

energybalance101

HEALTHY SCHOOLS. HEALTHY KIDS.



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What Is Energy Balance?

Objectives

Students will

- Be introduced to the concept of Energy Balance.
- Generate ideas about where energy comes from and how it is used.
- Identify ways that Energy Balance can contribute to an active, healthy lifestyle.
- Play a game to balance calories consumed from foods and beverages with calories used during physical activities.

Materials

- Beanbags
- Jump ropes
- Balance Scale
- Radio or other Music Source
- Flip Chart
- Calculators
- Pencils and Papers
- Energy In and Energy Out Cards reproduced and cut out
- Two bags or containers

Instant Expert

The young people in your class are already beginning to make many important health-related decisions. Giving them tools, information and confidence to make those decisions is an important part of contributing to their healthy lifestyle. One set of tools you can give them relates to their Energy Balance. Energy Balance is the balance of calories consumed from foods and beverages (Energy In) with calories burned from physical activity (like walking, climbing stairs, playing sports or playing at recess playing), activities of daily living (like getting dressed, eating, cleaning your room, raking leaves or reading) and basic body processes, like thinking and sleeping (Energy Out). When we maintain Energy Balance over time, it can contribute to our health in positive ways.

Human beings need energy to survive to breathe, move, pump blood, and think and they get this

energy from calories in foods and beverages. When a food or beverage contains 100 calories, that is a way of describing how much energy our body gets from eating or drinking it. How many calories we need each day depends on many things: our gender, height, weight, age, and activity level among them. The average school age child needs between 1,600 and 2,500 calories each day. That energy is then used (burned) by the activities we do each day and the basic body processes we need to survive. These include sleeping, thinking, pumping blood, etc.

Maintaining balance between our Energy In and Energy Out contributes to a healthy lifestyle in many ways. Adults often focus on weight gain or loss. (If we consume more calories than we burn, we gain weight. If we burn more calories than we consume, we lose weight.) For children, however, the focus should also be about having enough energy to do all the things they want to do and to grow up strong and healthy; to practice balance, variety and moderation in their diet; and to be physically active for 60 minutes each day.

Our Energy In and our Energy Out don't have to balance exactly every day, but our goal should be to maintain balance over time. Energy balance in children happens when the amount of Energy In and Energy Out supports "normal growth and development" without promoting excess weight gain. In other words, children need to gain some weight as part of their normal growth and development so an exact 1:1 ratio of Energy In and Energy Out is not the goal. What is important for them to understand is the importance of balancing their daily calorie requirements with regular physical activity. Estimated calorie requirements by age and activity level can be found at http://www.mypyramid.gov/downloads/MyPyramid_Calorie_Levels.pdf

In this lesson, students play a game where they balance food and beverage calories selected from Energy in Cards with calories burned from Energy out Cards. In real life, Energy Out also includes Basal Metabolic Rate (BMR), which is the amount of energy we use for basic body functions like sleeping, breathing, building new red and white blood cells, building muscle tone, and pumping blood throughout the body. However, this game only includes their Energy Out as it relates to physical activity. They will learn more about BMR in Module 3. Energy Balance, of course, doesn't come from one food or one activity but the game will help students begin to understand how food gives us calories (Energy In) and physical activity uses those calories (Energy Out).

Procedure

Note: Before beginning the lesson, clear a space where students can move around.

1. Tell students that they are going to participate in a series of activities that all have something in common. Their challenge is to try to figure what that is! Have students stand up and complete the following tasks

1. Walk from one side of the room to the other with a beanbag on your head. Try to keep the beanbag on your head the entire time.
 2. Repeat the beanbag activity using a jump rope as a simulated tightrope. Try to stay on the rope while keeping the beanbag on your head. Repeat the exercise with your eyes closed!
 3. Remove the beanbag and start the music. Dance in place until the music stops. When it stops, put one foot in the air and hold that position. Try to stay on one foot until the music starts again without placing the other foot on the floor. For an extra challenge, close your eyes!
 4. Write the following equation on the board: $272+7=$. Ask students to create another equation that would get the same sum, using the number 76 as one of the addends.
 5. Place an object on one side of a balance scale and challenge students to find another object in the room that would keep the scale even.
2. At the end of the five activities, ask students what all of the activities have in common. The answer is they are all related to "balance." Ask students to define "balance" and to share how each activity relates to it. Which activities were most challenging? Why?
 3. Ask students for other examples of things that can be balanced. *Ideas include a budget, a checkbook, a seesaw, the balance of power, balancing foods from food groups, balancing our time, a balanced news report, even balance in a friendship!* For each example, ask students to share how we get balanced, the benefits of the balance, and the consequences or challenges of being unbalanced. In what ways can things fall apart or not work if they are not balanced?
 4. Poll students for examples of how our body stays balanced. Guide the discussion toward food and physical activity and see if students have any idea how food and physical activity can help our body stay balanced.
 5. Put the word, "energy" on the board and make a T-chart under it with the headings, "Energy In" on the left and "Energy Out" on the right. Ask students to share definitions for the word, "energy." (Energy is our ability to do work, be active, play, breathe, and move!)
 6. Then ask them to list some things they have done today that they needed energy for. List all ideas on the right side of the T-chart. Then ask them if they know where that energy came from. List all ideas on the left side of the chart.
 7. Share that we get energy from what we eat and drink. The energy comes in the form of calories. (You may want to ask students if they have ever heard the term "calorie" and review with them that calories are the amount of energy they get from what they eat or drink.) All available energy comes from foods we eat and drink. That is called "Energy In." We use that energy to do just about everything from the time we wake up to the time we go to sleep. We even use some energy when we're sleeping! When we use calories/energy to work and play, it's called burning the calories. That is "Energy Out."
 8. Put the words, "Energy Balance" on top of the T-Chart. Now that they know about Energy In

and Energy Out, ask students to guess what the term, "Energy Balance" means and how we can get it! Share information about Energy Balance from the Instant Expert section. Explain to students that Energy In and Energy Out doesn't have to balance **perfectly** every day but we should try to keep our Energy balanced over time.

9. Now that students have a better idea of what Energy Balance is, tell them you are going to play the Balance Game! (Before the lesson began, you should have cut out the Energy In and Energy Out cards and mixed them up in two separate containers. Divide students into six teams, and give each team a calculator or pencil and paper.)
10. Each team will select a card from the Energy In bag that tells them an imaginary food or beverage and the related number of calories for one serving (Energy In). They then will select a card from the Energy Out bag that tells them an imaginary activity and the related number of calories they would burn if they did it for 30 minutes. (Each card is reflective of calories burned for a 65 lb person.) The team that comes closest to balancing Energy In with Energy Out wins!
11. Once each team has gone, repeat the game but this time have each student choose as many Energy Out cards as they need to balance the calories from their Energy In card. The amounts don't need to be exact but the team that comes closest to balancing wins. Place the Energy Out cards back in the bag after each team goes.
12. At the end of the lesson, have each student complete this sentence, "Energy Balance is _____."

Extensions

- Have student teams create projects that illustrate Energy Balance.

Family Connection

Have students talk with family members about Energy In at their next family dinner. Then have them brainstorm an activity they could do as a family to "balance it out."

Community Connection

Have students write an article for the school or community newspaper that explains Energy Balance and how maintaining it can contribute to an active, healthy lifestyle. Then have them try to get their story included in an upcoming edition!

Standards Connections

National Health Education Standards

- Standard 4: Students will demonstrate the ability to use interpersonal communication skills to enhance health and avoid or reduce health risks.
- Standard 5: Students will demonstrate the ability to use decision-making skills to enhance health.

National Reading/Language Arts Standards

- Standard 5: Students employ a wide range of strategies as they write and use different writing process elements appropriately to communicate with different audiences for a variety of purposes.
- Standard 12: Students use spoken, written, and visual language to accomplish their own purposes (e.g., for learning, enjoyment, persuasion, and the exchange of information).

National Science Standards

- Life Science
- Science in Personal and Social Perspectives

Full Esteem Ahead!

Objectives

Students will

- Analyze their personal strengths and weaknesses.
- Create an art project that illustrates their unique physical and non-physical characteristics.
- Set personal goals.
- Draw conclusions about why it's important to like yourself.

Materials

- "Self Inventory" student activity sheet one for each student
- Paper and pencils
- Art materials
- Cameras, video cameras, access to Power Point - optional

Instant Expert

Self-esteem is the collection of beliefs we have about ourselves, and having good self-esteem is an important part of health. Kids who feel good about themselves tend to have an easier time making decisions, handling conflict, working toward goals, and resisting negative pressures. Self-esteem gives kids the courage to trust and value themselves enough to want to care for and protect themselves. They are less likely to give into peer pressure or to make decisions that are harmful or unhealthy.

Although building self-esteem is a lifelong process, the foundation of self-esteem is established in childhood. That foundation can do much to help a child deal with difficult life issues as they are encountered. As we teach kids the importance of Energy Balance, it's important to make sure they feel good enough about who they are to *want* to make sensible, balanced food choices and stay active.

Having self-esteem doesn't mean liking everything about ourselves all the time. It's okay to like some things and want to change others. However, what is important is that we encourage students to accept themselves and try to improve their lifestyle in a healthy, realistic way.

As part of this activity, students are asked to complete a "Self Inventory" that asks them to evaluate and reflect upon their own lifestyle and related choices. In one set of questions, students are asked to reflect upon a decision they make that is good for their health and a decision they make that is not good for their health. While any health-related answer is acceptable, it may be easy or natural for students to relate food choices as "good" or "bad" in this exercise. You will want to ensure that students understand that no foods are "good," or "bad," and that all can fit into a sensible, balanced diet using moderation! Nutrition-related answers could include not hydrating properly, not eating breakfast, or not eating a balanced diet from all food groups.

Procedure

1. Read the following letter from the advice column in a newspaper to students

Dear Helpful Helen,

Help! I really don't like myself. I don't like the way I look. I don't think I do anything good. I try but nothing I do is right. I'm not very smart or athletic or funny. I don't have any friends. What should I do?

Your sad friend, Chris

- Divide students into pairs or groups and have them write a sentence or paragraph from "Helpful Helen" back to Chris. Have students share their responses.
- Put the word, "self-esteem" on the board or a flip chart. Ask students to read the word and share what they think it means.
- Ask
 - Do they think Chris has high self esteem? Why or why not?
 - Do they know anyone with high self-esteem? How do they know this person has high self-esteem? What are some of the benefits of having high self-esteem?
 - Do students know anyone with low self-esteem? How do they know this person has low self-esteem? How could they help someone with low self-esteem?
 - Why is it important to have high self-esteem?
 - Does self-esteem mean liking everything about yourself? (No).
 - If there are things you don't like about yourself, what can you do? (Set healthy, realistic goals to change or improve them).
- Tell students that an important first step in building self-esteem is taking a realistic look at their strengths and weaknesses, likes and dislikes. This helps them know what goals are realistic to pursue, and what they could improve without worrying about what others think. Distribute the "Self Inventory" student activity sheet to students.

- Give students ample time to complete the sentences on the activity sheet.
- Then ask students to use the information on the sheet to create a "ME" product or project that illustrates "who" they are. It can be a drawing, collage, paragraph, Power Point presentation, photographic essay, video, blog, paragraph, or even a commercial!
- Have students present their projects to the class and ask them to share what they learned about themselves and how they can apply this information in their lives. How can it help them set healthy and realistic goals for themselves? Encourage students to set at least one goal for themselves that they can achieve in a healthy way.
- Conclude the lesson by asking students what role they think self-esteem has in a healthy lifestyle. If they feel good about themselves, are they more likely to take care of themselves and make healthy decisions? Why or why not?

Extensions:

- Have students write letters to each other sharing all of the qualities they like about each other.
- Have students create a class exhibit or museum that displays their "ME" projects.

Family Connection

One of the most important sources of self-esteem for young children is within their family. Challenge students to share their "ME" projects with their family members and create a FAMILY project that tells the story of their family.

Community Connection

Sometimes we feel best about ourselves when we have an opportunity to help others. Encourage students to share ways they help others in the community, or come up with a way that the class can visit a nursing home or animal shelter to volunteer their time.

Standards Connections

National Health Education Standards

- Standard 4: Students will demonstrate the ability to use interpersonal communication skills to enhance health and avoid or reduce health risks.
- Standard 6: Students will demonstrate the ability to use goal-setting skills to enhance health.

National Reading/Language Arts Standards

- Standard 5: Students employ a wide range of strategies as they write and use different writing process elements appropriately to communicate with different audiences for a variety of purposes.
- Standard 12: Students use spoken, written, and visual language to accomplish their own purposes (e.g., for learning, enjoyment, persuasion, and the exchange of information).

Decisions, Decisions!

Objectives

- Understand that decisions they make now can impact their future.
- Apply a decision-making model to several authentic and simulated situations.
- Set a goal for themselves and identify how sensible, thoughtful decisions can help them reach that goal.

