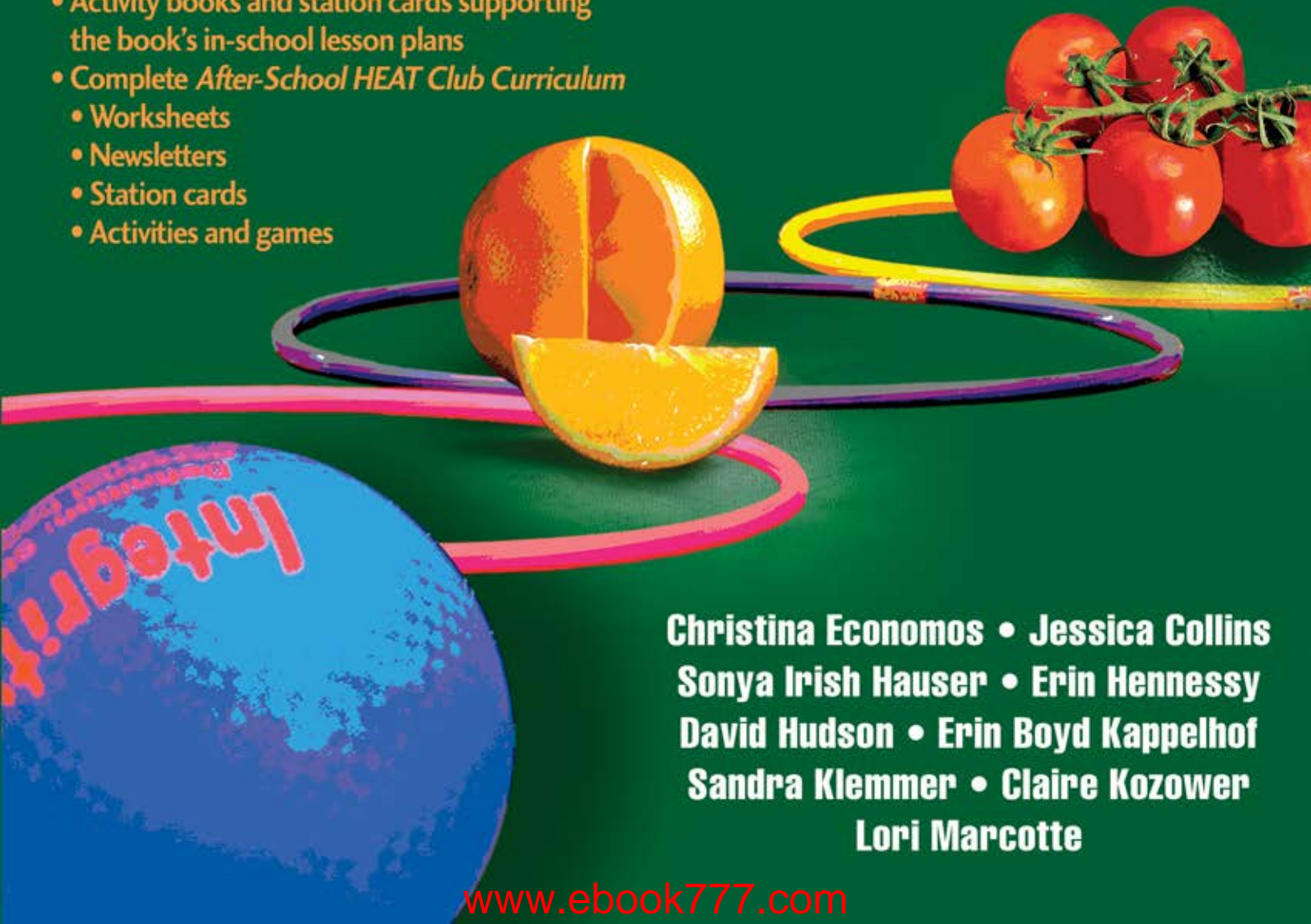


The Healthy Eating and Active Time Club Curriculum

Teaching Children to Live Well

Features a comprehensive web resource with

- Activity books and station cards supporting the book's in-school lesson plans
- Complete *After-School HEAT Club Curriculum*
 - Worksheets
 - Newsletters
 - Station cards
 - Activities and games



