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DEPARTMENT OF EDUCATION

# AIRs - LM in Physical Education and Health 4 Module 3



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## **Physical Education and Health 4**

Grade 12 Module 3

First Edition, 2020

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La Union Schools Division

Region I

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# **Physical Education and Health 4**

## **Module 3**



## Target

Health experts suggest that children and youth take part in at least 60 minutes of physical activity every day and that a range of such activities be offered to them to guarantee that, they enjoy doing it.

This module explains the difference between intensity levels and its importance to the current Physical Activity Guidelines for teenagers.

After going through this module, you are expected to:

1. engages in moderate to vigorous physical activities (MVPAs) for at least 60 minutes most days of the week in a variety of settings in- and out of school **(PEH12FH-IIa-t-8)**;
2. perform varied intensity of physical activities from light – vigorous physical activities; and
3. value the importance of engaging into various activities with different levels of intensity.

**Before going on, proceed to the next page and accomplish the pre-test.**

## PRE-TEST

**Direction:** Group the following recreational activities according to level of intensity/exertion. Use the table below **(30 points)**

1. Back packing	11. Fast cycling	21. Moderate dancing
2. Boating	12. Fast swimming	22. Preparing food
3. Boxing	13. Fishing	25. Sitting
4. Brisk walking 3-4 mph	14. Floating	23. Window-shopping
5. Bicycling less than 5 mph	15. Heavy shoveling	24. Running
6. Bicycling more than 5 mph	16. High Impact Aerobics	26. Stretching
7. Carrying heavy loads	17. Horseback riding	27. Traditional hunting
8. Canoeing	18. Household chores	28. Walking/climbing briskly up a hill
9. Competitive Basketball	19. Lawn Tennis	29. Walking domestic Animals
10. Dancing slowly	20. Low impact aerobics	30. Washing the dishes

<b>Light Activity</b>	<b>Moderate Activity</b>	<b>Vigorous Activity</b>
1.	1.	1.
2.	2.	2.
3.	3.	3.
4.	4.	4.
5.	5.	5.
6.	6.	6.
7.	7.	7.
8.	8.	8.
9.	9.	9.
10.	10.	10.



## Jumpstart

**For you to understand the lesson well, do the following activities have fun and enjoy!**

### Activity I: Get Engaged!

**Direction:** Reflect on your daily activities and write them down on the table below. Classify the level of intensity exerted on each activity. **(15 points)**

<b>Light Activity</b> <b>less than 3.0 METS</b> (less than 3.5 calories per minute)	<b>Moderate Activity</b> <b>approximately 3-6 METS</b> (3.5 – 7 calories per minute)	<b>Vigorous Activity</b> <b>Greater than 6 METS</b> (more than 7 calories per minute)
<b>Give examples of light intensity activities:</b>	<b>Give examples of moderate intensity activities:</b>	<b>Give examples of vigorous intensity activities:</b>
<b>Example:</b> Casual walking	Gardening	Fast cycling
1.	1.	1.
2.	2.	2.
3.	3.	3.
4.	4.	4.
5.	5.	5.

## Activity II: LET'S DO IT!

- A. **Direction:** List all the activities that you engage in over a 24-hour period. Use the table/chart to indicate the type of activity, the time spent doing the activity, and its intensity.

<b>Type of Activity</b> (Cardiorespiratory endurance)	<b>Time being active</b> ( should be 20 minutes continues)	<b>Intensity</b> (Light, moderate , vigorous)
<b>Example :</b> walking	10 minutes	Light
<b>1.</b>		
<b>2.</b>		
<b>3.</b>		
<b>4.</b>		
<b>5.</b>		
<b>6.</b>		
<b>7.</b>		
<b>8.</b>		
<b>9.</b>		
<b>10.</b>		

B. **Reflection:**

- How much time do you spend using the computer, cellphone etc. in one day?  
\_\_\_\_\_
- What are the benefits you get when you engage in physical activities?  
\_\_\_\_\_  
\_\_\_\_\_
- Is it important to practice different intensity levels of physical activity? Why?  
\_\_\_\_\_  
\_\_\_\_\_

