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# HOPE 4

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**Health Optimizing Physical Education (HOPE 4) – Grade 12**
**Quarter 3 – Module 5 : Principle of Physical Activity**
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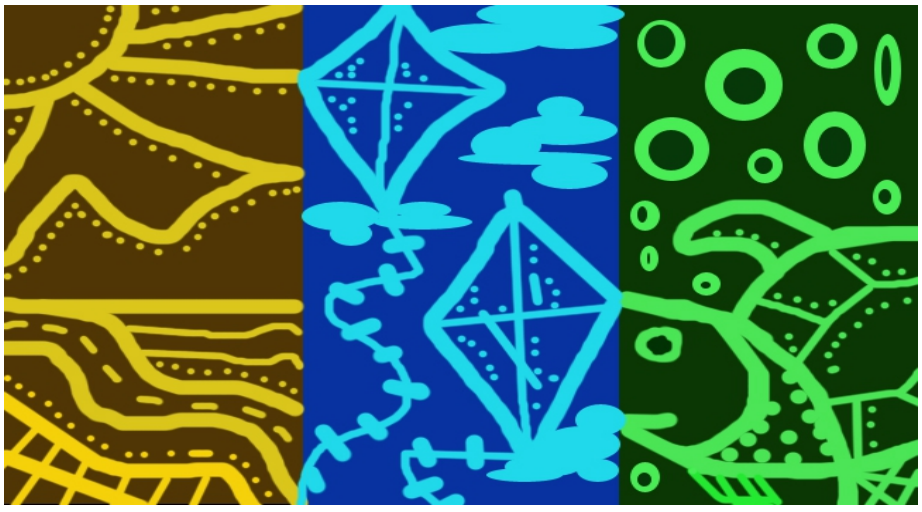
# HOPE 4

## Quarter 3

## Self-Learning Module 5

## Principle of Physical Activity (Exercise Training)



# Introductory Message

For the Facilitator:

Welcome to the Health Optimizing Physical Education (HOPE 4) Self-Learning Module 5 on (Principle of Physical Activity)

This Self-Learning Module was collaboratively designed, developed and reviewed by educators from the Schools Division Office of Pasig City headed by its Officer-in-Charge Schools Division Superintendent, Ma. Evalou Concepcion A. Agustin, in partnership with the City Government of Pasig through its mayor, Honorable Victor Ma. Regis N. Sotto. The writers utilized the standards set by the K to 12 Curriculum using the Most Essential Learning Competencies (MELC) in developing this instructional resource.

This learning material hopes to engage the learners in guided and independent learning activities at their own pace and time. Further, this also aims to help learners acquire the needed 21st century skills especially the 5 Cs, namely: Communication, Collaboration, Creativity, Critical Thinking, and Character while taking into consideration their needs and circumstances.

In addition to the material in the main text, you will also see this box in the body of the module:

***Notes to the Teacher***

This contains helpful tips or strategies that will help you in guiding the learners.

As a facilitator you are expected to orient the learners on how to use this module. You also need to keep track of the learners' progress while allowing them to manage their own learning. Moreover, you are expected to encourage and assist the learners as they do the tasks included in the module.

For the Learner:

Welcome to the Health Optimizing Physical Education 4 (HOPE) Self-Learning Module 5 on (Principle of Physical Activity)

This module was designed to provide you with fun and meaningful opportunities for guided and independent learning at your own pace and time. You will be enabled to process the contents of the learning material while being an active learner.

This module has the following parts and corresponding icons:

**Expectations** - This points to the set of knowledge and skills that you will learn after completing the module.

**Pretest -** This measures your prior knowledge about the lesson at hand.

**Recap** - This part of the module provides a review of concepts and skills that you already know about a previous lesson.

**Lesson -** This section discusses the topic in the module.

**Activities** - This is a set of activities that you need to perform.

**Wrap-Up** - This section summarizes the concepts and application of the lesson.

**Valuing** - This part integrates a desirable moral value in the lesson.

**Posttest** - This measures how much you have learned from the entire module.

# EXPECTATIONS

**Most Essentials Learning Competencies**:

Sets Frequency Intensity Time Type (FITT) goals based on training principles to achieve and/or maintain health-related fitness (HRF).

**At the end of the module, the learners will be able to:**

1. know and understand the main principles of training;
2. describe the different principles on fitness and exercise training;
3. appreciate the importance of exercise principles to individuals training.