**Christina Economos • Jessica Collins
Sonya Irish Hauser • Erin Hennessy
David Hudson • Erin Boyd Kappelhof
Sandra Klemmer • Claire Kozower
Lori Marcotte**

THE HEALTHY EATING AND ACTIVE TIME CLUB CURRICULUM

TEACHING CHILDREN
TO LIVE WELL

Christina Economos, PhD • Jessica Collins, MS
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AFTER-SCHOOL HEAT CLUB CURRICULUM

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**THE HEALTHY EATING AND
ACTIVE TIME CLUB CURRICULUM**

**TEACHING CHILDREN
TO LIVE WELL**

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UNIT 1

INTRODUCTION TO NUTRITION AND PHYSICAL ACTIVITY 1

Show students what the HEAT Club is all about—healthy eating and active time! In this unit students learn what makes up a healthy diet—using MyPlate as a guide—and how to stay physically active every day. What’s more, they learn how healthy eating and active time support health and keep us feeling our best.

UNIT 2

MAKING HEALTHY NUTRITION AND PHYSICAL ACTIVITY CHOICES EVERY DAY 53

The class has learned what it means to eat smart and play hard—now help them apply it! This unit prepares students to make healthier choices every day, whether by choosing nutritious snacks to fuel an active day or planning a MyPlate meal for their family.

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Learn more about the *After-School HEAT Club Curriculum*, available in the accompanying web resource by using the following pass code: HEATCC-7TNG9I-OSG. This resource gives after-school leaders and participants opportunities to engage in healthy-cooking activities, active games, and HEAT Club-inspired creative arts. The full curriculum is available in the web resource.

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WEB RESOURCES CONTENTS

Visit the web resource at www.HumanKinetics.com/TheHealthyEatingAndActiveTimeClubCurriculum by using the pass code HEATCC-7TNG9I-OSG to access the accompanying activity books, handouts and reproducible, and the *After-School HEAT Club Curriculum*.

Accompanying Materials for The Healthy Eating and Active Time Club Curriculum

- Cool Moves
- Grade 1 Activity Book
- Grade 2 Activity Book
- Grade 3 Activity Book
- Calcium and Fat Detectives Food Labels
- Energy Balance Food Cards, Grade 1
- Energy Balance Activity Cards, Grade 1
- Energy Balance Food Cards, Grades 2 and 3

- Energy Balance Activity Cards, Grades 2 and 3
- Plant and Animal Food Cards, Grade 2
- Application of MA Standards to HEAT Club Curriculum

After-School HEAT Club Curriculum

The *After-School HEAT Club Curriculum* is a companion text to the *Healthy Eating and Active Time Club* in-school lessons and activities. The after-school program allows students to continue learning beyond the classroom through healthy-cooking activities, active games, and creative arts. The program can be used in almost any after-school setting. The program encourages at-home application of healthy eating and movement concepts through fun activities and projects, reproducible materials, and take-home newsletters called Family Tips.

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LESSON AND ACTIVITY FINDER

Unless otherwise noted, objectives and materials apply to all grades. Icons identify objectives and materials listed specifically for grades 1, 2, or 3.












Key to Icons

 —First grade

 —Third grade















 —Second grade









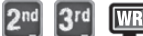




 —These materials can be found in the accompanying web resource.