Materials

- "Decisions, Decisions 1" student activity sheet one for each student
- "Decisions, Decisions 2" student activity sheet one for each student
- Slips of paper

Instant Expert

Throughout their lives, students will be faced with a multitude of decisions regarding their health. What to eat, whether to be active, whether to apply sunscreen, wear a seatbelt or bike helmet, whether to smoke, drink or do drugs, and how much sleep to get are just a few. To achieve Energy Balance, in particular, students must make decisions about balancing food choices and physical activity. Learning how to make informed, confident decisions is an important foundational aspect of this unit.

The decision-making model that is introduced in this lesson is

Step 1: Identify the decision you have to make.

Step 2: Consider your choices.

Step 3: List the benefits (positive impact) and consequences (negative impact) of each choice. With some choices, you may need to gather information or help from an adult or trusted friend with this step.

Step 4: Make your decision. Try to make the best decision for you.

Step 5: Evaluate your decision and change it if you think there is a better one.

You may want to share with students that

- There are more than just one or two options for many decisions. Be creative!
- Decision-making is often an ongoing process. With many decisions, you can change your mind if you realize you have made a mistake.
- If you are gathering information to help you make an important decision, make sure it is from a trusted source or a person who will want the best for you.
- When thinking of consequences, you want to make sure that you can live with the ones that relate to the decision you've chosen.

Procedure

1. Divide students into groups and present one of the following decision-making situations to them. Challenge each group to reach a decision.
 - Our class has won \$100 in a contest. We can buy anything we want with the money. What should we buy?
 - The principal has told us we can get a class pet. What type of pet should we get?
 - Our class can go anywhere on a one-day field trip. Where should we go?
2. Give student groups a set amount of time (no more than five minutes) to reach a decision. Have each group present their answers. Then discuss
 - Was it easy or hard to reach a decision?
 - Were you happy with the decision your group reached?
 - Did all group members agree?
 - What steps did your group take to reach your decision?
 - What steps do you use when you have to make an important decision?
 - What are some important decisions you have had to make?
3. Tell students that many of the decisions they make *today* can affect them as they get older. Can they think of any decisions they currently make that will affect them next month? Next year? In five years?
4. Distribute the "Decisions, Decisions 1" activity sheet and challenge students (individually or as a class) to create a list of five decisions they made the day before or in the past week. (You may need to give younger students some examples such as deciding what time to get up, what to eat for breakfast, what to wear, or what time to do their homework.) Then have them follow the directions to complete the rest of the activity sheet. *At this age, students may not understand how what they eat, how active they are, how much sleep they get, whether they brush their teeth, or whether they complete their homework can affect them later in life. You may need to help them recognize some of the long-term effects.*
 1. Ask student volunteers to choose one decision from their list and share the steps they

took to make it. If possible, highlight a decision related to Energy Balance. You may want to write some of these steps on the board. Ask students why it might be important to have a step-by-step process they can rely on when they have to make important decisions.

2. Distribute the "Decisions Decisions 2" Activity Sheet and review the decision-making process on the sheet with students. Share that, while there may be other processes with other steps, any process should consider the positives and negatives of each possible option.
3. Read the story on the Activity Sheet aloud to students and have them complete the worksheet individually, in groups or as a class. Review answers together.
 - What are Elizabeth's options?
 - What decision do they think she should make?
 - What were the strongest influences for the decision they chose?
 - If students do not agree, have them justify their decisions using the model they've worked through.
4. Ask student groups to go back to the question from the very beginning of the lesson and apply the decision-making model to that decision. Did they come up with the same decision after using the model or did their answer change?
5. Share with students that many decisions are made by thinking about what we want our lives to be like or what things we want in the future. For example, they may decide to save their money instead of spending it so they can buy a bike. Or they may decide to eat a nutritious breakfast so they do well on their science test and have enough energy to play soccer. Or they may want to exercise each day so that they have a healthy heart later in life. Have students share some decisions they have made that will help them in the future.
6. Distribute the slips of paper. Have each student write
 - Something they want to have or achieve in the future. (The future could be one month, one year, or even five years from now)
 - At least one decision they could make now that could help them reach that goal.
 - A person or source that could help them.
7. If students are comfortable, ask them to share their goals. If not, find a safe place where students can keep their slips and refer back to them in the future.

Extensions

- Talk with students about the people or sources that most influence their decisions. Is it family? Friends? Teachers? The media? To whom should we "listen" when making decisions? How do we know who can really help us?

- Have students track their decisions for a day and highlight the ones that are related to their health. On average, how many health-related decisions are they faced with each day?

Family Connection

Challenge students to work with family members to identify a decision they must make that will affect all of them. Ideas include what they will do on their next day off together, what they will eat for dinner, or whether or not the family should get a pet. Then have them work through the decision-making process to make the best decision considering benefits and consequences of each choice.

Community Connection

Invite a local pediatrician, police officer or athlete to the class to talk about the consequences of making poor decisions. Have students prepare questions ahead of time to ask the guest speaker. Encourage students to share what they learned with other classes.

Standards Connections

National Health Education Standards

- Standard 2: Students will analyze the influence of family, peers, culture, media, technology, and other factors on health behaviors.
- Standard 4: Students will demonstrate the ability to use interpersonal communication skills to enhance health and avoid or reduce health risks.
- Standard 5: Students will demonstrate the ability to use decision-making skills to enhance health.
- Standard 6: Students will demonstrate the ability to use goal-setting skills to enhance health.

National Reading/Language Arts Standards

- Standard 5: Students employ a wide range of strategies as they write and use different writing process elements appropriately to communicate with different audiences for a variety of purposes.
- Standard 12: Students use spoken, written, and visual language to accomplish their own purposes (e.g., for learning, enjoyment, persuasion, and the exchange of information).

Making Active, Healthy Lifestyle Choices

Objectives

Students will

- Define "active, healthy lifestyle" in relation to their own lives and explain why it's important to have an active, healthy lifestyle.
- Rate and graph their current lifestyle in relation to how healthy it is.
- Interview others to learn about different perceptions and choices related to a healthy lifestyle.
- Identify strategies that contribute to an active, healthy lifestyle.

Materials

- "An Active, Healthy Lifestyle Is " student activity sheet
- "Interview Similarities and Differences" student activity sheet
- Tape recorder or video recorder for interviews optional

Instant Expert

Many people define being healthy as merely "not sick" or "not having a disease." But being healthy is more than this. There are many aspects of health including physical health, mental health, emotional health, and social health. All are extremely important. The content in Energy Balance 101 focuses primarily on physical health and the role that eating a balanced diet and being physically active can play in contributing to someone's physical health. However, the two sides of the Energy Balance scale can also impact mental, emotional, and social wellness.

Some aspects of our health are inherited and cannot be controlled by our choices. But making healthy lifestyle choices can often impact our health in positive ways. Choices about maintaining Energy Balance would be considered active, healthy lifestyle choices. If students are not familiar with the term, "lifestyle," it can be described as "how they live their life." It often reflects their attitudes, behaviors, and the choices they make." A "active, healthy lifestyle" is one in which someone makes choices that positively impact their health.

Although most children can understand the concept that a balanced diet and regular physical activity can contribute to their active, healthy lifestyle, it is sometimes harder for them to understand why or to feel a connection to the short- or long-term consequences of not eating a balanced diet or being

active.

While we don't want to stress weight management with most children at this age, students may have heard or read about the high rates of childhood obesity and that

1 in nearly 3 U.S. children weigh too much. They may know that being overweight or obese often leads to long-term health problems, lack of energy, and/or a poor sense of self-esteem, all of which are related to health. If children raise this point in discussion, it is important to be sensitive to students who are overweight or obese and ensure that they are not singled out or used as examples by others. For young children, it is better to reframe the discussion to focus on health benefits rather than health consequences. Knowing that Energy Balance can help them maintain a "healthy weight," for example, may be more appropriate than focusing on weight gain as a consequence.

As part of this activity, students are asked to draw a continuum that asks them to evaluate and reflect upon their own lifestyle and related choices. In one set of questions, students are asked to reflect upon a decision they make that is good for their health and a decision they make that is not good for their health. While any health-related answer is acceptable, it may be easy or natural for students to relate food choices as "good" or "bad" in this exercise. You will want to ensure that students understand that no foods are "good," or "bad," and that all can fit into a sensible, balanced diet using moderation! Nutrition-related answers could include not hydrating properly, not eating breakfast, or not eating a balanced diet from all food groups.

Answers to "An Active, Healthy Lifestyle Is "

1. T; 2. F; 3. F; 4. T; 5. F; 6. F; 7. T; 8. T

Procedure

1. Divide students into small groups. Ask them to close their eyes and imagine their lives in 20 years. How old will they be? Where will they live? What will they be doing? Who might they be living with? What will they look like? Ask students to share answers with group members.
2. Then ask them to again imagine themselves in 20 years but this time from a health perspective. Introduce the term "active, healthy lifestyle" to students (see Instant expert). What does having a healthy lifestyle mean to students? Do students think it's important to have a active, healthy lifestyle? Why or why not? Do they imagine they will be making active, healthy lifestyle choices in 20 years? If so, what might those choices be? (These could relate to diet, physical activity, sleep, relaxation, not smoking, etc.)
3. Draw a continuum on the board from 1-10 with 1 representing "unhealthy lifestyle choices" and 10 representing "active, healthy lifestyle choices." Students may need some examples of

what would constitute an unhealthy lifestyle choice (not exercising at all, overeating, not wearing a seatbelt, not wearing sunscreen, not brushing their teeth, etc.) or An Active, Healthy lifestyle choice (exercising regularly, eating a sensible, balanced diet, wearing helmets and wrist pads, brushing teeth regularly, etc.)

4. Have students think about the way they live their life (lifestyle) today and the choices they make that impact their health. Distribute a small piece of paper and ask students to anonymously rank themselves from 1 to 10 in relation to the choices they make.
5. Collect the sheets of paper. Share the answers, and challenge the class to tally and graph the results. Review the data. What is the most common numerical answer given in the class? The least common? The average? Are students surprised by the answers?
6. Distribute the "A Healthy Lifestyle Is ..." student activity sheet to students. Read each sentence on the sheet and have students circle (or show a thumbs up after reading) each one they agree with. Review the answers.
7. Then ask students to write down three active, healthy lifestyle choices they have recently made. Encourage them to relate Energy Balance to at least one of these choices. Share answers.
8. Ask students if they think active, healthy lifestyle choices might mean something different to different people. For example, what might their parents think an active, healthy lifestyle choice is? Or what about a medical expert? Or a teenager? What can students learn from the health-related choices others make?
9. Challenge students to select two people to interview. The people should represent different ages and different genders. Their interviews should include the following questions
 1. What does having an active, healthy lifestyle mean to you?
 2. Why do you think it's important to have an active, healthy lifestyle?
 3. What are some active, healthy lifestyle choices you make or that you could make?

(They can also include additional questions and the numerical continuum on which they rated themselves at the beginning of the lesson.)

1. Have students write their list of questions and determine the technique they will use for the interviews. They can use paper and pencil, a tape recorder, or even a video camera. If students have never interviewed someone before, you may want to spend some time practicing interview skills in class.
2. Give students ample time to conduct their interviews. Then have them complete the Venn diagram student activity sheet to show similarities and differences in the information they gathered.
3. Have them report their findings back to the class and draw conclusions about their interviews. Examples might include
 1. Commonalities in how people define an active, healthy lifestyle or its importance.

2. Commonalties or differences in the choices people make that contribute to an active, healthy lifestyle.
 3. Differences students can identify based on gender or age.
 4. Categories of active, healthy lifestyle choices such as nutrition, exercise, sleep, hygiene, etc.
4. Finally, have students answer the three questions themselves
1. What does have an active, healthy lifestyle mean to you?
 2. Why is it important to have an active, healthy lifestyle?
 3. What are some of the active, healthy lifestyle choices you make or that you could make?

Extensions

- If video equipment is available at the school, encourage students to video the information as if they are a newscaster and to then create a news program to share what they've learned.
- Have students write a story about the future lifestyle they imagined at the beginning of the lesson.

Family Connection

Have students write an additional question to their interview list that relates to family health and how family members can help each other make active, healthy lifestyle choices. Then have them interview each family member and create strategies to help them achieve these goals.

Community Connection

Include community leaders in the interview process such as medical professionals, city or government officials, restaurant owners, local coaches, or even local sports stars!

Standards Connections

National Health Education Standards

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Food and Energy

Objectives

Students will

- Be introduced to the role of calories in giving us energy.
- Rank several foods and beverages by the amount of energy we could get from them.
- Give reasons why one person might need more energy than another.

