

LESSON 4: HEALTHY AND OPTIMAL FITNESS ZONES

Grade-Level Outcomes

Primary Outcomes

Assessment & program planning: Maintains a physical activity and nutrition log for at least 2 weeks and reflects on activity levels and nutrition as documented in the log. (S3.M16.7)

Fitness knowledge: Adjusts physical activity based on quantity of exercise needed for a minimal health standard and/or optimal functioning based on current fitness level. (S3.M8.7)

Embedded Outcomes

Volley: Forehand- and backhand-volleys with a mature form and control using a short-handled implement. (S1.M16.7)

Forehand & backhand: Demonstrates the mature form of the forehand and backhand strokes with a short-handled implement in net games such as paddle ball, pickleball or short-handled racket tennis. (S1.M14.6)

Lesson Objective

The learner will reflect on his completed physical activity log as it pertains to the amount of physical activity needed to meet a minimal health standard or optimal functioning level.

Equipment and Materials

- Portable tennis nets
- Plastic pickleballs
- Plastic paddles
- Tennis rackets
- Low-compression tennis balls
- Foam tennis balls
- Determining Physical Activity Goals for Adolescents handout, 1 copy per student
- Healthy Eating for an Active Lifestyle handout, 1 copy per student
- Calories Used for Activities by Weight Categories handout (from Lesson 1)

Introduction

Review homework:

Does anyone feel comfortable sharing his or her remediations from the Fitnessgram data? Which helped in this process more: the generated score reports or actually participating in the assessments (how you felt during the exercises)?

Today, you will determine how much physical activity you need to be healthy. You will determine two zones. One zone will be for a minimal health standard, and the second zone will be for optimal functioning or wellness. You will compare these quantities of physical activity with the paddle and racket sports you practice today. You will remember you determined the number of Calories you expended (or used) as an example before you started your two-week log.

Instructional Task: Calorie Think, Pair, Share

■ PRACTICE TASK

Review what a Calorie is.

In pairs, have students discuss what they think a Calorie or kilocalorie is.

When students share, they are likely to think that a Calorie is something that makes you fat.

Discuss how Calories (kcal) are simply a unit of energy and that we get energy from the foods we eat. Calories as a unit of energy can also be used to express energy expenditure—in other words, how much energy we use when we move, perform physical activity, or exercise.

Guiding questions for students:

- How do we quantify the amount of energy we take in or the amount of energy we expend (through human movement)?
- What have you learned in your science classes about energy and Calories?
- What kind of energy do we get from the food we eat?
- When we watch human movement, what kind of energy are we observing?

Student Choices/Differentiation

- This discussion may be as simple as “a unit of energy” for some students.
- More advanced students may discuss how a Calorie is the amount of energy required to heat up a gram of water 1 degree Celsius.

What to Look For

Do students know that:

- A Calorie (with a capital C) is equal to 1 kilocalorie?
- A kilocalorie is equal to 1,000 calories (with a lowercase c)?
- A Calorie is equal to 1,000 calories?
- In everyday language and nutrition books, calorie or cal has become the same as Calorie?
- Some cellphone fitness apps use “CALORIES (kcal)”?

Instructional Task: Forehand and Backhand Strike in Grids

■ PRACTICE TASK

Teaching in grids, assign tasks from the controlled environment, moving toward an uncontrolled environment.

EMBEDDED OUTCOME: S1.M14.7. The purpose of the activity is to provide physical activity to measure and log in the lesson. Make sure students are using a mature form of forehand and backhand strokes for pickleball during the activity.

Call out commands. The students practice the task five times and then switch so their partners can perform the same command.

Partners must cooperate by making good tosses. Partners should also encourage one another.

1. Toss the pickleball to the middle section of your partner’s forehand side for five hits. Same task with backhand.
2. Toss the pickleball so your partner has to take a quick step to the forearm side to hit the ball. Same task with backhand (step toward backhand side).
3. Toss the pickleball so your partner has to take a quick step forward and hit a forehand shot. Same task with backhand.
4. Toss the pickleball so your partner has to take a quick step back while still hitting a forehand shot. Same task with backhand.

Extensions

We are now going to move into a more game-like, or uncontrolled, setting. The partner tossing should now toss the ball using any of the previous commands.

Switch after five tosses. Repeat this extension until many have had success.

Refinement

Make sure you are still tossing at the midsection and are still using only the forehand or backhand shot.

Student Choices/Differentiation

- Students can play pickleball or tennis.
- For tennis, students can use a foam ball or low-compression ball.

What to Look For

- The biggest concern in this exercise is students' not having a full movement pattern. They cut the hit short to hit the ball back to their partners instead of using a full motor pattern, hitting the ball as hard as they can.
- Make sure students are hitting the balls as hard as they can and completing the full movement pattern with a follow-through.
- If students are swinging and missing, make sure they are tracking the ball all the way to the target.

Instructional Task: Practice Volleying With a Partner

■ PRACTICE TASK

Have students (in groups of two) practice volleying with both backhand and forehand striking patterns. Students should start a short distance apart.

EMBEDDED OUTCOME: S1.M16.6 The purpose of the activity is to provide physical activity to measure and log in the lesson. Make sure students are moving and using both the forehand and backhand strokes to volley.

Extension

Have students take four or five steps back if they are having success with the shorter distances.

Refinement

Focus on keeping the wrist firm and crossing over (turning sideways to target).

Student Choices/Differentiation

- Students can play pickleball or tennis.
- For tennis, students can use a foam ball or low-compression ball.