# P R E – T E S T

**Directions**. Read each statement carefully. Choose the letter that best corresponds to your answer.

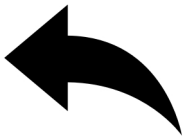
1. It states that the body should experience a gradual increase in workload.
    a. Principle of Progression
    b. Principle of Individuality
    c. Principle of Overload
    d. Principle of Specificity

2. The _____implies that improvement in fitness level will be limited to the activities that one is performing.
    a. Principle of Reversibility
    b. Principle of Overload
    c. Principle of Individuality
    d. Principle of Specificity

3. This principle emphasizes the need to create an exercise program that is individual- specific
    a. Principle of Overload
    b. Principle of Progression
    c. Principle of Individuality
    d. Principle of Specificity

4. It Implies that exercise is a controlled form of stress that will stimulate the body to become stronger.
    a. Principle of Reversibility
    b. Principle of Progression
    c. Principle of Overload
    d. Principle of Specificity

5. The _____ states that if an individual stops to exercises, the body gradually returns to its initial level of fitness.
    a. FITT
    b. Principle
    c. Exercise
    d. Fitness



## R E C A P

**Agree or Disagree**. Read the statements carefully and write the correct answer in the blank.

_____ 1. Body Composition Is the ratio of the muscles to fats in the body.

_____ 2. Cardiorespiratory Endurance is the flexibility to interact in physical activities in an exceedingly long period of your time.

_____ 3. Flexibility is the power to maneuver the joints or series of joints through a large range of motions.

_____ 4. BMI measures body and strength.

_____ 5. Long distant run is an exercise for the speed.

Great job!

Now that we are done with our review, let us proceed to our topic for this module, Principles of Exercise Training

.

# L E S S O N

## Concept and Introduction

Fitness standards are higher than health standards. People can get fit by becoming more active. However, you need to practice caution because doing more is not exactly doing right There are safe and effective principles of exercise training that can help you improve and sustain your improvements while avoiding injuries. The following principles are important in designing an exercise program.

## Principles of Exercise Training

### 1. Principle of Overload

It states that the body must work harder than what it is used to in order for it to adapt. It Implies that exercise is a controlled form of stress that will stimulate the body to become stronger. For example, in order for a muscle (including the heart muscle) to get stronger, it must be overloaded or worked beyond the usual load.

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The exercise science principle of overload states that a greater than normal stress or load on the body is required for training adaptation to take place. What this means is that in order to improve our fitness, strength or endurance, we need to increase the workload accordingly.

### 2. Principle of Progression

States that the body should experience a gradual increase in workload. If the principle of overload asks “How hard?” Then the principle of progression asks “ How soon?” The body will get injured if it experiences a work load that is too hard and too soon.

The body should be given an ample time to recover and get used to the new workload. The rate at which the body adapts varies from one individual to another. A reasonable time frame is to increase the load after two weeks.

However, it is recommended that you do not increase the workload by more than 10% from the previous week.

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A gradual and systematic increase in the workload over a period of time will result in improvements in fitness without risk of injury. If overload occurs too slowly, improvement is unlikely, but overload that is increased too rapidly may result in injury or muscle damage. For example, the weekend athlete who exercises vigorously only on weekends violates the principle of progression and most likely will not see obvious fitness gains.

3. **Principle of Specificity**

States that the body will adapt specifically to the workload it experienced. It implies that improvement of fitness will be limited to the activities that one is performing. The application of this principles is not only on the movement or activity performed but to the intensity at which it is performed. A person who trains for a marathon should not be expected to be able to lift heavy barbells. This principle highlights the importance of performing a variety of activities to improved overall fitness.

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We've all heard the phrase, "practice makes perfect." Well, this is the *principle of specificity* in action. This principle simply states that exercising a certain body part or component of the body primarily develops that part. The principle of specificity implies that to become better at a particular exercise or skill, you must perform that exercise or skill.

4. **Principle of Individuality**

States that no two persons are the same and their rate of adaptation to the same workload differs. This principle emphasizes the need to create an exercise program that is individual-specific. All individuals have different performance goals, fitness attributes, lifestyle, and nutritional preferences; they respond to exercise and its physical and social environments in their own unique way. It is therefore essential that the exercise program cater to these individual needs and preferences.

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The principle of individual differences simply means that, because we all are unique individuals, we will all have a slightly different response to an exercise program. This is another way of saying that "one size does not fit all" when it comes to exercise. Well-designed exercise programs should be based on our individual differences and responses to exercise.

5. **Principle of Reversibility**

The adaptation that take place as a result of training are all reversible. While an exercise program requires rest of the body to recover, too much rest may be counterproductive. It is another way of stating the principle of disuse, if your energy systems are not utilized, they deteriorate to a level that matches the level of activity. It indicates that disuse or inactivity results in loss of benefits achieved in overloading.