Materials

- Three foods or beverages with different caloric levels. (For example: lettuce, peanuts, and juice)
- Measuring cups and spoons to
- "Energy Web" student activity sheet one for each student
- Access to the Internet (or the printed out USDA Calorie Level worksheet which can be found at http://www.mypyramid.gov/downloads/MyPyramid_Calorie_Levels.pdf)

Instant Expert

This lesson introduces students to the first part of the Energy Balance equation Energy In! Humans need energy to survive -- to breathe, move, pump blood, and think -- and they get this energy from what they eat and what they drink. The energy in food and beverages comes from their calories. When we hear that something has 100 calories, that is a way of describing how much energy our body could get from eating or drinking it. Scientifically, a food Calorie (capital C) is the amount of energy required to raise the temperature of a liter of water 1 degree Celsius.

How many calories (energy) we need each day depends on several things: our gender, height, weight, age, and activity level. The recommended range for most school-aged kids is between 1600 and 2500 calories a day. (Source: http://kidshealth.org/kid/stay_healthy/food/calorie.html#). School-aged children should not be counting calories. Instead they should understand that their bodies need calories for energy and that not eating enough calories may make them feel tired or even sick. They also need to be active every day so that "Energy In" from calories is balanced by "Energy Out" from activity. We call this "Energy Balance." Being in energy balance promotes normal growth and development. Eating more calories than they burn over time puts them out of

Energy Balance.. Eating fewer calories than they burn over time also puts them out of Energy Balance.

Procedure

1. As students enter the room, ask them to raise their hands if they think they have enough energy to dance for one minute. Enough energy to do 25 jumping jacks? Enough energy to take a math test? (To demonstrate the point, you may want to have students perform these or other tasks that require energy!)
2. Ask students to think about the word "energy." What does it mean to them? Distribute the "Energy Web" student activity sheet and direct students to write words on each line that relate to energy. Share answers. In addition to being able to walk and run and jump, do students know what else we need energy for? Explain that humans need energy to survive. We need it to breathe, move, think, and pump our blood.
3. Do they know where our energy comes from? (Hint: Ask students how they feel when they don't eat breakfast before a big game or long day of school? Why do they think that their parents or caregivers tell them to eat before they need energy?) That's because food and beverages give them the energy they need for everything they have to do. Without energy from food and beverages, they could not do all the things they love to do!
4. Put the three foods/beverages at the front of the room (see materials list). Challenge students to rank the items from the one they think would give them the most energy (#1) to the one that would give them the least energy (#3). Don't give any answers yet!
5. Put the word, "calorie" on the board. What do students know about this word? Explain that a calorie is a unit of energy in food. The number of calories in a food or beverage tells us how much energy we get by eating or drinking it. When we eat or drink something, the calories convert to energy. Calories are important. They give us the energy we need to function each day. However, if we eat more calories than we burn each day through physical activity, the leftover calories are stored in our body and converted to fat.
6. Now that students know that energy is measured in calories, give them the opportunity to change their original rankings for the three foods. Then, using measuring cups and spoons, show students how much of each food or beverage they would consume to get the same amount of energy. For example, to 100 calorie of iceberg lettuce would be approx. 8 cups. 100 calories of raw peanuts would be approx. 1/8 of a cup. 100 calorie of unsweetened apple juice would be approx. 1 cup! In this example, students would get the most energy from the peanuts. Then the apple juice. And finally the lettuce. You can even have students make guesses before showing them the measurements!
7. Ask students if they know the number of calories they should consume each day to get the energy they need. Explain that we all come in different shapes and sizes and the number of

calories we need each day depends on our age, our weight, our height, our gender and how active we are each day. The average school age child needs anywhere from 1600 to 2500 calories per day. That range is pretty big! What might be the characteristics of a school-age child who needs 1,600? (Maybe someone younger, smaller or not very physically active). What would be the characteristics of someone who needs 2,500? (Maybe someone older, bigger or very physically active).

8. Put the following pairs on the board and challenge students to predict which in the pair would need more calories (energy) each day, based only on gender, age and activity level.
 1. A two-year-old or a twelve-year-old.
 2. Someone who does less than 30 minutes of physical activity each day (sedentary) or someone who does at least 60 minutes of physical activity each day (active).
 3. An active nine-year-old boy or an active nine-year-old girl.
9. Then have students go online to the MyPyramid Calorie Level Worksheet at http://www.mypyramid.gov/downloads/MyPyramid_Calorie_Levels.pdf to find out the answers, or print out the worksheet ahead of time. Have students provide possible reasons for each answer. (If students also want to calculate their personal calorie requirements based on additional factors like height and weight, they can go to <http://www.mypyramid.gov/mypyramid/index.aspx> and enter information into a calculator which will tell them.)
10. Finally, ask students again if they have the energy to dance for one minute, do 25 jumping jacks or take a math test. For those who do, ask them to name one food or beverage they consumed today that gave them this energy!

Extensions

- Calories in food and beverages come from carbohydrate, protein, and fat. When we consume a food or beverage, these energy-providing nutrients are broken down into calories that are then used as energy. There are 4 calories in each gram of carbohydrate, 4 calories in each gram of protein, and 9 calories in each gram of fat. Have students cover up the calorie information on a Nutrition Facts Panel and use the calculations above to calculate total calories. For example, if they multiply the grams of fat times 9, that will tell students how many calories from fat are in the food. $\text{Total calories} = (9 \times \text{grams fat}) + (4 \times \text{grams protein}) + (4 \times \text{grams carbohydrate})$.

Family Connection

Have students go to <http://www.mypyramid.gov/mypyramid/index.aspx> and enter information into the calculator to see how many calories each family member needs in a day. Then talk about strategies to make sure most of those calories come from nutrient-rich foods.

Community Connection

Chain restaurants will soon have to feature calorie content about food selections on the menu. Have students look at the menus (found on the internet) from favorite restaurants.

Standards Connections

National Health Education Standards

- Standard 4: Students will demonstrate the ability to use interpersonal communication skills to enhance health and avoid or reduce health risks.
- Standard 5: Students will demonstrate the ability to use decision-making skills to enhance health.
- Standard 6: Students will demonstrate the ability to use goal-setting skills to enhance health.

National Reading/Language Arts Standards

- Standard 5: Students employ a wide range of strategies as they write and use different writing process elements appropriately to communicate with different audiences for a variety of purposes.
- Standard 12: Students use spoken, written, and visual language to accomplish their own purposes (e.g., for learning, enjoyment, persuasion, and the exchange of information).

National Science Education Standards

- Science as Inquiry: Abilities necessary to do scientific inquiry
- Science in Personal and Social Perspectives: Personal health

Energy Plus!

Objectives

Students will

- Learn how information from the Nutrition Facts Panels and MyPyramid can help them make choices that meet their energy and nutritional needs.
- Design a commercial or print ad for a food or beverage that contains information about its nutrients, its food group, and how it can fit into a sensible, balanced diet.

Materials

- Zip bag filled with 1 chocolate chip cookie.
- Zip bag filled with 21 baby carrots.
- Five food or beverage items, each from a different food group (Grain, Milk, Vegetable, Fruit, and Meat and Beans)
- "Energy Plus- Part 1" student activity sheet one for each student
- "Energy Plus- Part 2" student activity sheet one for each student

Instant Expert

As students learned in Lesson 2.1, we get our energy from the foods and beverages we consume. In addition to energy, foods and beverages provide nutrients that contribute to our health in other positive ways. We want to get plenty and a variety of those each day. The nutrients to limit (fat, sodium, sugar, cholesterol) are essential to our body or have attributes that are important for normal functioning. For example, we all need some fat and sugar is a carbohydrate that we need for energy. But, getting too much more of what we need of these nutrients is not good for us. The same is true for nutrients to encourage it is all a part of maintaining the appropriate balance.

We can learn about the nutrients in specific foods and beverages by reading the Nutrition Facts panel. Learning to read the Nutrition Facts panel on food labels is a great way to help us make choices that meet our energy and nutrient needs.

The Food and Drug Administration (FDA) and the United States Department of Agriculture (USDA) are government agencies that make rules about what information needs to be included on a Nutrition Facts panel. Nearly all packaged foods and beverages must provide a Nutrition Facts panel as part of

the food label to allow consumers to compare different foods and make the choices that are right for them. Fresh fruits and vegetables, or single ingredient cuts of meat, poultry, and fish in the supermarket do not have a Nutrition Facts Panel. See in-store information available on these products. Many items in the deli or prepared foods section of a supermarket currently do not bear nutrition labeling.

The percentages on Nutrition Facts panel are an important tool to help kids get information to make food choices. The Nutrition Facts panel must include the following

- **Serving size:** A single serving of the food. All of the nutrition facts on the label are based on the amount in this serving size. This is a reference portion of the food, but you can eat more or less of it depending on your calorie needs.
- **Servings per container:** How many servings are included in the package, can, or bottle.
- **Calories per serving:** The amount of total energy in the food, per serving. **Calories from fat:** The number of calories in the food **that come from fat** rather than other sources.
- **Total Fat:** The amount of fat in a serving of the food. We need some fat in our diet because it's important for our skin and organs and a source of energy. Too much fat can eventually lead to health problems.
- **Cholesterol:** A type of fat found in animal products, including meat, dairy and eggs. Our bodies need only small amounts of cholesterol. **Sodium:** **Sodium** helps regulate the flow of water in and out of our cells and helps muscles work. Sodium can make our blood pressure go up. **Carbohydrates:** A group of nutrients that are the primary energy source we use.
- **Fiber:** Fiber is an important part of **our diet** because it keeps our intestines working and helps us poop. Fresh fruits and vegetables and beans/legumes contain **fiber as well as many whole grains and grain products**
- **Protein:** Your body needs protein to build and repair muscles, blood and organs.
- **Vitamin A and Vitamin C:** These are two important vitamins that help contribute to good health. Fruits and vegetables contain Vitamins A and C. **Calcium:** **An important mineral** that is necessary for building bones. Dairy foods and beverages contain calcium. **Iron:** **An important mineral** that is necessary for red blood cell production. Meat and enriched grains contain **iron**.

(Other nutrients may also appear in the Nutrition Facts panel, depending on the nutritional composition of a food and claims that the manufacture makes about nutrients.)

Nutrition Facts panels also show the %Daily Value for specific nutrients in one serving. This information lets you see each food's or beverage's contribution of nutrients to our overall diet and makes it easier to compare the amounts of nutrients in a food to the amount of nutrients people need each day. Remember that we want to get lots of many nutrients and we want to limit others.

However, we don't have to give up a favorite food if it is high in nutrients we want to limit. We can simply eat less of it or eat it less often.

1. or less of the Daily Value of a nutrient means the food doesn't provide very much of that nutrient.

- More than 20% means that the food is an excellent source of (or high in) that nutrient.

Another tool that can help us make choices about our diet is the Food Guide Pyramid. The United States Department of Agriculture (USDA) developed the MyPyramid food guidance system as a way to help Americans make healthier food choices and be more active every day. MyPyramid is divided into five food groups: grains, vegetables, fruits, milk, and meats/beans. Each food is represented by a different color stripe on the Pyramid, and varying widths illustrate the amount/frequency that should be part of the daily diet. Fats and oils, although not a food group, are also shown on the Pyramid since they are part of the diet. An illustration of a person running up the side of the Pyramid reinforces the importance of physical activity along with eating healthy. In addition to a general Pyramid, USDA also developed a specific Pyramid for preschoolers, children ages 6-11, and for women who are pregnant or breastfeeding. This lesson is designed to correspond with the Pyramid for children ages 6-11 since that describes most elementary school students. The main difference between this and the general Pyramid is related to serving sizes for each group. More information about all of the Pyramids can be found at www.mypyramid.gov.

- **Grain group-** Consists of foods made from wheat, rice, oats, cornmeal, barley, or another cereal grain. Bread, pasta, oatmeal, breakfast cereals, tortillas, and grits are examples of grain products. It is recommended that 6-11 year olds have 6 ounce equivalents (about 6 ounces) of grains every day. The slogan for the grain group is "Make half your grains whole."
- **Vegetable group-** Consists of any vegetable or 100% vegetable juice. Vegetables may be raw or cooked; fresh, frozen, canned, or dried/dehydrated; and may be whole, cut-up, or mashed. Recommended servings for 6-11 year olds are 2 cups a day. The slogan for the vegetable group is "Vary Your Veggies." (color and type)
- **Fruit group-** Consists of any fruit or 100% fruit juice. Fruits may be fresh, canned, frozen, or dried, and may be whole, cut-up, or pureed. Recommended servings for 6-11 year olds is 1 to 2 cups every day. The slogan for the fruit group is "Focus on Fruits."
- **Milk group-** Consists of all fluid milk products and many foods made from milk. Foods made from milk that retain their calcium content are part of the group, while foods made from milk that have little to no calcium, such as cream cheese, cream, and butter, are not. Most milk group choices should be fat-free or low-fat. Recommended servings for 6-11 year-olds is 3 cups every day (for kids 2-8, it's 2 cups every day). The slogan for the milk group is "Get your calcium-rich foods."
- **Meat and beans-** Consists of meat, chicken, turkey, fish, nuts, seeds, peas and beans, and any

products made from these. Recommended servings for 6-11 year olds is 5 to 5-1/2 oz. (ounce equivalents) every day. The slogan for the meat and beans group is "Go lean with protein."