Lesson or activity	Page	Nutrition	Physical activity	Materials needed	Objectives
Unit 1—Introduction to Nutrition and Physical Activity					
1. HEAT Club Kickoff	3	✓	✓	 Activity books (one per student)	<ul style="list-style-type: none"> • Know the goals of the HEAT Club. • Learn simple stretches. • Understand that healthy bodies need to move and to be fueled with healthy foods in order to grow, play, and learn. • Identify healthy foods and activities.
2. MyPlate Fun!	8	✓		 Activity books	<ul style="list-style-type: none"> • Learn how foods are grouped in MyPlate. • Recognize that different foods offer different nutrients. • Understand that healthy bodies need a variety of foods each day. • Learn how MyPlate can be used to identify and create healthful meals.
3. Grains	13	✓		 Activity books  Extension activity: hockey puck, smartphone, large egg, light bulb	<ul style="list-style-type: none"> • Learn which foods belong in the grains group. • Learn why it is smart to choose whole-grain foods.   Learn serving sizes for the grains group.  Use a food label to identify nutrients in whole-grain foods.
4. Fruits and Vegetables	19	✓		 Activity books  Read <i>Eating the Alphabet</i> by Lois Ehlert	<ul style="list-style-type: none"> • Identify foods in the fruits and vegetables groups. • Recognize that fruits and vegetables come in many colors and that each color does something special for the body. • Understand that the more fruits and vegetables we eat, the better. • Recognize serving sizes for fruits and vegetables.   Recognize some of the health benefits of fruits and vegetables.

(continued)

Lesson and Activity Finder (continued)

Lesson or activity	Page	Nutrition	Physical activity	Materials needed	Objectives
Unit 1—Introduction to Nutrition and Physical Activity					
5. Dairy	25	✓		<p> Activity books</p> <p> Bring in milk containers: whole, low-fat chocolate, and skim. (Note: You can get cartons of milk, except whole milk, from the school cafeteria.)</p>	<ul style="list-style-type: none"> Identify dairy products and understand that children need 2-1/2 to 3 cups daily. Understand that low-fat dairy products are a smart choice. <p> Understand that dairy fat is a saturated fat that comes from animals.</p> <p> Understand that dairy products contain calcium, vitamin D, and other essential nutrients.</p>
6. Protein	30	✓		<p> Activity books</p> <ul style="list-style-type: none"> Deck of cards 	<ul style="list-style-type: none"> Name foods in the protein group. Understand that protein helps your body grow. <p>  Identify how many servings of protein are needed each day.</p> <ul style="list-style-type: none"> Distinguish between plant and animal sources protein.
7. All Activities Count	34		✓	<p> Activity books</p>	<ul style="list-style-type: none"> Understand that many types of physical activity are good for the body. Identify different types of physical activities, such as play, sports, chores, work, and transportation.
8. How Do You Feel?	38		✓	<p> Activity books</p> <p> Red and green crayons or colored pencils</p>	<ul style="list-style-type: none"> Share how being active makes you feel.
9. Screen Time—Add It Up!	43		✓	<p> Activity books</p> <p> Read <i>The Berenstain Bears and Too Much TV</i> by Stan and Jan Berenstain</p>	<ul style="list-style-type: none"> Compare screen time to time spent being active and set goals to reduce screen time. Create a list of active-time things to do instead of screen-time activities.
10. Energy Balance	48	✓	✓	<p> Activity books</p> <p> Energy balance food cards—make several copies (one set of food and activity cards per small group of students). Cut out and paperclip each set of cards, keeping the food and activity cards separate. For reuse, back the cards with card stock and laminate.</p> <ul style="list-style-type: none"> Balance scale and blocks (or you may use the picture of a scale included on the Staying in Balance page of the activity book) 	<ul style="list-style-type: none"> Understand our food intake should be balanced with physical activity.

