

Health Opportunities Through Physical Education

Lesson Plan 1: Energy Balance

This lesson introduces energy balance, differentiates hunger from appetite, and identifies common dieting misconceptions.

AAHE Standards

- 1.12.2 Describe the interrelationships of emotional, intellectual, physical, and social health.
- 7.12.1 Analyze the role of individual responsibility for enhancing health.
- 7.12.2 Demonstrate a variety of healthy practices and behaviors that will maintain or improve the health of self and others.

Preparing the Lesson

Lesson Objectives

1. Explain energy balance, positive energy balance, and negative energy balance.
2. Understand hunger, appetite, and satiety and identify two contributors to each.
3. Understand three facts of dieting.

Preparation

1. Copy the lesson focus worksheet (**Worksheet: Focus on Energy Balance**), the lesson application worksheet (**Worksheet: Energy Balance and Moods**), and **Quiz: Energy Balance**.
2. Open the lesson 1 PowerPoint slides and set up your projector. Open slide 2 (journal question) so that it is visible when students enter the classroom.

Bell Ringer

Project slide 2 (journal question) onto the screen or write the question on the board. Make sure that students are on task upon arriving at class and allow them three to five minutes to write. Have students record their responses in their notebooks.

Journal question: Have you ever tried to lose or gain weight? What motivated you? How did you change your diet and where did you learn about the choices you made?

Option: Give **Quiz: Energy Balance** as a pretest to assess students' knowledge and focus their thinking. Have copies of the quiz on the desks before class or hand them out as students enter the room.

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Option: Have students read the section of the text labeled Weight Loss Diets and then discuss the Connect questions in small groups.

Option: Have students read the Consumer Corner feature and then discuss the question in small groups.

Lesson Focus

Review chapter content using the PowerPoint slides for lesson 1. Have students take notes using **Worksheet: Focus on Energy Balance**.

Option: Have students complete **Worksheet: Focus on Energy Balance**. When all students have finished, review answers as a class.

Lesson Application

1. Distribute **Worksheet: Energy Balance and Moods**.
2. Have students work with a partner to complete part 1. Encourage students to avoid using a calculator if possible. Walk around the room and check students' work. When most students are finished, ask for volunteers to share their responses.



Academic Connection: Math: Part 1 of this worksheet reinforces basic math skills.

3. Have students work individually to complete part 2. This task should not require more than a few minutes. Have students compare their responses with a partner.
4. Once most students are finished, have them work with their partner from part 1 to do part 3. When they are finished, as time allows, call on students to share their story and their partner's advice. Correct any misconceptions.

Reflection and Summary

Review the day's lesson by revisiting the lesson objectives. Formulate each objective as a question and solicit responses.

1. Explain energy balance, positive energy balance, and negative energy balance. Energy balance means that calories eaten (taken in) are equal to calories burned (put out, or used); positive energy balance means that calories taken in exceed calories put out; and negative energy balance means that calories put out exceed calories taken in.
2. Understand hunger, appetite, and satiety and identify two contributors to each. Hunger is the *physiological* drive to eat; it is influenced by blood sugar level, hormone levels, and digestive system responses (e.g., stomach contractions). Appetite is the *psychological* drive to eat; it can be influenced by many factors, including emotion or mood; circumstances and

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events; culture and traditions; and the sight, smell, and sound of food cooking. Satiety is the feeling of fullness that occurs after eating.

3. Understand three facts of dieting.

Most diets (95 percent) fail. Half of women and 25 percent of men are said to be dieting at any point in time. Long-term weight loss is promoted by exercise, balanced diet, and social support.

Evaluate

Have students complete **Quiz: Energy Balance**.

Option: Collect **Worksheet: Focus on Energy Balance** or **Worksheet: Energy Balance and Moods** and check for accuracy and completeness.

Reinforcing the Lesson

Take It Home

Encourage students to survey 10 friends and family members to find out how many are currently on a diet. Have them compare their results with the averages presented in the chapter. Ask them why they think the results of their survey are similar to or different from the averages.

Challenge Activity

Have students research either a commercial dieting program or product (e.g., Weight Watchers) or a fad diet (e.g., Atkins). Instruct them to gather information about (1) the diet itself, including recommendations for total calories and for calories from fat, protein, and carbohydrate; (2) the cost of the program or product; (3) risk factors associated with the program or product (if applicable); and (4) the program's or product's success rate. Once students have finished their research, have them rate the program or product using a five-star scale and write a brief review of it.