<b>RUBRICS- Activity A</b>	
1.Met the Objective of the task	_____/5
2.Completed the activity with accuracy	_____/5
<b>Rubric -Journal</b>	
1.Ideas and content	_____/5
2.Personal Reflection	_____/5
<b>Total:</b>	_____/20





## **Discover**

### **Intensity of Physical Activity**

Intensity refers to the rate at which the activity is being performed or the magnitude of the effort required to perform an activity or exercise. It can be thought of "How hard a person works to do the activity"

#### **Moderate-intensity physical activity**

On a range comparative to an individual's personal ability moderate-intensity physical activity is typically a five or six on a scale of 10.

As a rule of thumb, if you are doing moderate-intensity activity, you can talk, but would not be able to sing your much-loved song through the activity. You are working hard enough to increase your heart rate.

#### **Vigorous-intensity physical activity**

On a level comparative to an individual's personal ability, vigorous-intensity physical activity is usually a seven or eight on a scale of 10.

If you are doing vigorous-intensity activity, you will not be able to speak more than a few words without recess for an inhalation. Your heart rate has gone up moderately.

#### **Moderate to Vigorous-intensity physical activity (MVPA)**

MVPA is a mixture of moderate and vigorous-intensity activity.

The intensity of different sorts of physical activity changes among people. It varies in an individual's preceding training experience and their relative level of fitness. The examples provided below serve only as a guide and will vary among individuals:

<b>Moderate-intensity Physical Activity (Approximately 3-6 METs)</b>	<b>Vigorous-intensity Physical Activity (Approximately &gt;6 METs)</b>
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:
<ul style="list-style-type: none"> <li>• Brisk walking</li> </ul>	<ul style="list-style-type: none"> <li>• Running</li> </ul>
<ul style="list-style-type: none"> <li>• Dancing</li> </ul>	<ul style="list-style-type: none"> <li>• Walking / climbing briskly up a hill</li> </ul>
<ul style="list-style-type: none"> <li>• Gardening</li> </ul>	<ul style="list-style-type: none"> <li>• Fast cycling</li> </ul>
<ul style="list-style-type: none"> <li>• Housework and domestic chores</li> </ul>	<ul style="list-style-type: none"> <li>• Aerobics</li> </ul>
<ul style="list-style-type: none"> <li>• Traditional hunting and gathering</li> </ul>	<ul style="list-style-type: none"> <li>• Fast swimming</li> </ul>
<ul style="list-style-type: none"> <li>• Active involvement in games and sports with children / walking domestic animals</li> </ul>	<ul style="list-style-type: none"> <li>• Competitive sports and games (e.g. Traditional Games, Football, Volleyball, Hockey, Basketball)</li> </ul>
<ul style="list-style-type: none"> <li>• General building tasks (e.g. roofing, thatching, painting)</li> </ul>	<ul style="list-style-type: none"> <li>• Heavy shovelling or digging ditches</li> </ul>
<ul style="list-style-type: none"> <li>• Carrying / moving moderate loads (&lt;20kg)</li> </ul>	<ul style="list-style-type: none"> <li>• Carrying / moving heavy loads (&gt;20kg)</li> </ul>

Metabolic Equivalents (METs) are generally used to express the intensity of physical activities.

MET is the ratio of an individual's working metabolic rate in relation to their inactive metabolic rate.

One MET is described as the energy cost of sitting quietly and is equivalent to a caloric consumption of 1kcal/kg/hour. It is estimation that matched up with sitting quietly, an individual's caloric consumption is three to six times higher when being moderately active which is about 3-6 METs and more than six times higher when being vigorously active.

There are two types of vigorous physical activity: vigorous aerobics and vigorous sport and recreation. Activities included in this type are more vigorous (requiring 7 METs or more) than the moderate activities (which require 4 to 7 METs) and are especially good for building cardio-respiratory endurance.