Lesson or activity	Page	Nutrition	Physical activity	Materials needed	Objectives
Unit 2—Making Healthy Nutrition and Physical Activity Choices Every Day					
11. Find the Fat	55	✓		 Activity books  Pictures of foods from plants and animals  Plant and animal signs	<ul style="list-style-type: none"> • Understand why fat is an important part of our diet. • Identify plant and animal foods that contain fat. • Understand that fats from plants and fish are better for us than fats from other animal foods. • Identify smarter choices among animal foods.
12. Sugar	61	✓		 Activity books  Sugar, teaspoons, plates, food labels from a variety of sugary foods (and a lower-sugar example, if desired, such as flavored yogurt vs. plain yogurt, chocolate milk vs. plain milk)	<ul style="list-style-type: none"> • Identify sources of added sugar in their diets.  Understand that 4 grams of sugar equals 1 teaspoon. • Understand that some healthy foods, such as fruit, naturally contain sugars along with other nutrients such as vitamins and minerals.
13. Super-Smart Snacking	65	✓		 Activity books  Scotch tape or masking tape (for attaching snack pictures to the whiteboard)	<ul style="list-style-type: none"> • Identify healthy snacks. • Create a list or collage of healthy snacks.
14. Active Time and Health	69		✓	 Activity books	<ul style="list-style-type: none"> • Recognize the benefits that physical activity has on the body. • List healthy foods that fuel active play.
15. Healthy Choices	73	✓	✓	 Activity books  Optional: magazines or grocery store flyers with photos of healthy foods and drinks, scissors, tape or paste, colorful paper	<ul style="list-style-type: none"> • Recognize that foods in the MyPlate groups provide nutrients and help people make smart choices. • Identify healthy meals and activities.  Identify one food and one activity goal to make for a healthier day.
16. Wrap-Up	76	✓	✓	 Activity books <ul style="list-style-type: none"> • Optional: healthy snacks and materials for any active games you have selected 	<ul style="list-style-type: none"> • Make the connection between physical activity and nutrition. • Review the ideas and concepts covered in the HEAT Club. • Encourage students to continue living the HEAT Club way.

(continued)

Lesson and Activity Finder (continued)

Lesson or activity	Page	Nutrition	Physical activity	Materials needed	Objectives
Extensions 1—Supplemental Art Activities					
Fruit and Vegetable Self-Portraits	80	✓		<ul style="list-style-type: none"> • Plain white paper or white construction paper • Pencils • A collection of catalogs, magazines, and grocery store fliers that have pictures of fruits and vegetables • Scissors • Glue 	The objective of all creative art activities is to reinforce the HEAT Club messages so that children not only expand their creativity but also learn healthy, lifelong behaviors.
Garden Planning	81	✓		<ul style="list-style-type: none"> • Grid paper or plain white paper • Crayons, colored pencils, or pastels • Rulers (optional) 	
Mix and Match Meals	81	✓		<ul style="list-style-type: none"> • Large sheets of white construction paper • Markers, colored pencils, or crayons • Scissors • Glue 	
Tree of Many Fruits	82	✓		<ul style="list-style-type: none"> • Balloons (small size, variety of round and long shapes); blow up balloons ahead of time • Water acrylic paints • Paper mâché paste • Buckets or paint trays (several to divide up paste) • Masking tape • Newspaper • Paper clip and string (for hanging balloons) • Pin (for popping balloons when the paper mâché is dry) • Paper mâché paste recipe: <ul style="list-style-type: none"> • 1 cup flour • 2 cups water • 1/2 tablespoon salt (prevents mold) • Fork, whisk, or spoon to stir 	
Mosaic Bean Art	84	✓		<ul style="list-style-type: none"> • Pieces of cardboard for each student (at least 8-1/2 × 11 inches) • Dry beans in a mix of different colors (white beans, pinto beans, yellow and green split peas, green and orange lentils, mottled cranberry beans, lima beans, black beans, etc.) • Pencils • White glue • Picture of Van Gogh's <i>Starry Night</i> painting (or another Van Gogh painting to use as an example) 	

Lesson or activity	Page	Nutrition	Physical activity	Materials needed	Objectives
Extensions 1—Supplemental Art Activities					
Healthy Me Placemats	85	✓		<ul style="list-style-type: none"> • Magazines (especially children's and family magazines) • Glue • Large sheets of colored construction paper (11 × 17 inches) • Large white paper (11 × 17 inches) cut into fourths (enough for each student to have one 5-1/2 × 7-1/2-inch piece) • Markers or colored pencils • Scissors 	
You Are What You Eat (and Do!)	86		✓	<ul style="list-style-type: none"> • Markers, crayons, or colored pencils • Roll of newsprint or butcher paper 	
My Walk to School	86		✓	<ul style="list-style-type: none"> • White paper or roll of newsprint or butcher paper • Markers, colored pencils, or crayons • Rulers 	
Screen-Free Challenge Posters	87		✓	<ul style="list-style-type: none"> • Large sheets of drawing paper (at least 11 × 17 inches) • Markers or colored pencils 	
Mr. Strong Bones	88		✓	<ul style="list-style-type: none"> • Black construction paper • White glue • Lima beans or large shell pasta (head, thorax, hips) • Short, small tube macaroni (spine) • Thin twisted macaroni (arms, legs) • Elbow noodles (ribs) • Small shells (joints) • Spaghetti (fingers, toes) • Black permanent marker • White crayon to write their name on the paper and to label their skeleton and decorate 	