- **Oil**- Not an official food group but has a band represented on the Pyramid because it is important to consume some oil as part of a balanced diet.

The 2005 Dietary Guidelines for Americans also includes a section on "Food Groups to Encourage." These include fruits, vegetables, whole grains and low-fat or fat-free milk products.

Procedure

1. Review what students learned in Lesson 2.1 about how foods and beverages give us energy.
Ask
 1. Why do we need energy?
 2. How do we get our energy?
 3. How can we find out how much energy is in a food or beverage?
2. Tell students that, in addition to energy (calories), many foods also give us vitamins, minerals and other nutrients that help our bodies grow. It's important for us to get the nutrients we need each day from our foods and beverages. Knowing what nutrients are found in certain foods and beverages is another tool to help us make choices about what and how much we eat and drink.
3. To demonstrate this, hold up the two bags: one with 1 chocolate chip cookie and the other with 21 baby carrots. Ask students to guess what the two snacks have in common. Tell them that both the cookie and the 21 carrots have approximately the same number of calories. For fun, challenge students to guess how many calories each snack has. (The answer is 50). Both snacks would give them the same energy, but one would also provide Vitamin A, Vitamin C, and fiber, -- all important nutrients that we want to get plenty of each day. Can students guess which food item would give them these nutrients? (The carrots). Does this mean we should not eat the chocolate chip cookies? No! Cookies taste good and they are fun to eat. Getting nutrients from foods is important so we want to eat plenty of nutrient-rich foods. But those that may be lower in nutrients also fit into a sensible, balanced diet. We can fit them into a balanced diet by choosing to eat them less often or in smaller portions.
4. How can knowing what nutrients a food or beverage contains help us make choices about our diets? Where can we find out which nutrients are in which foods and beverages? The answer: A Nutrition Facts panel found on most food and beverage packages. Allow volunteers to give examples of what they already know about Nutrition Facts panels or how they or their family members use the panels to make their diet choices.
5. Ask students if they know any of the nutrients that can be found on Nutrition Facts panels or how that can help them make choices about what they eat or drink.

6. Distribute the "Energy Plus!" student activity sheet to students. Tell students that the label shown is for a bag of tiny twist whole wheat pretzels. Review the information on the panel with students. Guide a discussion that reviews each nutrient and asks how much of that nutrient can be found in the bag of pretzels. Conclude the discussion by asking;
 1. Which nutrients should you get plenty of each day, and why?
 1. NOTE: fiber, vitamins/minerals
 2. Which nutrients should you try to limit, and why?
 1. NOTE: fat, saturated fat, transfat, cholesterol, sugar, sodium
 3. If you want to eat a food that contains a high percentage of nutrients you want to limit, how can you fit it into your diet? (Eat a smaller amount or eat it less often).
7. In addition to Nutrition Facts panels, can students think of any other tools that can help them make choices about what they eat and drink? How about one shaped like a pyramid? Ask students if they are familiar with MyPyramid. MyPyramid was introduced in 2005 as a food guidance system to help us make choices about what we eat and how active we are. Obtain a copy of or have students view MyPyramid for 6-11 year olds at http://teammnutrition.usda.gov/Resources/mpk_poster2.pdf. Ask
 1. What do the different colors on the Pyramid represent? *The different colors are to remind us to eat a rainbow of different colored foods from the five food groups.*
 2. Which food groups are your favorites? (You can have students graph these answers).
 3. Which food groups have the widest stripes? Which have the skinniest stripes? What do you think the sizes of the stripes represent?
The wider stripes show the food groups you should eat more of in a sensible, balanced diet and that meets your energy needs depending on level of physical activity. The color bands' width at the bottom and narrowness at the top shows that not all foods within the same group have the same nutrition value. For example, low-fat milk would be in the wide part of the Milk group band and ice cream would be at the narrow part.
 4. Should you just eat foods from one Food Group all the time?
No. It is important to eat foods from all of the groups each day because they all give our bodies different nutrients and vitamins, plus the energy (calories) we need for our daily activities.
 5. Show the five foods you brought to class (See materials list). Ask students to categorize these foods by their food groups.
 6. What do you think the person running up the Pyramid represents? *It reminds you that being active is just as important as eating a sensible, balanced diet. ENERGY BALANCE!*
 7. What other information do you see on MyPyramid? Examples include information about oils, fats and sugars; slogans for each group; and the recommended amount that an average 6-11 year-old should eat each day. You may also want to bring in a measuring

cup to give students a better idea of the serving sizes

8. Do all foods that you eat fit into just one food group? *No. Some foods are made up of more than one food group like tacos, pizza and grilled cheese. These are called combination foods.*
 9. Why do you think it is important for us to know about and follow the recommendations in MyPyramid? What might happen if people do not eat a sensible, balanced diet?
 10. From which food groups do students eat the most? Which should they eat more of?
8. Assign or have each group select one of the five foods or beverage items from the Materials List. Then distribute the "Energy Plus: Part 2" student activity sheet. Read the directions and challenge each group to complete the activity sheet by reading their Nutrition Facts panel.
 9. Once each group has finished, challenge them to write and perform a 30-second commercial or design a one-page print ad for their food or beverage. Their commercial or ad should include at least three facts from the Nutrition Facts panel or from MyPyramid and one slogan about how their food or beverage could fit into a sensible, balanced diet.

Extensions

- Bring in one box of cereal and a bowl and measuring cup for each student. Ask them to pour the amount of cereal into their bowl that they typically eat. Then have them compare that to the reference serving size from the label. Are they eating more, less, or the same size as one serving? Why is this important for them to know?
 - Alternately, bring in different sized pieces of fruit to illustrate that a piece of fruit can sometimes be up to of their daily recommendation. Put into cup equivalents to show this.

Family Connection

Have students go with their parents or caregivers on a trip to the grocery store. Before they go, have them circle three items on the shopping list that would have Nutrition Facts panels. For those three items, have them review the labels of at least three different brands for similarities and differences. Then have them make a purchasing choice based on what they read on the labels.

Community Connection

Many children don't get to make choices about the foods they eat because they don't have the money, resources or support to choose a sensible, balanced diet. Have students organize a school food drive to bring food that have vitamins and minerals to those who are less fortunate or have

them prepare a meal that includes foods with vitamins and minerals to serve at a local shelter.

Standards Connections

National Health Education Standards

- Standard 2: Students will analyze the influence of family, peers, culture, media, technology, and other factors on health behaviors.
- Standard 4: Students will demonstrate the ability to use interpersonal communication skills to enhance health and avoid or reduce health risks.
- Standard 5: Students will demonstrate the ability to use decision-making skills to enhance health.
- Standard 6: Students will demonstrate the ability to use goal-setting skills to enhance health.

National Reading/Language Arts Standards

- Standard 5: Students employ a wide range of strategies as they write and use different writing process elements appropriately to communicate with different audiences for a variety of purposes.
- Standard 12: Students use spoken, written, and visual language to accomplish their own purposes (e.g., for learning, enjoyment, persuasion, and the exchange of information).

Your Energy In

Objectives

Students will

- Apply the principles of balance, variety and moderation to diet choices.
- Understand the concept that all foods can fit into a sensible, balanced diet.
- Design a one-week breakfast menu for kids their age.

Materials

- Copies of "MyPyramid for Kids Poster," which can be found at http://teamnnutrition.usda.gov/Resources/mpk_poster2.pdf
- Several flip charts or sheets of poster paper and markers
- "Design the Breakfast Menu" student activity sheet one for each student

Instant Expert

As students learned in Lesson 2.2, MyPyramid is a daily food guidance system developed by the U.S. Department of Agriculture. The Pyramid is based on categorizing food into specific groups and recommending a certain number of servings of foods and beverages in those groups each day. Some food group bands are wider than others to signify that they should be eaten more. These "Food Groups to Encourage" include fruits, vegetables, whole grains, and low-fat or fat-free milk products. Similarly there are wider areas within each food group stripe on the Pyramid to signify that, even within food groups, some foods can be eaten more frequently or in greater abundance than others. A person running up the side of MyPyramid reinforces the importance of balancing dietary choices with physical activity.

MyPyramid encourages the basic principles of a sensible diet: variety, balance, and moderation.

Variety: No single food supplies all the nutrients we need. A varied diet includes many different foods from MyPyramid's five major food groups which together meet nutritional recommendations.

Balance: A balanced diet incorporates appropriate amounts of foods from all five food groups every day, providing needed calories and nutrients. Age, gender and physical activity level make a difference in the number of servings needed to maintain a well-balanced diet.

Moderation: There are no good or bad foods! While some contain more nutrients per serving or portion than others, all foods can fit into a sensible, balanced diet when combined with adequate physical activity. Children, in particular, should know that their diet can include all the foods that they like. Those that are not as nutrient-rich or higher in those nutrients that should be limited (as they learned in Lesson 2.2) can simply be eaten less often or in a lower quantity. This allows more flexibility to enjoy the variety of foods available. Moderation also relates to portion control. Portion sizes for many foods away from home (unlabeled servings) have increased over the years and many Americans tend to eat the amount that is heaped onto their plate or poured into their cups! The recommended amounts for each food group from MyPyramid and information from food labels and the Nutrition Facts Panel can help guide how much we should be eating each day.

Procedure

1. Hand each student a small slip of paper and ask them to write a food or beverage that they like to have for breakfast. The food can be general, i.e., cereal or it can list a brand name. Collect the slips and put them aside.
2. Divide students into five groups. Give each group a flip chart or sheet of poster paper. On it, ask each group to write what they already know about the MyPyramid food guidance system. Have each group report answers.
3. Distribute a copy of the MyPyramid Poster (see materials list to students) to each group and have them identify the information they've listed on the poster. Then assign or have each group select one of the food groups to write a paragraph or give a short speech about. They can use the poster as well as any prior knowledge as their resources and include any information they think is important. Encourage creativity! The group's slogan, recommended servings sizes, and foods and beverages within the group can be included. Have each group present their paragraph or speech.
4. Get out the slips of paper with students' favorite breakfast foods and beverages on them and read them to students. Direct students to categorize the foods and beverages into the five food groups. Combination foods can be listed within all of their food groups. Which group was most popular? Which group had the largest variety of different types of foods represented? Which breakfast foods and beverages do students think might give them lots of energy? Which do they think would give them nutrients they need? If some food groups have fewer foods and beverages listed, ask students to expand the list.
5. Ask students to refer back to the MyPyramid poster. Put the words, "balance," "variety," and "moderation" on the board or a flip chart. Tell students that, even though these words might not be written on MyPyramid, they are also important when making dietary choices.
6. Challenge each group to come up with what they think each word means and how it is

represented as part of MyPyramid. Report ideas. Add any missing information from the Instant Expert section.

7. Have students look back at their breakfast group listings. Ask
 - How are balance, variety and moderation represented on the lists?
 - How can students use information about balance, variety and moderation as they make their own choices about their diet?
8. Distribute the "Design the Breakfast Menu" student activity sheet to students. Have student groups imagine that they have been asked to develop next week's breakfast menu for their school's Breakfast Program. They must decide what foods and beverages will be served for breakfast for each of the five days using the following guidelines
 1. A balance of the five food groups should be represented.
 2. Variety within each food group should be represented.
 3. Foods and beverages should be those that kids their age would like! If it is not appealing to kids, they may not eat it! They can refer back to their choices from the beginning of the lesson for ideas.
 4. Consider slogans from My Pyramid
 - Make half your grains whole
 - Vary your veggies
 - Focus on fruits
 - Get your calcium-rich foods
 - Go lean with protein
 5. Consider nutrients like fiber, Vitamin A, Vitamin C, Calcium and Iron.
 6. Consider items that could be prepared for many kids at once.
9. For an extra challenge, ask students to include serving sizes for their items and a calorie calculation. (According to the USDA School Breakfast Program, school breakfasts for K-12 must be at least 554 calories each day to get the appropriate energy requirement.)
10. Give groups ample time to complete their menus. Then have them present and explain their menu choices to the rest of the class. They should also explain how they used balance, variety and moderation in their choices! If possible, have the School Nutrition Staff, or parents vote for their favorites!
11. Finally ask each student to share a sentence about how they will use balance, variety and moderation in their own diet choices.