What to Look For

Students are moving side to side, forward, and backward to successfully volley with their partners (i.e., they should not be standing in one place expecting the ball to come to them).

Instructional Task: Determine Appropriate Amounts of Physical Activity

■ PRACTICE TASK

Have students read and complete the worksheet Determining Physical Activity Goals for Adolescents.

Extension

Students complete steps 8 to 13 on the worksheet.

Guiding questions for students:

- Based on your current fitness level, what is an appropriate goal for you?
- Should you set a goal based on the minimal health standard or optimal health benefits standard?

Student Choices/Differentiation

- Have examples for students to view if they are having difficulty with the assignment.
- Students may work with partners or in small groups.

What to Look For

Students follow each step on the worksheet and perform the math correctly.

Instructional Task: **Comparison of Physical Activity to Amount Needed**

■ PRACTICE TASK

Have students estimate the number of Calories (kcal) they expended in today's sports practice by using the Calories Used for Activities by Weight Categories handout from Lesson 1.

Extension

Ask students what can be concluded about the amount of physical activity that can be obtained in a typical physical education class.

Guiding questions for students:

- Based on the amount of physical activity you determined from the worksheet and the number of Calories expended through today's physical activity, what adjustments can you make to make sure you get enough physical activity?
- Where in the day can you fit in additional physical activity?

Student Choices/Differentiation

- Have examples for students to view if they are having difficulty with the assignment.
- Students may work with partners or in small groups.

What to Look For

- Students estimate Calories (kcal) expended based on time and weight.
- Students use that estimation for tennis since pickleball is very similar to tennis.
- Students recognize that physical education is not likely to be enough. Additional physical activity must occur outside of class.

Formal and Informal Assessments

- Think, pair, share (students recognize that physical education typically does not provide enough physical activity and that additional physical activity outside of class is necessary)
- Self-assessment: comparing their two-week physical activity logs to appropriate amount of physical activity determined from worksheet

Closure

If we look at statistics for overweight and obesity, we learn that 69 percent of adults age 20 and older in the United States are overweight or obese.

- Why is this a problem?
- What have you learned today that could help fix this problem?

Reflection

- Reflect on students' self-assessments.
- Is the class ready to move on?
- Do the concepts need to be re-taught?

Homework

Take your completed physical activity logs home and compare the quantities of physical activity you acquired for those two weeks to the quantities you determined from today's worksheet.

In addition, you will take home the Healthy Eating for an Active Lifestyle handout. You will read it and then reflect on the two-week nutrition part of your log. Your reflection should be about a half page long.

Resources

Corbin, C.B., Masurier, G.C., & Lambdin, D.D. (2007). *Fitness for life: Middle school*. Champaign, IL: Human Kinetics.

Corbin, C., Pangrazi, R., & Welk, G. (1994). Toward an understanding of appropriate physical activity levels for youth. *Physical Activity and Fitness Research Digest*, 1(8), 1-8.

Hichwa, J. (1998). *Right fielders are people, too: An inclusive approach to teaching middle school physical education*. Champaign, IL: Human Kinetics.

Choose My Plate: www.choosemyplate.gov

**10
tips**
*Nutrition
Education Series*

healthy eating for an active lifestyle



10 tips for combining good nutrition and physical activity

For youth and adults engaging in physical activity and sports, healthy eating is essential for optimizing performance. Combining good nutrition with physical activity can lead to a healthier lifestyle.

1 maximize with nutrient-packed foods

Give your body the nutrients it needs by eating a variety of nutrient-packed food, including whole grains, lean protein, fruits and vegetables, and low-fat or fat-free dairy. Eat less food high in solid fats, added sugars, and sodium (salt).

2 energize with grains

Your body's quickest energy source comes from foods such as bread, pasta, oatmeal, cereals, and tortillas. Be sure to make at least half of your grain food choices whole-grain foods like whole-wheat bread or pasta and brown rice.

3 power up with protein

Protein is essential for building and repairing muscle. Choose lean or low-fat cuts of beef or pork, and skinless chicken or turkey. Get your protein from seafood twice a week. Quality protein sources come from plant-based foods, too.

4 mix it up with plant protein foods

Variety is great! Choose beans and peas (kidney, pinto, black, or white beans; split peas; chickpeas; hummus), soy products (tofu, tempeh, veggie burgers), and unsalted nuts and seeds.

5 vary your fruits and vegetables

Get the nutrients your body needs by eating a variety of colors, in various ways. Try blue, red, or black berries; red and yellow peppers; and dark greens like spinach and kale. Choose fresh, frozen, low-sodium canned, dried, or 100 percent juice options.



6 don't forget dairy

Foods like fat-free and low-fat milk, cheese, yogurt, and fortified soy beverages (soymilk) help to build and maintain strong bones needed for everyday activities.

7 balance your meals

Use MyPlate as a reminder to include all food groups each day. Learn more at www.ChooseMyPlate.gov.

8 drink water

Stay hydrated by drinking water instead of sugary drinks. Keep a reusable water bottle with you to always have water on hand.

9 know how much to eat

Get personalized nutrition information based on your age, gender, height, weight, current physical activity level, and other factors. Use SuperTracker to determine your calorie needs, plan a diet that's right for you, and track progress toward your goals. Learn more at www.SuperTracker.usda.gov.

10 reach your goals

Earn Presidential recognition for reaching your healthy eating and physical activity goals. Log on to www.presidentschallenge.org to sign up for the Presidential Active Lifestyle Award (PALA+).



Go to www.ChooseMyPlate.gov and www.Fitness.gov for more information.

DG TipSheet No. 25
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Center for Nutrition Policy and Promotion
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