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INTRODUCTION

HEAT stands for healthy eating and active time. The HEAT Club curriculum was developed as part of the Shape Up Somerville: Eat Smart, Play Hard research study. The goal of the curriculum is to improve eating habits and increase physical activity among first-, second-, and third-graders. To read more about Shape Up Somerville, see appendix A.

The HEAT Club curriculum engages children with five aims and eight messages:

Aims

- Increase consumption of fruit, vegetables, low-fat milk, and whole grains.
- Decrease consumption of foods that are high in saturated fat or sugar.
- Increase physical activity.
- Decrease screen time (use of TV, video games, computers, tablets).
- Increase awareness of the natural environment and engage in environmentally friendly (green) practices.

Messages

- Eat at least 2-1/2 to 4 servings of fruit and vegetables every day.
- Strive for 2-1/2 to 3 cups of low-fat milk foods every day.
- Aim for 5 to 6 ounces of grain foods every day, at least half of which should be whole grains.
- Plan for a daily diet low in saturated fat.
- Choose beverages and foods carefully to limit your intake of sugars.
- Be physically active for one hour or more every day.
- Limit screen time to two hours or less per day.
- Respect the environment and the use of energy and natural resources.

THE HEAT CLUB

The HEAT Club curriculum encompasses classroom instruction and physical education, art,

and library time. Extensions are provided to help guide physical education, art, and library teachers in incorporating and reinforcing the HEAT Club messages that students receive in the main curriculum.

Likewise, the curriculum content itself makes academic connections with math, science, art, language arts, social studies, and health. You will find an overall table of academic connections at the beginning of each unit. A separate academic connections reference is also available in the web resources, which provides a comprehensive list of Massachusetts Curriculum Frameworks that align with the HEAT Club content.

YOUR ROLE IN THE PROJECT

As a first-, second-, or third-grade teacher, you already have the challenge and privilege of providing young students with a teaching environment that is nurturing and promotes learning and development. As a HEAT Club teacher, you are in a unique position to help students in your classroom learn skills and behaviors that can improve their health over a lifetime. With your help, your students will learn more about the importance of healthy eating and active time. Children in the HEAT Club will also gain confidence in their physical, social, and learning abilities. Teachers are encouraged to make changes in their own behaviors to model what is being taught.

Time Commitment

The lessons included in this curriculum should take approximately 30 minutes, though some lessons require additional time to prepare, review with students, and collect required materials. On average, you will spend approximately 10 to 15 minutes planning for each lesson.

There are 16 lessons organized into two units. The lessons in unit 1 introduce basic nutrition and physical activity concepts. The lessons in unit 2 focus on applying these concepts and learning to make healthy nutrition and physical activity choices every day. The lessons build on

each other and should be presented in order. Teachers may choose to conduct the HEAT Club lessons weekly (over the course of about four months) or to spread the lessons throughout the school year, conducting unit 1 in the first half and unit 2 in the second half.

Unit Lessons

Each lesson starts with background information and suggestions for how to effectively explain the lesson. You must read this information as well as the preparation guidelines carefully before teaching the lessons. We want to make sure the information you are providing is accurate and in line with the health messages the HEAT Club aims to address.

Each lesson includes information on objectives, preparation, materials, directions, and key talking points. The key talking points may be verbally introduced at any time during the activity and should be used to take advantage of teachable moments during the week. For instance, during snack time you might ask students to name the food group in which their snack belongs and whether it is part of a healthy diet. You might also ask what physical activities they took part in during recess. The key talking points help to reinforce the overall concepts of the lesson.