Extensions

- Have students talk with their School Nutrition Staff about how breakfast and lunch menus are designed. What factors are considered? How do balance, variety and moderation play a role?
- Students may be surprised to know that the average bagel size 20 years ago was 3" in diameter

and 140 calories. Today's average bagel size is 6" in diameter and 350 calories! Can students think of any other foods or beverages that might have larger portion sizes than 20 years ago? Students can see more examples at <http://www.nhlbi.nih.gov/health/public/heart/obesity/wecan/eat-right/distortion.htm> Share with students that people often eat what is put on their plate or poured into their cups! If we heap food on our plate or pour a large beverage without considering how much we should be having, we could be increasing our Energy In! Have student groups imagine that they are inventors who are challenged to come up with an invention to help people control their portions! Have them come up with a name, a sketch, and a description of their invention.

Family Connection

Have students work with family members to rate themselves during one meal or one day for balance, variety and moderation using MyPyramid as a guide.

Community Connection

Ask students to interview local restaurant owners or managers to learn how they incorporate balance, variety and moderation into the menu choices.

Standards Connections

National Health Education Standards

- Standard 4: Students will demonstrate the ability to use interpersonal communication skills to enhance health and avoid or reduce health risks.
- Standard 5: Students will demonstrate the ability to use decision-making skills to enhance health.
- Standard 6: Students will demonstrate the ability to use goal-setting skills to enhance health.

National Reading/Language Arts Standards

- Standard 5: Students employ a wide range of strategies as they write and use different writing process elements appropriately to communicate with different audiences for a variety of purposes.
- Standard 12: Students use spoken, written, and visual language to accomplish their own purposes (e.g., for learning, enjoyment, persuasion, and the exchange of information).

Physical Activity and Energy

Objectives

Students will

- Identify how different types of physical activities make them feel.
- Categorize and rank physical activities by how much energy they use.
- Select physical activities, based on the number of calories burned, to balance out calories from a food item.

Materials

- "Balancing Clara's Calories" student activity sheet one for each student
- Calculators - optional
- Grocery bags
- Several heavy books
- A stopwatch

Instant Expert

This lesson introduces students to the Energy Out in the Energy Balance equation. Energy Out includes the physical activity that we do every day. Regular physical activity is an important part of an active, healthy lifestyle. In fact, it is recommended that kids ages 6-17 get 60 minutes or more of physical activity each day. Physical activity means moving the body to use energy. Everything from brushing our teeth to running a marathon uses energy. The more vigorous the activity, the more energy is required. That energy comes from what we eat and what we drink.

Students learned in Lesson 2.1 that calories are a measurement of the potential energy contained in what we eat or drink. Calories fuel the body just like gasoline fuels a car. Three nutrients carbohydrate, protein and fat contain calories. When we eat or drink something that contains carbohydrate, protein or fat, the body breaks down the nutrients to release energy. That energy can then be used to do all the physical activities we want to do. Even when we're at rest, our body needs energy for all its "hidden" functions, such as breathing, circulating blood, and growing and repairing cells. Without energy, we could not survive. When we use the energy we get from calories, it's called "burning calories" during exercise. When we burn about the same number of calories that we

consume over time, that's called Energy Balance!

Some physical activities require more energy than others. For example, running up stairs would use more energy than playing the piano. High energy activities that require lots of energy are called vigorous. Vigorous activity burns more than 7 calories per minute. Medium energy activities that require a moderate amount of energy are called moderate. Moderate activities burn between 3.5 and 7 calories per minute. Any activity that burns less than 3.5 calories per minute is low energy. We should do mostly moderate to vigorous physical activities each day.

High-Energy Activities (vigorous) include

- Running/jogging
- Bicycling (more than 10 miles per hour)
- Jumping rope
- Karate
- Swimming laps
- Aerobics
- Walking fast up a hill
- Wheeling a wheelchair
- Most competitive sports (football, lacrosse, soccer, basketball, wheelchair basketball, field hockey, etc)

Medium Energy Activities (moderate) include:

- Walking briskly (about 3-4.5 miles per hour on a level surface)
- Hiking
- Yoga
- Gardening/yard work
- Dancing
- Golf
- Bicycling (less than 10 miles per hour)
- Weight training (general light workout)
- Horseback riding
- Kayaking

It is good to do a variety of different activities. Each type of activity uses different muscles. Some activities increase our heart rate. These are called **aerobic activities**. Muscle-strengthening and bone-strengthening activities also can be aerobic, depending on whether they make our heart and lungs work harder than usual. For example, running is both an aerobic activity and a bone-strengthening activity. It is important that physical activity makes us work hard enough to

increase our heart rate. Some good examples of aerobic activities include

1. Brisk walking
2. Jogging
3. Swimming
4. Riding a bike

Exercise builds muscle, some activities that strengthen our muscles also help keep our bones strong. These types of activities are called **weightresistance** or **strength building** exercises. Good examples of weight resistance activities include

1. Lifting weights
2. Carrying heavy objects
3. Swimming laps

Some activities stretch your muscles and help with balance. Some great examples of **stretching and balance** activities include

1. Gentle stretching
2. Yoga
3. Martial arts
4. Dancing

Procedure

1. Challenge students to do the following physical activities and to describe how each one makes them feel
 - Stretch high in the air and then touch their toes (if they can) 5 times.
 - Jog in place for one minute.
 - Lift a grocery bag or backpack filled with books as many times as possible.
 - Do 10 jumping jacks.
 - Stand on one foot for 30 seconds.
 - Walk quickly around the room.
 - Smile.
2. Ask students what all of those challenges have in common. *They are all different types of physical activity and they all use energy.* Then challenge students to identify differences in the amount of energy the activities used. Which ones do they think used a lot of energy? Which used a medium (moderate) amount of energy? Which used the least amount of energy?
3. Explain to students that everything we do, from sleeping to running, requires energy. Ask students where we get the energy we need to do these activities. (Foods and beverages). Share

information from Instant Expert about calories and calorie burning.

4. Ask students to name activities they have recently done that they think use lots of energy. Explain that activities that use lots of energy are called "vigorous." Then ask them to name activities they have done that they think require a medium amount of energy. These are called "moderate." Finally, ask them to name activities they did that require a low amount of energy. You can tell them that doing homework would be an example of a low energy activity!
5. Hand out the six Post-It notes to students. Then write the names of the activities listed below horizontally on the board (or put the names on signs in different parts of the room). Read the names of each activity to students, making sure that they understand what each activity is. Ask students to think about whether each activity is Energy, More Energy or Most Energy. Have them write an H, an M or an L on each Post-It note to correspond with how much energy they think each activity would require. (Hint: 2 are High Energy, 2 are Medium Energy and 2 are Low Energy).

Activities

Doing Arts and Crafts (L)

Karate (H)

Shooting Baskets (M)

Playing the Piano (L)

Walking (M)

Playing Soccer (H)

1. After reviewing answers, ask students to rank the activities from highest to lowest related to the specific number of calories a 65-lb. person would burn if doing the activity for 15 minutes. After all students have had a chance to guess, share answers

Highest to Lowest

Karate (89 calories)

Playing Soccer (60 calories)

Shooting Baskets (35 calories)

Walking (25 calories)

Playing Piano (15 calories)

Doing Arts and Crafts (10 calories)

1. After sharing answers, ask students how they can use this information as they are thinking about Energy Balance. Ask
 - Which activity category (High, Medium, or Low) would burn the most calories? *High Energy/Vigorous*
 - If you wanted to do a moderate activity but wanted to burn more calories, what could you do? *Do it for a longer period of time*
 - How could you give your body enough energy before doing a vigorous activity? *Fuel up with food and beverages*
 - If you knew you were going to go on vacation with your family or a birthday party where you were going to eat or drink more than usual, what could you do to balance it out? *Do more physical activity to burn calories*
2. Distribute and review the "Balancing Clara's Calories" student activity sheet. In partners or small groups, have students select a snack for Clara and balance out the Energy In from her snack with the Energy Out from her physical activities. If students can't balance exactly, encourage them to balance within 5 calories.
3. Have each pair or group share ideas for how they balanced out Clara's Calories! Is there more than one correct way to balance her calories? How can they relate this activity to their own lives?

Extensions

- One great way to be more physically active is to try new, fun activities when possible! Challenge students to learn more about a physical activity they have never tried by going to http://www.bam.gov/sub_physicalactivity/physicalactivity_activitycards.html. Have them research the necessary equipment and dress, the parts of the body the activity helps, and where they might do the activity. Finally have them write a letter to a friend or family member persuading them to give the activity a try!

Family Connection

One great strategy is to make physical activity a family affair! Challenge students to work with family members to identify one activity they could do as a family. This could be a family walk or bike ride, or taking an exercise class together!

Community Connection

Community centers and youth centers often host physical activity classes designed specifically for kids. Encourage students to e-mail or write to their local community center to learn what activities might be appropriate and fun for them.

Standards Connections

National Standards for Physical Education

- Standard 3: Participates regularly in physical activity.
- Standard 4: Achieves and maintains a health-enhancing level of physical fitness.
- Standard 6: Values physical activity for health, enjoyment, challenge, self-expression, and/or social interaction.

National Health Education Standards

- Standard 2: Students will analyze the influence of family, peers, culture, media, technology, and other factors on health behaviors.
- Standard 4: Students will demonstrate the ability to use interpersonal communication skills to enhance health and avoid or reduce health risks.
- Standard 5: Students will demonstrate the ability to use decision-making skills to enhance health.
- Standard 6: Students will demonstrate the ability to use goal-setting skills to enhance health.

National Reading/Language Arts Standards

- Standard 5: Students employ a wide range of strategies as they write and use different writing process elements appropriately to communicate with different audiences for a variety of purposes.
- Standard 12: Students use spoken, written, and visual language to accomplish their own purposes (e.g., for learning, enjoyment, persuasion, and the exchange of information).

Why Be Active?

Objectives

Students will

- Identify the benefits of physical activity.
- Calculate their heart rates before and after physical activity.
- Create a poster that highlights the benefits of physical activity.

Materials

- *Two* sets of the "Benefits of Physical Activity Cards" reproduced and cut out
- 20 cones
 1. 4 rings that could fit over cone tops
- Radio or other music source
- Video or art equipment - optional

Instant Expert

Physical activity is an important part of maintaining an active, healthy lifestyle. In fact, it is recommended that kids ages 6-17 get an average of 60 minutes or more of physical activity every day. In addition to helping to maintain Energy Balance, there are many benefits to being physically active each day. Some will be more immediately relevant to students (improves appearance) while others will seem less relevant or immediate (improves heart health). But they are all important in maintaining an active, healthy lifestyle. Benefits of physical activity include

Physical

- Burns calories and helps to maintain Energy Balance
- Increases muscle strength
- Increases efficiency of heart and lungs
- Increases stamina
- Increases bone strength
- Improves circulation
- Lowers blood pressure
- Maintains a healthy body weight

- Helps with digestion
- Increases resistance to disease
- Boosts energy
- Improves posture

Emotional

- Reduces stress
- Improves sleep
- Reduces the chance for depression
- Build self confidence
- Increases enthusiasm
- Establishes good habits

Social

- Provides a fun way to share an activity with family and friends
- Helps with problem solving and getting along with others

Some studies even suggest that regular physical activity can improve students' attention level and improve academic performance. Exercise grows brain cells!

From an Energy Balance perspective, physical activity burns calories that we consume through what we eat and what we drink. That helps us maintain a healthy weight. The more vigorous the activity, the more calories we burn.

In the lesson, students see firsthand how aerobic activity impacts their heart by measuring their heart rate before and after physical activity. During aerobic activity, our pulse rate and breathing rate increase. During each heartbeat, the muscles of the heart contract causing a wave of pressure which forces blood through their arteries. This wave of pressure is called a pulse. The normal heart rate varies with age. At six to eight years of age, the heart rate should be between 70 and 115 beats per minute. From nine to eleven years of age, the normal heart rate should be between 60 and 100 beats per minute. During aerobic physical activity, the heart rate increases to supply the muscles with more oxygen to produce extra energy. To meet the body's need for oxygen during aerobic exercise, it beats faster and harder to get more blood out in each beat-stroke volume. But it can only beat harder if it has been strengthened through exercise. Like other muscles, the heart enjoys a good workout. When we give the heart this kind of workout regularly, it will get stronger and more efficient in delivering oxygen (in the form of oxygen-carrying blood cells) to all parts of the body.