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It implies that when it comes to fitness, you do actually "use it or lose it." This also explains why we decondition or lose fitness when we stop exercise.

How do the principles of exercise apply to individuals training?

One of the easiest ways to see how the principles apply is to discuss what happens when you don't apply them properly. This table covers some basics using examples you are more than likely to encounter at some stage in a fitness or exercise training.

| PRINCIPLE | EXAMPLE | CONCLUSION |
|---|---|---|
| **Individuality** | Sue and Sally are both doing a group fitness class with weights for the first time. Sue is getting a sore back, while Sally is getting sore calves. They both seem to be doing the exercises in the same way and at pretty similar weights. | Sue and Sally are different so they are responding differently to the same exercises. |
| **Specificity** | John has been using group fitness 'step' classes a lot to get ready for his cycling race coming up soon. However, his cycling times are not improving. | John needs to train more specifically. In order to improve his cycling he must cycle enough to get the adaptations he desires. |
| **Overload** | Jenny is struggling to walk for two days after a heavy weight training session and long spin class that she took back to back | Jenny over-reached. The volume of overload needs to match her capabilities – ease up girlfriend! |
| **Progressive** | Mary made some great gains initially when she started lifting weights. She's complaining now that weight training doesn't work. She hasn't increased her weights for the last 3 months | Mary needs to work harder (more weights on her bar) as she has adapted to the loads she has on her bar long ago, now there simply isn't enough weight to cause an adaptation. |
| **Reversibility** | Tim is gutted. He's worked for six months to get into the police but since his ankle injury four weeks ago his running fitness has gone back to what it was some time ago. | Tim should have done some exercise on his legs (such as cycling/spin) to maintain as much of his fitness as possible while he recovered from his ankle injury. This would have prevented some of the 'reversing' of his fitness. |

# ACTIVITIES

**ACTIVITY 1- A**

Identify what is being described in the following item. Write your answer in the blank before each number.

_____1. It states that no two persons are the same and their rate of adaptation to the same workloads differs.

_____2. It Implies that exercise is a controlled form of stress that will stimulate the body to become stronger.

_____3. The adaptation that take place as a result of training are all reversible.

_____4. It states that the body should experience a gradual increase in workload.

_____5. The application of this principles is not only on the movement or activity performed but to the intensity at which it is performed.

Let us have another activity to know if you have clearly understood the lesson. Look at the items below.

**ACTIVITY 1- B**

Directions. Answer the question in at least 5 (five) sentences.

Why fitness standards are higher than health standards?

**ACTIVITY 1- C**

Directions. Provide an example and conclusion for each principle of exercise training.

| PRINCIPLE | EXAMPLE | CONCLUSION |
|---|---|---|
| Individuality | | |
| Specificity | | |
| Overload | | |
| Progressive | | |
| Reversibility | | |

## W R A P – U P

**Sentence Completion**

Direction: Complete the sentence for using the word each blank.

In order to get the most out of your training, you must follow some basic simple training principles which are _____, _____, _____, _____ and _____.

Overload means we must put our bodies under more stress than normal in order for adaptive changes to be made. _____ is all about the need to gradually increase the workload that you put your body through. Specificity relates to ensuring the training done is _____ to the sport or activity. Individuality is the fundamental fact that everyone is different! Everyone responds to training in a different way. _____ means if you don't keep it up you will lose it and variance relates to varying the training activities.

## V A L U I N G

**Q&A**: How does principles of exercise is very important to individual training?

_____

_____

_____

_____
_____
_____
_____
_____
_____

# POST TEST

Direction: Read and answer the following questions in your notebook.

_____ 1. It states that no two person are the same and their rate of adaptation to the same workload differs.
_____ 2. States that the body should experience a gradual increase in workload.
_____3. It Implies that improvement in fitness level will be limited to the activities that one is performing.
_____4. Kind of principle of exercise that the body must work harder than what it is used to in order for it to adapt.
_____ 5 Increase the intensity, duration, type, or time of a workout progressively in order to see adaptations.

# KEY TO CORRECTION

**RECAP**

1. Agree
2. Agree
3. Agree
4. Disagree
5. Disagree

**POST TEST**

1. Principle of Individuality
2. Principle of Progression
3. Principle of Specificity
4. Principle of Reversibility
5. Principle of Overload

**ACTIVITY 1-C**

Answer may vary

**ACTIVITY 1-B**

Answer may vary

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