Each grade will follow its own lesson. Grade levels are designated by a symbol:

 —First grade

 —Second grade

 —Third grade

Unless otherwise noted, the objectives, materials needed, preparation, and lesson introduction apply to all three grade levels. The lesson content itself varies by grade and builds on itself each year. This allows students in the first grade to learn the very basic concepts, whereas students in the third grade will explore a topic in more depth. By using these materials over a number of years, lesson concepts are reinforced in a developmentally appropriate way.

Extension Activities

Some lessons offer ideas for expanding the activity, typically with a hands-on experiment or a suggestion for a homework assignment. These extensions provide additional methods for teaching key concepts and connecting with other subjects.

Academic Connections

Many concepts covered in the HEAT Club overlap with other topics or skill areas. Though a comprehensive list of academic connections based on Massachusetts' curriculum framework is provided as an example in the web resources, quick tips are also interspersed throughout the lessons to help teachers identify opportunities to reinforce other subjects. Some connections relate directly to one of the HEAT Club lessons (for instance, exploring measurements and serving sizes in more depth); others use food or physical activity as a springboard for discussion (researching agricultural activities in different geographical locations, for example, or creating a rule book for a new type of game).

Appendixes

The lessons are supplemented by appendixes that offer helpful information in three areas:

- Appendix A provides background information and an overview of the Shape Up Somerville: Eat Smart, Play Hard research study and its components.
- Appendix B includes a set of principles to help your students go green. You may discuss these principles individually or connect them with lesson topics. A Go Green Connection accompanies each lesson to guide you in making these connections for your students.
- Appendix C provides a list of books that complement the lessons and extend the themes of healthy eating and active time.

Web Resource

Supplementary materials can be found in the web resource, at www.HumanKinetics.com/TheHealthyEatingAndActiveTimeClubCurriculum by using the pass code HEATCC-7TNG9I-OSG. The in-school materials include activity books for grade 1, grade 2, and grade 3; Cool Moves similar to those described in the lessons; visual aids (such as nutrition labels and energy balance food and activity cards) to accompany specific lessons; and the Application of MA Standards to HEAT Club Curriculum resource. The web resource also includes the book *After-School HEAT Club Curriculum*, which contains activities and games with reproducible worksheets and take-home

newsletters for continued learning. Materials found in the web resource are noted by this icon:



Activity Books and Materials

Each child should be provided with an activity book that contains the worksheets for his or her grade (figure 1). A few lessons also use colorful activity cards that are available in the web resource. We suggest that you back or laminate these cards for durability.