Procedure

1. Before students enter the room, clear a large space and place cones in different areas within that space. Make sure that they are at least a few feet from each other. Cut out two sets of the "Benefits of Physical Activity Cards" so there are 40 cards. Place two cards under each of the 20 cones.
2. As students enter the room, read the following statement and poll students to see if they agree, "Regular physical activity is good for your health." In all likelihood, most if not all students will agree. Then follow up with the following question, "How is it good for your health?" Encourage student volunteers to share everything they know about how activity is good for them. Record answers.
3. Tell students that they are going to play a game to learn 20 ways that physical activity contributes to their health! Divide students into two teams. Distribute two rings to each team. Tell students that under each cone they will find a card that lists a benefit of being physically active. Their team goal is to collect all 20 cards. In order to collect a card, a player must throw the ring toward one cone while standing next to another cone. If the ring lands directly over the cone, their team may collect the card under it. If the ring does not land directly over the cone, all team members must do 10 jumping jacks! Once all team members have had a turn (or once 20 turns have been taken), it is the second team's turn to collect the second set of cards. The team that collects the most cards wins!
4. After the game, have each team read their list of benefits and see if 20 have been collected. If not, try to guess the remaining ones and uncover the cones to see if guesses were right. Ask students to share what they know about each benefit and how it relates to physical activity.
5. Again, poll students with the same question they were asked at the beginning of the lesson, "How is regular physical activity good for your health?"
6. Tell students that they are going to conduct a demonstration on themselves to see how physical activity impacts their heart. Have students locate their pulse point, either on their wrists or neck. Once everyone has located their pulse point, challenge students to count the number of times they feel a beat in 6 seconds. Time them for 6 seconds and have them write down the number. Then have them add a zero to the end of that number (or multiply by 10). Explain that this is their number of heart beats in one minute.
7. Draw the following table on the board and collect the heart rates of students before exercise (you may want to explain that if their heart rate is not shown or if they are not in the largest group, it is probably because they are inexperienced at this type of measurement.)

Range of heart rate

Heart rate before activity

Number of students

Heart rate after activity

Number of students

Less than 60

60 to 70

1. Put on music and lead students in one or more of the following activities for one to two minutes: jump rope, run in place, or do jumping jacks. Before starting the clock, challenge students to predict what will happen to their heart rate. Will it increase? Decrease? By how much? Time students for one to two minutes and repeat the heart rate exercise. Record the results. If you have time, have students rest for a few minutes and repeat so they see that their heart rate goes back to normal. The exact numbers here are not important, but students should understand the pattern that their heart rate increases after exercise and then goes back to normal after a period of rest.
2. Ask students how they think the aerobic activity helped their heart. Share information from the Instant Expert section.
3. Finally, direct student teams to use what they've learned to create a poster that persuades kids their age to be physically active each day. Each team's poster should include at least three benefits of being physically active!

Extensions

- Encourage students to select one benefit of physical activity to learn more about. Ask them to research how exercise is specifically connected to the benefit and the related consequence of not exercising.

Family Connection

Ask students to survey family members to see how many benefits of physical activity they can identify! If they can collectively identify 18-20, they are physical activity experts!

Community Connection

Direct students to create a survey to learn how much daily physical activity community members do

each day. After collecting answers, have students graph and analyze their data by gender, age, or job title. Once complete, ask each class to combine data to create a community physical activity profile.

Standards Connections:

National Standards for Physical Education

- Standard 3: Participates regularly in physical activity.
- Standard 4: Achieves and maintains a health-enhancing level of physical fitness.
- Standard 6: Values physical activity for health, enjoyment, challenge, self-expression, and/or social interaction.

National Health Education Standards

- Standard 2: Students will analyze the influence of family, peers, culture, media, technology, and other factors on health behaviors.
- Standard 4: Students will demonstrate the ability to use interpersonal communication skills to enhance health and avoid or reduce health risks.
- Standard 5: Students will demonstrate the ability to use decision-making skills to enhance health.
- Standard 6: Students will demonstrate the ability to use goal-setting skills to enhance health.

National Reading/Language Arts Standards

- Standard 5: Students employ a wide range of strategies as they write and use different writing process elements appropriately to communicate with different audiences for a variety of purposes.
- Standard 12: Students use spoken, written, and visual language to accomplish their own purposes (e.g., for learning, enjoyment, persuasion, and the exchange of information).

Your Energy Out

Objectives

Students will

- Be introduced to national Physical Activity Guidelines for their age group.
- Categorize several physical activities as those which they should do more, enough or less of over time.
- Create a three-day personal physical activity plan based on the National Physical Activity Guidelines for their age group.

Materials

- Three signs. One that says, "Do More," one that says, "Do Enough," and one that says, "Do Less."
- "Do More, Do Enough, Do Less" cards
- "Energy Out Tracker" student activity sheet one for each student
- "Energy Out Tracker Reflection" student activity sheet one for each student

Instant Expert

According to the 2008 Physical Activity Guidelines for Americans, children and adolescents (ages 6-17), should get at least 60 minutes of physical activity every day. These activities should be age-appropriate, enjoyable and offer variety. The Guidelines focus on three types of activity: aerobic, muscle strengthening (anaerobic), and bone-strengthening.

- **Aerobic activity** makes our heart beat faster and makes us breathe harder than usual. Over time, regular aerobic activity makes our heart and lungs stronger and able to work better.
- **Muscle-strengthening** activities improve the strength, power, and endurance of our muscles.
- With **bone-strengthening** activities, our feet, legs, or arms support our body's weight, and our muscles push against our bones. This helps make our bones strong.

Muscle-strengthening and bone-strengthening activities also can be aerobic, depending on whether they make our heart and lungs work harder than usual. For example, running is both an aerobic activity and a bone-strengthening activity. Stretching helps improve flexibility and our ability to fully move our joints. Touching our toes, doing side stretches, and doing yoga exercises are

examples of stretching.

According to the Guidelines, most of the 60 minutes each day should be either moderate or vigorous aerobic physical activity, and include vigorous-intensity activity at least three days a week. Students learned about moderate and physical activity in Lesson 3.1. (A person doing moderate intensity aerobic activity can talk, but not sing, during the activity. A person doing vigorous-intensity aerobic activity cannot say more than a few words without pausing for breath.)

As part of the one hour a day of physical activity, the following should also be included

- Muscle strengthening at least three days a week.
- Bone strengthening at least three days a week.

Examples of each type* of activity include

Aerobic-Vigorous Intensity Running, Tag, Karate, Basketball, Swimming, Tennis, Skiing, Jump rope, vigorous dancing, Ice or field hockey.

Aerobic-Moderate Intensity Hiking, Skateboarding, Rollerblading, Biking, Fast Walking, Baseball.

Muscle-strengthening Push-ups, sit-ups, swinging on playground equipment, resistance exercises with bands, climbing a rope or wall.

Bone-strengthening Hop scotch, hopping, skipping, jumping, volleyball, tennis.

*Some activities can fall into more than one category.

At a young age, it may be difficult for students to keep track of specific activity categories. It is important, however, for them to understand that they should be physically active for at least 60 minutes a day and that most of this physical activity should be aerobic. The 60 minutes does not need to come all at one time. It is often more realistic to have shorter spurts of activity throughout the day.

Answers to Do More, Do Less, Do Enough Cards

Do More

- Soccer
- Tennis
- Swim
- Basketball

- Run
- Jump rope
- Walk up and down steps
- Roller skate

Do Enough

- Push-ups
- Stretching exercises
- Yoga
- Pull-ups
- Walk the dog
- Throw a ball
- Sit-ups
- Hop
- Skip

Do Less:

- Talk on the phone
- Play on the computer
- Play video games
- Watch television
- Sit still

Procedure

Note: Before class begins, put the three signs in different places around the room.

1. As students enter the room, ask them to put their chairs into a large circle and sit down. Ask one student to get up and stand in the center of the circle. Remove his or her chair.
2. Explain to students that you are going to play a game called, "Thumbs Up." You will read a sentence, and everyone for whom the statement is true must get up and quickly find a new seat. The new seat cannot be directly to the left or right of their current seat, and they cannot push, pull or hit anyone as they try to find a new seat. The person who is left without a seat is out. You will then remove another chair. Those who are out can remain active by dancing, walking in place, or jumping rope.
3. Do one practice round by saying, "Thumbs Up for anyone who is wearing

- sneakers." "Jog in place for those without sneakers."
4. Once students understand the game, tell them that when you yell, Mix It Up," everyone must get up and find a new seat. Again, whoever is left without a seat is out.
 5. Play the game by using the following prompts (or choose your own). Don't forget to say, "Mix It Up" once in a while to get everyone moving. Thumbs Up for everyone who
 1. Ate breakfast this morning.
 2. Is wearing blue.
 3. Is on a team.
 4. Plays outside every day.
 5. Likes P.E. or likes to play.
 6. Eats fruit.
 7. Has brown hair.
 8. Likes to ride a bike.
 9. Sometimes takes the stairs instead of the elevator.
 10. Does activity that gets them out of breath.
 6. When the game is over, ask how many winners there are. The answer is they are all winners because they were just physically active for ___ minutes!
 7. Ask students if they know how many minutes kids their age are supposed to be physically active each day. Give time for students to guess. Tell students that kids their age should be getting 60 minutes or more of physical activity every day. That's one hour of physical activity. Based on the number of minutes they played "Thumbs Up," how many games would they have to play to reach the 60 minutes?
 8. Ask
 1. Do they think all 60 minutes must come at the same time?
No, it is fine to have shorter spurts of activity throughout the day.
 2. How would they describe the types of activities that most of the 60 minutes should come from?
Students may answer Aerobic, high energy or vigorous. Students may also answer "do more" or "do enough" or "do less."
 3. How many students think they are getting at least 60 minutes of physical activity each day? *You may want to have students write out the activities and related minutes from the previous day to help them answer this question.*
 4. What if there is a day that they can't get 60 minutes or more of physical activity?
This is a recommendation. They should try to meet this recommendation as many days as they can to help contribute to their active, healthy lifestyle.

5. What are some ideas to help reach the 60 minutes each day? *Try new activities, do things they enjoy, be active with family and friends, join a team, walk or ride their bike instead of riding in a car, watch less television!*
 1. Point out the three signs around the room and ask students what they think the signs represent. Ask them to share general behaviors they think they should do more of, do enough of, and do less of. Then tell them to think about these descriptions as they relate to physical activities. What might the descriptions mean?
 2. Tell students that, in addition to saying how many minutes we should be active, there are also guidelines for the types of activities we should do more of than others.
 1. **"Do More"** activities make their heart work harder and make them out of breath. Can they think of any "Do More" activities?
 2. **"Do Enough"** activities stretch and build their muscles. Can students think of any "Do Enough" activities?
 3. **"Do Less"** activities are those where they are not working their heart or lungs or stretching or building muscles. They could also be called, "Sitting Around" activities. Can students think of any "Do Less" activities?
 3. Put the "Do More, Do Enough, Do Less" cards in front of you and select one of them. Have a student volunteer act out the activity on the card and challenge others to guess what s/he is doing. Then ask students to run to the sign that shows how much of the activity they should be doing each day (More, Enough, or Less). For example, if you select, "swimming," the volunteer will act out someone swimming and then students should run to the "Do More" sign. Direct students to take turns acting out the remaining cards and run to their corresponding signs.
 4. Ask students how they think the "Do More," "Do Enough" and "Do Less" activities relate to Energy Balance. Which activities do they think use the most energy? The least energy? How can knowing this information help contribute to a healthy lifestyle? How can they make decisions about the types of physical activities they will do to help them achieve Energy Balance?
 5. Have students work in partners to plan out physical activities they will do for the next three days. Their plan should be based on the Guidelines for kids their age and include the following
 1. At least 60 minutes of physical activity for each of the three

days.

2. Mostly moderate to vigorous, "Do More" activities each day.
6. Have students present their plans to the class.
7. At the end of the three day period, have students determine how close they actually came to meeting their plan. What was challenging? How can they use this information to help them meet their physical activity requirements each day? How can they use this information to help them maintain Energy Balance?

Family Connection

Have students share their three-day plans with their families and encourage them to create their own three-day activity plans!

Community Connection

Assign students to design a "Let's Get Physical" fair for the school community with exhibits, booths, and opportunities for everyone to learn the importance of getting active.

Standards Connections

National Standards for Physical Education

- Standard 3: Participates regularly in physical activity.
- Standard 4: Achieves and maintains a health-enhancing level of physical fitness.
- Standard 6: Values physical activity for health, enjoyment, challenge, self-expression, and/or social interaction.

National Health Education Standards

- Standard 1: Students will comprehend concepts related to health promotion and disease prevention.
- Standard 3: Students will demonstrate the ability to practice health-enhancing behaviors and reduce health risks.
- Standard 4: Students will demonstrate the ability to use interpersonal communication skills to enhance health and avoid or reduce health

risks.

- Standard 5: Students will demonstrate the ability to use decision-making skills to enhance health.
- Standard 6: Students will demonstrate the ability to use goal-setting skills to enhance health.

National Reading/Language Arts Standards

- Standard 5: Students employ a wide range of strategies as they write and use different writing process elements appropriately to communicate with different audiences for a variety of purposes.
- Standard 12: Students use spoken, written, and visual language to accomplish their own purposes (e.g., for learning, enjoyment, persuasion, and the exchange of information).

Energy Balance in Your Life

Objectives

Students will

- Examine and compare calories per serving and nutrient content in foods or beverages they recently consumed.
- Calculate calories burned from physical activities they recently did.
- Make a Human Energy Balance Scale.