### **Rating of Perceived Exertion (RPE)**

**DEFINITION:** RPE stands for rate of perceived exertion, which is the numeric estimate of someone's exercise intensity. The ratings were originally based on those in the Borg scale, a way to measure how hard you're exercising, which ranges from six (no exertion) to 20 (extremely hard).

Today, most people use a modified RPE scale that ranges from zero (resting) to 10 (pushing as hard as you can). To figure out RPE at any point during a workout, consider the effort it takes to talk, how hard it is to continue at your current intensity, the pace of your heart, and your breathing.

**Who it can benefit:** Science has shown benefit in both novice and experienced lifters, but experienced lifters tend to benefit more (as they have a higher training age).

**How to use it:** The ratings go from 1-10, 1 being absolutely no effort, 10 being your maximum. It's important to develop what these numbers mean to you. Often they're very similar among coaches and athletes, but they can vary a little. The below numbers are my interpretation and often are similar with other coaches in the strength world.

**10** – At your max, you have no more reps

**9** – There's another rep in the tank, but it's a grind

**8** – You're beginning to hit your 2-4 rep stride

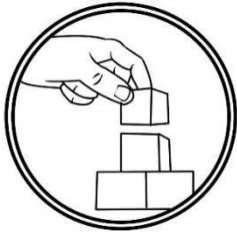
**7** – Often the weight that can be moved with power, but still facilitate strength (5-7ish reps)

**6** – Weight that can moved quick and utilized with speed work (+/- 8 reps pending on speed/training goal)

**5** – This weight that can be used as warmup and prep for heavier weights

**4 & below** – Lightweight that can be used for mobility, recovery, and form emphasis

RPE Rate of Perceived Exertion	
<b>10</b>	<b>Max Effort Activity</b> Feels almost impossible to keep going, out of breath, unable to talk
<b>9</b>	<b>Very Hard Activity</b> Very difficult to maintain intensity, can barely breathe and speak a word
<b>7-8</b>	<b>Vigorous Activity</b> Almost feels uncomfortable, can barely speak a sentence
<b>4-6</b>	<b>Moderate Activity</b> Feels like you can exercise for hours, breathing heavily, but can keep a short conversation
<b>2-3</b>	<b>Light Activity</b> Feels like you can exercise for hours, easy to breathe and carry on a conversation
<b>1</b>	<b>Very Light Activity</b> Anything other than sleeping; watching tv, driving, etc.



## Explore

### Activity I: MY MVPA HEART RATE ZONE

**Direction:** Estimate your predicted maximum heart rate for moderate to vigorous intensity (MVPA) by following the steps below.

1. Exercise within the moderate to vigorous heart rate zones (% of Maximum Heart Rate)
2. Know your Heart Rate Zones (% of Maximum Heart Rate ) for MVPA.

LIGHT 57% - 63% of Maximum Heart Rate	MODERATE 64% - 75% of Maximum Heart Rate	VIGOROUS 76% - 95% of Maximum Heart Rate
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3. For you to attain MVPA, you should reach at least 64% of your maximum heart rate.

$$64\% \times \text{Maximum Heart Rate} = \text{MPVA}$$

4. Use the formula below to estimate your age-predicted Maximum Heart Rate

$$220 - \text{Your Age} = \text{Maximum Heart Rate}$$

5. Calculate the estimated Light to Vigorous-intensity Maximum Heart Rate of the following individuals that are of the ages 26, 45, and 65 years old. Light intensity max HR is done for you.