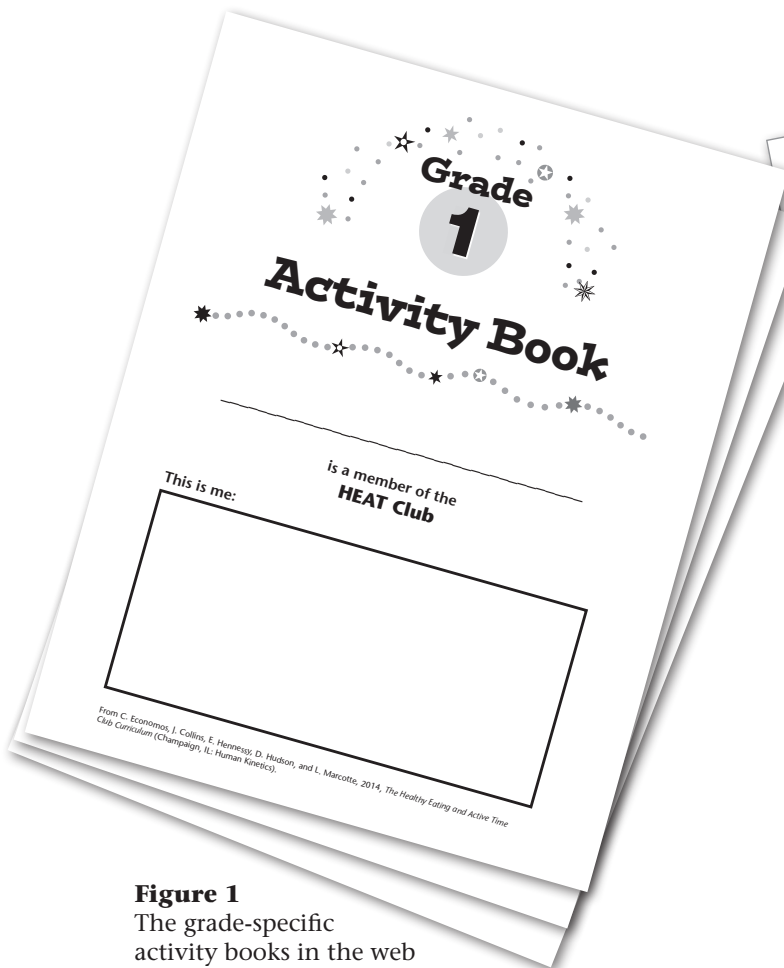


Figure 1
The grade-specific activity books in the web resource are important to aid student learning.

Cool Moves

Cool Moves are activities that get students moving and can be used at any time throughout the day at your discretion (figure 2). These moves are categorized as stretching and strengthening (which includes yoga moves) or active moving activities. Cool Moves are found both in the lessons and in the web resource. Spend 10 to 15 minutes each day with a different Cool Move or some other form of physical activity to provide a break from academics that allows students to refocus their energy and attention. Cool Moves can also be used as transitions between academic lessons.

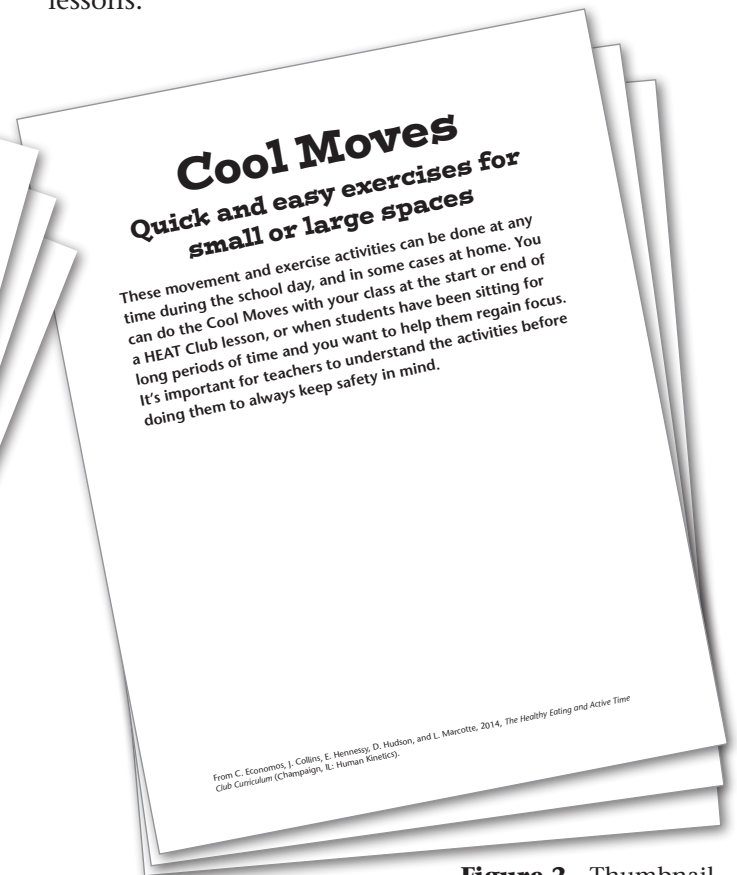


Figure 2 Thumbnail of Cool Moves, which provide teachers with warm-up and cool-down activities and stretches.

Application of State Standards

The web resource includes a file that provides a sample application of the Massachusetts Curriculum Frameworks to the HEAT Club curriculum (figure 3). Like most states, Massachusetts has adopted the common core standards for English language arts and math. As such, language arts and math connections are consistent with the common core. The text of each academic standard is included in this resource, so teachers in other states can identify overlap with their state's standards.