Materials

- One Nutrition Facts panel (per student) for a food or drink they consumed in the previous week
- "My Energy In and Energy Out" student activity sheet- one per student
- Two index cards for each student (each card should be a different color)
- Computer(s) with access to the Internet
- Calculator- optional

Instant Expert

As students learned in Lesson 1.1, Energy Balance is the balance of the calories we consume through food and beverages (Energy In) with the energy we use through physical activities and daily body processes (Energy Out). In this activity, students look at Energy Balance as it relates to their own lives.

For the Energy In part of the lesson, students examine calories per serving and nutrients from foods or beverages they consumed in the previous week. As students examine their Nutrition Facts panels, they may realize that some foods and beverages give them a lot of energy but not as many nutrients. Or other foods don't provide as much energy but give them a significant percentage of the nutrients they need. This can lead to a discussion about the concept of balance in general. There are no good or bad foods! All foods can fit into a sensible, balanced diet. Knowing how much energy and what nutrients foods and beverages provide can help us make choices that lead to a sensible, balanced diet that's right for us!

For the Energy Out part of the activity, students go online to calculate the number of calories burned

for physical activities they did the previous week. There are many Internet sites that include calorie calculators, but the one that is recommended is the MyPyramid tracker at <http://www.mypyramidtracker.gov/>. While registration is required to have full and ongoing use of the Tracker, students can bypass the registration requirement by clicking, "Check It Out no registration" at the lower left corner of the site. Students will need to enter their age, gender, height, and weight to get accurate calculations but they do not need to register. Another calorie burn calculator can be found at the Discovery Health site at **health.discovery.com** health.discovery.com/.../cholesterol/activity/activity.html. On this site, students need to enter their weight and the duration of the activity to get accurate calculations. It is important to note that most calorie burning calculators will ask for weight in order to get an accurate calculation. If you have students who are sensitive about their weight, you may want to ask all students to enter the same average weight. For example, they could all enter 65 pounds rather than entering their own weight.

At the end of the lesson, students create a Human Energy Balance Scale using energy-related information about their own foods and beverages, and physical activities. The goal here is not for students to create exact balance but rather for them to see examples of Energy In and Energy Out in their own lives and how they can balance the calories they consume by burning calories through physical activity.

Procedure

Note: Before the lesson, ask each student to bring in a Nutrition Facts panel from a food or beverage they consumed in the last week. If possible, have them bring the container or box the food came in.

1. Ask student volunteers to review definitions for the following terms
 1. Energy In
 2. Energy Out
 3. Energy Balance
2. Divide students into groups of five. In their groups, have students report which food or beverage item they selected.
3. Distribute the "My Energy In and Energy Out" activity sheet.
4. Have students guess which group member's food or beverage item contains the most Energy In (calories) per serving. Have them write their guesses on the activity sheet. Then have each group member report the actual number of calories per serving on his or her Nutrition Facts panel. How many guessed correctly?
5. Remind students that, in addition to energy, many foods also give us nutrients that help us grow and contribute to our health. You may want to refer back to Lesson 2.2 for a list of nutrients that we want to "get plenty of" in our diet. Challenge each

group to review the labels from all 10 foods and beverages to determine which of the foods also provides these nutrients.

6. Are any foods high in both energy and the nutrients we need? How can students use this information as they make decisions about their diet?
7. Ask students what is on the other side of the Energy Balance Scale (Energy Out). On the activity sheet, have each student list two physical activities they did in the previous week and the approximate number of minutes they did each one. Have students circle the activity they think used the most energy (burned the most calories) and present their choices to the rest of their group members. Once all group members have presented, challenge the group to guess which activity from all 10 burned the most calories. (You may want to refer back to information in Module 3 about vigorous and moderate activity).
8. Direct students to an online calorie burning calculator such as the ones suggested in the Instant Expert section. Ask them to research and record the number of calories burned for the activities they listed. Which group members' activity burned the most calories? The least? What conclusions can students draw about the activity type or duration that burns the most calories? (You may want to point out differences between aerobic activities and other activities; between vigorous and moderate intensity aerobic; and between being active for 15 minutes vs. being active for 60.) How can they use this information as they are thinking about their Energy Out each day?
9. Distribute the two different colored index cards to students. On one color card, ask students to write the name of their food or beverage and the Energy In (calories) per serving. (Make sure all students use the same color card for Energy In!). Then on the second card, have students write one of the physical activities they did, the number of minutes they did it, and its corresponding Energy Out (calories burned).
10. Designate one side of the room Energy In and have half of the students stand on that side of the room holding up their Energy In cards. Designate the other side of the room Energy Out and ask remaining students to stand on that side of the room holding up their Energy Out cards.
11. Tell students that their goal is to make a Human Energy Balance Scale in the middle of the room using themselves and the cards they're holding paired with one or more students from the other side of the room! Challenge them to come up with several ways to balance foods from the Energy In cards with physical activities from the Energy Out cards. They don't need to balance exactly, but they do want to try to be as close as possible. They can use as many or as few cards as they want. Once they have come up with several closely balanced models, have them

switch cards. Students who were originally Energy Out should now hold up their Energy In cards, and vice versa. Try to get all students to be part of at least one Energy Balance model.

12. Once students begin to see how Energy In and Energy Out balance work, add in your own "twists" to the Human Energy Balance Scale. Examples include
 1. What if you and your family are going on a big hike this weekend that will increase your Energy Out? You need more Energy In! Which foods or beverages could help you balance your scale?
 2. What if your soccer season ends and you aren't practicing for an hour a day anymore but you have the same Energy In that you did during the season? You will need extra Energy Out! What could you do to help you balance your scale?
 3. What if you skip breakfast and feel really tired when you are playing jump rope with your friends. You need more Energy In! Which foods or beverages could help you balance your scale?
 4. What if you break your arm and aren't able to do the same physical activities you usually do to get Energy Out. What can you do to help maintain Energy Balance?
13. Finally, ask students how they can use the information from this lesson to help them maintain Energy Balance.

Extensions

- Have students design another game using the Energy In and Energy Out cards.

Family Connection

Sometimes we have family dinners, vacations or events where we consume more Energy In than we typically do. Have students talk with family members about how they can balance out these high Energy In days with fun family-friendly Energy Out activities!

Community Connection

Have students research community activities that relate to Energy In and Energy Out. These could include ethnic celebrations, festivals, races, community facilities, etc. Challenge students to come up with ideas for combining Energy In and Energy Out community events to help residents see the importance of balancing their energy.

Standards Connections

National Health Education Standards

- Standard 4: Students will demonstrate the ability to use interpersonal communication skills to enhance health and avoid or reduce health risks.
- Standard 5: Students will demonstrate the ability to use decision-making skills to enhance health.

National Reading/Language Arts Standards

- Standard 5: Students employ a wide range of strategies as they write and use different writing process elements appropriately to communicate with different audiences for a variety of purposes.
- Standard 12: Students use spoken, written, and visual language to accomplish their own purposes (e.g., for learning, enjoyment, persuasion, and the exchange of information).

National Physical Education Standards

- Standard 3: Participates regularly in physical activity.
- Standard 4: Achieves and maintains a health-enhancing level of physical fitness.
- Standard 6: Values physical activity for health, enjoyment, challenge, self-expression, and/or social interaction.

National Science Standards

- Life Science
- Science in Personal and Social Perspectives

I Can Balance. You Can Balance.

Objectives

Students will

- Identify benefits of maintaining Energy Balance.
- Identify possible obstacles that could prevent someone their age from maintaining Energy Balance.
- Generate solutions and choices to help imaginary kids their age overcome obstacles for maintaining Energy Balance.

Materials

"Case Study" student activity sheet one for each student

Newspapers and news magazines -- optional

Instant Expert

Energy Balance is a balance of the calories we consume from food and beverages with the calories we burn through physical activity and basic body processes like sleeping, breathing, building new red and white blood cells, thinking, etc. The energy used in these basic body processes is known as our Basal Metabolic Rate (BMR). It's easiest to explain to children that, in addition to the physical activity they do, they also burn calories by doing things like breathing, thinking and even sleeping. In other words, everything we do requires energy.

Maintaining Energy Balance can contribute to an active, healthy lifestyle. Not maintaining Energy Balance can lead to health problems. If we have a lot more Energy In over time than Energy Out, consequences include weight gain (unburned calories are converted to fat) and the possibility of becoming overweight or obese (with related problems like heart disease, Type 2 diabetes, self-esteem issues, etc). If we have a lot more Energy Out over time than Energy In, that can lead to unhealthy weight loss, sickness, lack of energy, and problems with growth and tissue formation (especially for children).

Over the past three decades, childhood obesity rates in America have tripled, and today, nearly one in three children in America are overweight or obese. One third of all children born in 2000 or later

will suffer from diabetes at some point in their lives; many others will face chronic obesity-related health problems like heart disease, high blood pressure, cancer, and asthma. In addition, studies have shown that obese children and teens are more likely to become obese as adults. Some experts believe that if obesity among children continues to increase, our current generation of children will become the first in American history to live shorter lives than their parents.

There are many contributing factors to the high rate of childhood obesity. Some reasons are related to diet and activity choices. These include

- The sedentary lifestyle of many children. A typical American youth spends approximately three hours a day watching TV, using the computer or playing video games. In addition to less physical activity, this sedentary lifestyle may also contribute to increased energy consumption through excessive snacking and eating meals in front of the TV.
- More time spent in cars and less time walking.
- Less physical activity for young people including less time in physical education classes. Almost 1 in 4 children does not participate in any free time physical activity.
- Increased portion sizes for food and beverages.

Since all children grow at different rates and those in your class likely will be different weights, you will want to be sensitive to discussions about being overweight or obese. The most important takeaway for students is the importance of balancing food and beverage calories (Energy In) with at least 60 minutes a day of activity (Energy Out).

In this activity student groups are asked to examine an Energy Balance-related Case Study for someone their age. They determine if the person in the Case Study is in or out of balance and suggest ways to increase Energy In or Energy Out, based on their diet, physical activity, etc. Certainly in a real case study like this, one would also examine height, weight and many environmental factors. However, for this exercise, we have limited the Case Study to only diet and physical activity.

Procedure

1. Put the following sentences on the board or a flip chart and ask students what they all have in common
 1. I don't like to be outside so I watch TV all day every day.
 2. I get up too late so I never have time to eat breakfast.
 3. I don't really like team sports so I am never active.
 4. When I'm bored, I love to eat a lot so I often eat several servings of my favorite foods.
2. Introduce the word, "obstacle." Have students ever heard this word? Students may be familiar

with obstacle courses in Phys Ed class. Share with students that an obstacle is something that stands in the way of them doing something or making progress. These sentences all share an obstacle for why someone is having trouble maintaining Energy Balance. Ask students to identify the obstacle in each one of the examples.

3. Have student pairs role play a discussion between two friends using one of these obstacles in the examples. What alternate choices or solutions can the other friend offer? Is there often a different choice or solution that can help someone remove an obstacle that gets in their way?
4. What other obstacles might make it difficult for someone their age to balance their Energy In and Energy Out? For each possible obstacle on their new list, encourage the class to come up with different choices or possible solutions.
5. Put this equation on the board: $E_{in} > E_{out}$. Challenge them to guess what this means. (It means that Energy In is greater than Energy Out.) Ask students to list possible consequences of someone having this Energy Balance equation over time. Several ideas are listed in the Instant Expert section. What healthy lifestyle choices might students suggest to someone who has a lot more Energy In over time than Energy Out? (*Ideas include eating smaller portions; being more physically active each day, walking instead of driving when possible, doing more vigorous activity each day, etc.*)
6. Then ask a student volunteer to write what the equation would look like if someone's Energy Out was greater than their Energy In. ($E_{in} < E_{out}$). Have students share possible consequences of this equation as well as what healthy lifestyle choices they might give suggest to someone who has a lot more Energy Out over time than Energy In. (ideas include making sure we are consuming enough foods and beverages to give us the energy we need)*Note: We don't want to tell kids to be less physically active but we do want to make sure that they're getting enough Energy In to balance their Energy Out.*
7. Now tell the two student groups to imagine that they are doctors who have been asked to examine an imaginary patient's Energy Balance and to suggest solutions or healthy lifestyle choices to help them maintain Energy Balance.
8. Divide the class in half and distribute one of the Case Studies to each group. Review the elements of the Case Study and give students ample time to determine if their patient is balanced and what solutions or choices they would suggest if not.
9. After groups are finished, have them share information with the other group about their patient, their Energy Balance equations, and related advice.
10. Finally, have students relate the exercise to themselves and share one strategy presented to the patients that could help them maintain Energy Balance.

Extensions

- In partners, have students role play a doctor's office visit for the patient in their case study

including specific obstacles getting in the way of maintaining Energy Balance.