	25 Years old	45 Years old	65 Years old
Light (57 – 63% max HR)	111 - 123	99 - 111	88 - 98
Moderate (64 – 75% max HR)			
VIGOROUS (76 – 95% max HR)			

6. Calculate your estimated Light to Vigorous-intensity maximum heart rate based on your age.

Age: _____	Maximal Heart Rate
Light (57 – 63% max HR)	
Moderate (64 – 75% max HR)	
VIGOROUS (76 – 95% max HR)	

<b>RUBRIC- MVPA Heart Rate Zone</b>	
Met the objectives of the task	_____/5
Completion(Task is 100% complete)	_____/5
Accuracy (all information is correct)	_____/5
Calculated Maimal Heart Rate	_____/5
<b>Total:</b>	<b>_____/20</b>

## Activity II. MY TARGET HEART RATE

**Direction:** Perform one activity at a time and supply the information being asked in the activity

A. Compute your Target Heart Rate Range in 4 steps. Fill in the blanks below. An example written in red will show you how to compute your Target Heart Rate. Keep in mind your Resting Heart Rate.

1. Get the Maximum Heart Rate.

SAMPLE: Age: 15

MHR = 220- \_\_\_\_\_

MHR= 220-15

(your age)

MHR 205

MHR = \_\_\_\_\_

2. Determine the Heart Rate Reserve.

HRR = MHR – \_\_\_\_\_

SAMPLE: RHR: 60

(Resting Heart Rate)

HRR = 205 - 60

(\*Please refer to Self-testing activities)

HRR= \_\_\_\_\_

HRR 145

3. Take 60% and 80% of the HRR

a. 60% x HRR = \_\_\_\_\_

SAMPLE: 60% x 145 = 87

b. 80% x HRR = \_\_\_\_\_

SAMPLE: 80% x 145 = 116

4. Add each HRR to Resting Heart Rate (RHR) to obtain the Target Heart Rate (THR) range.

a. 87 (60% x HRR) + 60 (RHR) = 147 beats per minute (THR)

a. \_\_\_\_\_ (60% x HRR) + \_\_\_\_\_ (RHR) = \_\_\_\_\_ beats per minute (THR)

b. 116 (80% x HRR) + 60 (RHR) = 176 beats per minute (THR)

b. \_\_\_\_\_ (80% x HRR) + \_\_\_\_\_ (RHR) = \_\_\_\_\_ beats per minute (THR)

Therefore, your target heart rate range is 147 to 176 beats per minute. (4.a)  
(4.b)

Therefore, my target heart rate range is \_\_\_\_\_ to \_\_\_\_\_ beats per minute.

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

<b>RUBRICS-</b>	
Met the objectives of the task	_____/5
Completion(Task is 100% complete)	_____/5
Accuracy (entries were carefully computed and analyzed)	_____/10
<b>Total:</b>	_____/20

### **ACTIVITY III: I'M INTENSE!**

**Direction:** A. Perform one activity at a time and supply the information by filling out the table.

<b>Describe the activity based on the following:</b>	<b>Walking around for 5 minutes</b>	<b>Brisk walking for 6 minutes</b>	<b>Jogging for 5 minutes</b>
How are you feeling?			
How is your breathing?			
How is your sweat?			
How is your talking ability?			

B. Analysis: Which among the three (walking around for 5 minutes, brisk walking 6 minutes, Jogging 5 minutes) is considered:

1.) Light activity:

Justification: \_\_\_\_\_  
 \_\_\_\_\_

2.) Moderate Activity:

Justification: \_\_\_\_\_  
 \_\_\_\_\_

3.) Vigorous Activity:

Justification: \_\_\_\_\_  
 \_\_\_\_\_

<b>RUBRICS-</b>	
Met the objectives of the task	_____/5
Completion(Task is 100% complete)	_____/5
Accuracy (all information is correct)	_____/5
Depth Reflection	_____/5
<b>Total:</b>	<b>_____/20</b>

### **ACTIVITY IV: MY TARGET HEART RATE**

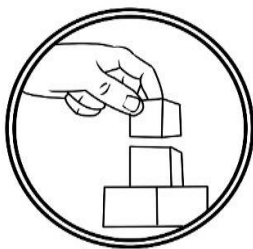
A. Determine your weakest and strongest components. Refer to the results obtained during your recent self-testing activities. Rank them by writing 1- 4, where 1 is the weakest.

- \_\_\_\_\_ 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. If you are going to design your work plan, what component (weakest or strongest) should be your top priority? Why?

