent Covid19. Identify the effort that you want to give in this Activity if Easy to moderate intensity or Vigorous intensity activities. In the last column write the benefit that you might think to get on the activities you choose.

Knowledge Power

10 Outdoor Physical; activities or sports activity	Easy to Moderate Intensity Activities	Vigorous Intensity Activities	Fitness Benefits that you might get on the activity you choose.
Example: I run 20-30 minutes.	Easy to moderate intensity		Will help me to improve my cardiovascular endurance.
1.			
2.			
3.			
4.			
5.			
6.			
7.			

8.			
9.			
10.			

**********END OF LESSON 3**********



Answer Key

Lesson 3 Assessment	Lesson 2 FITT Principle Assessment	Lesson 1 Principles Of training Assessment
1. C 2. C 3. B 4. D 5. C 6. A 7. D 8. A 9. B 10.C	1. D 2. B 3. C 4. A 5, D 6. A 7. C 8. C 9. B 10.	1. D 2. B 3. D 4. A 5. C 6. A 7. B 8. B 9. A 10. B

References

Books

Charles B. Corbin, et. Al Concepts of Physical Fitness. Published by McGraw-Hill Companies, Inc.
Thomas D. Fahey, et. Al, Fit & Well. Published by McGraw-Hill Companies, Inc.
Principles of physical training: adaptation
Pg. 36-37 www.mhhe.com.fahey
Physical activity and exercise for health and fitness pg. 29
What I can do Activity
Reference: Physical Activity and Exercise for Health and Fitness. Pg.31 www.mhhe.com/fahey

Websites

www.mhhe.com.fahey
Principles of training pictures.
https://images.search.yahoo.com/search/images?p=training+principles+pictures+in+sports&fr=mcafee&type=E210US91215G0&imgurl=https%3A%2F%2Fi.pinimg.com%

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