- Challenge students to add some twists to their case studies. For example, what would happen if Jose or Kim was going to play in a big soccer tournament? Should they increase their Energy In? Or what could Jose or Kim do if they know they are going to have extra Energy In on vacation?
- Have students cut out photographs or stories from the newspaper, news magazines, or Internet news sites of images that represent Energy In or Energy Out. It could be pictures of foods, pictures of people eating, pictures of people doing something physically active, etc. Then have students create a bulletin board with these photographs that illustrates Energy Balance.

Family Connection

Have students talk with family members about whether they think they balance their Energy In with their Energy Out and, if not, what advice they could give each other about how to be more balanced?

Community Connections

Have students invite a real physician to the class to talk about the importance of maintaining Energy Balance and the short- and long-term consequences of being imbalanced.

Standards Connections

National Standards for Physical Education

- Standard 3: Participates regularly in physical activity.
- Standard 4: Achieves and maintains a health-enhancing level of physical fitness.
- Standard 6: Values physical activity for health, enjoyment, challenge, self-expression, and/or social interaction.

National Health Education Standards

- Standard 2: Students will analyze the influence of family, peers, culture, media, technology, and other factors on health behaviors.
- Standard 4: Students will demonstrate the ability to use interpersonal communication skills to enhance health and avoid or reduce health risks.
- Standard 5: Students will demonstrate the ability to use decision-making skills to enhance health.

- Standard 6: Students will demonstrate the ability to use goal-setting skills to enhance health.

National Reading/Language Arts Standards

- Standard 5: Students employ a wide range of strategies as they write and use different writing process elements appropriately to communicate with different audiences for a variety of purposes.
- Standard 12: Students use spoken, written, and visual language to accomplish their own purposes (e.g., for learning, enjoyment, persuasion, and the exchange of information).

How Balanced Are You?

Objectives

Students will

- Brainstorm potential personal challenges to maintaining Energy Balance and ideas for overcoming those challenges.
- Track their Energy In and Energy Out for one day.
- Analyze their Energy In and Energy Out and identify manageable goals that can help them maintain Energy Balance.

Materials

- Beach Ball
- Flip Chart
- "Energy Balance Tracker" student activity sheet- one per student
- Computer(s) with Internet access

Instant Expert

In this lesson, students are challenged to track their Energy In and Energy Out for one day. This could be challenging for some students so it may be important to enlist the help of parents and spend time during class working on the tracker.

As has been outlined in earlier lessons, it is not important that we maintain Energy Balance every day. Instead it should be maintained over time. Therefore this one day Tracker does not give students an accurate picture of their overall Energy Balance, but it does give them a snapshot of one day in their lives and helps them begin to think about balancing what they eat with how they move! This Tracker should be used as a tool to help students see where they can improve and to think about healthy ways to make those improvements.

As you review the Tracker with students, point out that they are asked to add 1000 calories to their Energy Out to account for their Basal Metabolic Rate (BMR). As you will recall from previous lessons, our BMR is the amount of Energy Out our body uses for basic body functions like breathing, sleeping, growing, and even thinking! Our BMR depends on many factors: gender, age, weight, height and level of physical activity among them. The number 1000 reflects a rounded

average of the BMR for a boy and a girl, age 10, 65 lbs and 48 inches. If students want to calculate their exact BMR based on their gender, age, height and weight, they can do so at <http://health.discovery.com/centers/heart/basal/basal.html>

Procedure

1. Tell students that you are going to play a game of Energy Balance catch! Toss the beach ball in the air to a student. When that student catches the ball, challenge him or her to share one fact they have learned about Energy Balance. Then ask that student to toss the ball to another student who has not yet answered, and repeat. Continue tossing the ball until each student has had an opportunity to share one fact. It is fine if they repeat a fact!
2. Ask students to share with a partner one reason why Energy Balance can help them maintain an active, healthy lifestyle. Share reasons with the group.
3. Write the following sentences on the board and ask students to complete them on a sheet of paper
 1. To balance my Energy In and Energy Out, I _____.
 2. Sometimes my Energy In and Energy Out don't balance. One reason is _____.
 3. If I wrote down everything I ate and every activity I did for one day, I think I'd see _____.
4. Collect the sheets of paper and mix them up so that no one knows who wrote what. Read each "thing I do really well" to the class. Ask a student to record these on the board or a flip chart.
5. Then read the list of areas where students think they need help and challenge the class to generate solutions for each one. Solutions can come from the list of things they do really well or from student discussion. Students can draw from the solutions they generated in Lesson 4.2.
6. Finally, read student answers to the third question which asks students what they'd see if they tracked their Energy In and Energy Out for one day. Remind students that it's okay if they have days when they do not maintain Energy Balance as long as they do so over time.
7. Distribute the "Energy Balance Tracker" to each student. Tell students that, for one day, they are going to write down everything they eat and drink (including snacks) and every activity they do. If Nutrition Facts panels are available, they can also write down the number of calories in each food and beverage. (Remind students that calories on the panel are for one serving so, if they have two servings of the food, they must multiply the number of calories by 2). If they do not have access to a panel, they can research the calories once they bring their Tracker back to class. They should not yet complete the calories burned column.
8. Give students one full day to complete their Tracker. Have them return to class with their Tracker the following day.
9. Working in partners or groups, have students complete the Calories In and Calories Out columns on their Trackers by using Nutrition Facts panels or going to a site that counts calories such as the USDA's Nutrient Database at

<http://www.nal.usda.gov/fnic/foodcomp/search/>. To record the calories burned, they can go to the MyPyramid Tracker at <http://www.mypyramidtracer.gov/>.

10. Then have them answer the questions at the bottom of the Tracker on a separate sheet of paper and share answers to partners or in small groups.
11. Discuss answers. What stood out? What surprised students? Do they think this day is an accurate representation of what they'd see if they tracked their Energy In and Energy Out for over time? What conclusions can they draw from each other's Trackers?

Extension

- Have students write a story called, "A Day in the Life of My Energy Balance" that explains what they learned from their Tracker.

Family Connection

Have students challenge family members to track their Energy In and Energy Out during the same one-day period. Encourage all family members to work together to identify ways they can help the family stay balanced!

Community Connection

Maintaining Energy Balance can help people of all ages stay healthy! Have students make posters that encourage those in the community to balance Energy In with Energy Out and see if they can be displayed at the local grocery store or library.

Standards Connections

National Health Education Standards

- Standard 4: Students will demonstrate the ability to use interpersonal communication skills to enhance health and avoid or reduce health risks.
- Standard 5: Students will demonstrate the ability to use decision-making skills to enhance health.

National Reading/Language Arts Standards

- Standard 5: Students employ a wide range of strategies as they write and use different writing process elements appropriately to communicate with different audiences for a variety of

purposes.

- Standard 12: Students use spoken, written, and visual language to accomplish their own purposes (e.g., for learning, enjoyment, persuasion, and the exchange of information).

National Physical Education Standards

- Standard 3: Participates regularly in physical activity.
- Standard 4: Achieves and maintains a health-enhancing level of physical fitness.
- Standard 6: Values physical activity for health, enjoyment, challenge, self-expression, and/or social interaction.

National Science Standards

- Life Science
- Science in Personal and Social Perspective

Your Energy Balance Goal!

Objectives

Students will

- Write an "Energy Balance" goal that they will monitor over the next four weeks.
- Develop goal-setting skills to improve their ongoing Energy Balance.

Materials

- Several soft balls and goals (or masking tape/other materials to simulate goals)
- Completed "Energy Balance Tracker" from Lesson 4.3
- "Setting a SMART goal" student activity sheet one for each student
- "My Energy Balance Goal" student activity sheet one for each student
- Flip chart
- Newspapers, news magazines, or access to online news sources (optional)

Instant Expert

Throughout the activities in Energy Balance 101, students have learned many lessons about how balancing their Energy In and Energy Out can contribute to their healthy lifestyle. They have also learned

- What Energy Balance is and why it's important
- How to make decisions that contribute to their active, healthy lifestyle
- How calories from food and beverages give them energy
- How some foods and beverages give them added nutrients to help them grow and contribute to their good health
- How to make diet choices to meet their individual energy and nutrition needs
- How their activities and basic body processes use their energy
- How calories are burned
- The benefits of physical activity
- How to make physical activity choices that meet their individual needs
- How to make choices that contribute to Energy Balance
- How to overcome obstacles to balancing their Energy

- About their own Energy in and Energy Out and areas where they could improve

In this lesson, students will combine all they've learned to write and create a plan for a personal Energy Balance-related goal. To help them generate ideas, they will reflect on the Energy Balance Trackers they completed in Lesson 4.3. If students did not complete that Tracker, you may want to have them spend time reflecting upon their own Energy In and Energy Out patterns.

The lesson plan suggests a four-week time period for students to track and meet their goal. That time period is flexible, and teachers are encouraged to set a time period that meets their individual class needs.

Procedure

1. Before students enter the room, set up several goals around the room (this can be real goals or goals made by masking tape or other materials). Divide students into groups and direct each group to stand by one of the goals. Give each group a ball. Direct students to do the following
 1. Point to the goal they are trying to reach.
 2. Have each student think of a different plan for getting the ball in the goal.
 3. One by one, have each student try to reach the goal using their idea. Encourage them to cheer for each other.
 4. Repeat the exercise, this time with another student trying to prevent their ball from going in the goal.
 5. Finally, remove the goalie and have each student try again.
2. Have students come back together and discuss
 1. Did everyone know what the goal was?
 2. Did each group member come up with a different idea for reaching the goal? Did different ideas reach the same objective? Can there be more than one way to reach the same goal?
 3. Was it easy to reach the goal the first time you tried? Why or why not?
 4. Was it harder when you had an obstacle trying to stop you? Did you change your strategy when you had an obstacle? Was it easier when the obstacle was removed?
3. Ask students what other kinds of goals there are, other than the ones that a ball is kicked into! Have they ever set any goals for themselves? If so, have them share examples. Record them on the board or a flip chart. Then relate these goals to the exercise they just did
 1. Did they reach their goal the first time? If so, how? If not, how did they change their plan?
 2. Could there have been more than one way to reach their goal?
 3. Was there an obstacle or problem that made it hard to reach their goal?
 4. If so, was it easier once that was removed?

4. Share with students that an important part of maintaining a healthy way of life is to set goals (some small and some bigger) for themselves and to create a plan for reaching those goals. Just like the exercise at the beginning, they may not always reach their goal; there are often many different ways to reach the same goal; sometimes hard things stand in the way of us reaching our goals and we can try to remove them or change our plan; it's helpful to have people encouraging us; and finally, when we reach our goal it's fun to celebrate!
5. Ask students what might be important when trying to set a personal goal. Distribute the "Setting a SMART goal" student activity sheet. Review each "letter" in SMART as it relates to goal setting. You may want to use the examples of goals students shared earlier in the lesson as you review the activity sheet. Then have students work in groups to rewrite the goals at the bottom of the sheet to be SMART.
6. Now that students know how to write SMART goals, ask them to get out the Energy Balance Tracker they completed in Lesson 4.3. (If students did not complete a Tracker, have them track what they eat and their activity for a day or write down their typical diet and activity patterns.)
7. Explain that they will use the information from their Tracker and what they learned about goal-setting to write a specific and personal goal related to Energy Balance. You may want to brainstorm a list of goals that would be appropriate. For example
 1. I will try one new vigorous activity each week.
 2. I will be active for 60 minutes at least 5 days a week.
 3. I will eat breakfast every day.
 4. I will eat at least one food each day that has at least 20%DV of a nutrient that's good for me (calcium, fiber, iron, Vitamin A, Vitamin C).
 5. I will eat 6 oz. (or one serving) from the grain group each day.
8. Distribute and review the "My Energy Balance Goal" student activity sheet. Have students work in pairs to complete the sheet. Tell them they will have four weeks to complete their goal and remind them that there is more than one way to reach a goal and that sometimes we have to change our plan if something isn't working.
9. Make sure the goals they are writing are specific, measurable, attainable, meaningful to them, and within a specific timeframe! Students may need assistance. If they are having trouble setting their own goals, have them share ideas with each other or imagine themselves writing a goal for someone else their age.
10. Once all students have finished, encourage volunteers to share their goals and their action plans. If time permits, have all students present.
11. You may want to check progress with students each week to see how they are doing. This can be done in partners, groups, or at a meeting with you. At the end of four weeks, have students share their progress and celebrate their achievements!

Extensions

- Challenge students to create a visual idea for tracking their Energy Balance Goals.
- Host an Energy Balance Fair or presentation for other students and family members.

Family Connection

Ask students to challenge family members to set and track an Energy Balance-related goal. It makes it easier to reach goals with support from family members and more fun to celebrate if everyone has made improvements!

Community Connection

The Community section of the Energy Balance 101 Website (www.energybalance101.com) is filled with great organizations and resources to help kids reach their energy balance goals!

Standards Connections

National Health Education Standards

- Standard 4: Students will demonstrate the ability to use interpersonal communication skills to enhance health and avoid or reduce health risks.
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