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

<b>RUBRICS- Fitness log</b>	
Met the objectives of the task	_____/5
Completion(Task is 100% complete	_____/5
Depth Reflection	_____/5
<b>Total:</b>	<b>_____/15</b>



## Deepen

### Assessments I: WORK YOUR PLAN

**Direction:** Following the table given below, select activities/exercises guided

by both the Principles of Exercise and the F.I.T.T. goals to design your own fitness plan.

<b>FITT Goals</b>	<b>Frequency</b>	<b>Intensity</b>	<b>Type</b>	<b>Time</b>
Parts of the Fitness Plan	(Indicate days of the week)	(Light, Moderate or Vigorous)	(Form of exercises, selected physical activities)	(Total fitness plan not less than 60 minutes)
Warm-up				
Work-out			Prioritize your weakest component based on data from the last activity: a. _____ Activity/Exercise	
			b. _____ Activity/Exercises	
			c. _____ Activity/Exercises	
			d. _____ Activity/Exercises	
			e. _____ Activity/Exercises	



Cool-down				
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<b>RUBRICS-Fitness workout log</b>	
Met the Objective of the task	_____/5
Created plan for improvement	_____/5
Accuracy of entry in the log	_____/5
Completed the workout log	_____/5
<b>Total</b>	<b>_____/20</b>

**Assessment II: PHYSICAL ACTIVITY LOG**

**Direction:** A. Fill out the table below based on the physical activities that you engaged in 7 days.

	<b>Activity Description</b>	<b>Duration</b>	<b>Intensity</b>	<b>Personal Reflection</b>
Example	Clean the house Wash Clothes Gardening	20 minutes 30 minutes 15 minutes	Light Vigorous Moderate	Felt great today. Had a good sleep. Ate too much after dinner.
Day 1				
Day 2				
Day 3				
Day 4				
Day 5				
Day 6				
Day 7				
<b>Total number of minutes spent for the 7 days</b>				

**B. Reflection:**

With the total number of minutes you spent in one week for physical activities, can you meet the minimum requirement of engaging moderate to vigorous physical activities for at least 60 minutes daily? Why and why not?

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<b>RUBRIC-Fitness workout log</b>	
Met the Objective of the task	_____/5
Created plan for improvement	_____/5
Accuracy of entry in the log	_____/5
Completed the workout log	_____/5
<b>Total:</b>	<b>_____/20</b>



## GAUGE

### Activity: Summative Test

A. Answer the following question.(15 points)

# item	Questions	Answers
1.	What do the letters MVPA stand for?	<b>M</b> <b>V</b> <b>P</b> <b>A</b>
2.	What health related fitness component does MVPA refer to?	
3.	What do the letters RPE stand for?	<b>R</b> <b>P</b> <b>E</b>
4.	What does rate, mean?	
5.	What does Perceived mean?	
6.	What does exertion mean?	
7	What is an RPE Chart?	<b>RPE</b>
9.	Define Cardiorespiratory Endurance (use complete sentences)	
10.	When a person makes a commitment to make cardiorespiratory fitness, a lifetime habit the body benefits. Name 3 of those specific benefits	<b>1</b> <b>2</b> <b>3</b>

**B. Essay.** Answer the following questions briefly. **(20 points)**

1. Because of this pandemic caused by COVID 19, you are limited to doing physical activities in the school and outside your home. What physical activities do you engage in to maintain and improve your fitness, considering that you do at least 60 minutes of exercise most days of the week?

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2. Name three activities under light physical activity that you can do at home.

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3. Name three activities under moderate physical activity that you can do at home.

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4. Name three activities under vigorous physical activity that you can do at home.

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5. Give three importance of engaging in various activities with different levels of intensity.

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<b>RUBRICS- Journal</b>	
Ideas and Content:	_____/5
Use of important terms:	_____/5
Personal Reflection:	_____/5
Completed task:	_____/5
<b>Total:</b>	<b>_____/20</b>

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