Application of Massachusetts State Education Standards to the HEAT Club Curriculum

Lesson	Framework	Domain	Cluster	Grade or standard	Text
Lesson 1: HEAT Club Kickoff	Comprehensive health	Physical health	Growth and development	G1-3: 1.2	Identify behaviors and environmental factors that influence functioning of body systems.
Lesson 1: HEAT Club Kickoff	Comprehensive health	Physical health	Physical activity and fitness	G1-3: 2.5	Explain the benefits of physical fitness to good health and increased active lifestyle.
Lesson 1: HEAT Club Kickoff	Comprehensive health	Physical health	Physical activity and fitness	G1-3: 2.6	Identify major behaviors that contribute to wellness (exercise, nutrition, hygiene, rest and recreation, refraining from using tobacco, alcohol, and other substances).
Lesson 1: HEAT Club Kickoff	Comprehensive health	Personal and community health	Ecological health	G1-3: 13.1*	Describe types of natural resources and their connection with health.
Lesson 1: HEAT Club Kickoff	Comprehensive health	Personal and community health	Community and public health	G1-3: 14.2*	Identify ways the physical environment is related to individual and community health.
Lesson 1: HEAT Club Kickoff	Comprehensive health	Personal and community health	Community and public health	G1-3: 1.9	Develop and value a positive body image.
Lesson 1: HEAT Club Kickoff	Arts	Arts disciplines: dance	Movement elements and dance skills	G1: 1.L.3.05	With guidance and support from adults, demonstrate understanding of word relationships and nuances in word meanings.
Lesson 2: MyPlate Fun!	English language arts	Language standards	Vocabulary acquisition and use	G1: 1.L.3.05.a	Sort words into categories (e.g., colors, clothing) to gain a sense of the concepts the categories represent.
Lesson 2: MyPlate Fun!	English language arts	Language standards	Vocabulary acquisition and use	G1: 1.L.3.05.b	Define words by category and by one or more key attributes (e.g., a duck is a bird that swims; a tiger is a large cat with stripes).
Lesson 2: MyPlate Fun!	English language arts	Language standards	Vocabulary acquisition and use	G2: 2.SL.2.04	Tell a story or recount an experience with appropriate facts and relevant, descriptive details, speaking audibly in coherent sentences.
Lesson 2: MyPlate Fun!	English language arts	Standards for speaking and listening	Presentation of knowledge and ideas	G2: 2.SL.2.04	Recall information from experiences or gather information from print and digital sources; take brief notes on sources and sort evidence into provided categories.
Lesson 2: MyPlate Fun!	English language arts	Writing Standards	Research to build and present knowledge	G3: 3.W.3.08	Recall information from experiences or gather information from print and digital sources; take brief notes on sources and sort evidence into provided categories.

Figure 3 Thumbnail of the Massachusetts standards applied to the HEAT Club curriculum, available in the web resource.

After-School HEAT Club Curriculum

The *After-School HEAT Club Curriculum* is available in the web resource. This program reinforces and expands on the in-school program through healthy cooking activities, active games, and creative arts. For more information, refer to Extensions 4: After-School Connections.

SUMMARY

You are now ready to bring the HEAT Club into your classroom. Here are our top tips for creating a successful HEAT Club:

- **Try it all.** Each lesson corresponds with the aims and messages of the HEAT Club, and many lessons complement one another.

- **Plan ahead.** Read through the activity and background information ahead of time. Make sure you have all the materials you need.
- **Create a club.** As members of the club, children enjoy having something to call their own. You can create an enjoyable atmosphere by focusing on positive behaviors, sharing, and learning.
- **Keep it active.** As you know, children learn by doing. This is why the HEAT Club promotes active learning. Even when you have completed the lessons, continue to use the Cool Moves to teach children skills to enhance their fitness levels.
- **Safety comes first.** Stop any activity or Cool Move if it becomes unsafe; make sure that students do not disrupt others.
- **Encourage participation and cooperation by others.** The HEAT Club is more than an in-class health curriculum. Encourage your school's food-service staff to make healthy changes in the cafeteria and physical educators to incorporate HEAT principles. Have your students create healthy murals or posters in art class, and ask the school to sponsor events such as a Health Fair or Walking School Bus. Support your colleagues and work together with community partners to expand the themes and messages of the HEAT Club.

- **Recognize diversity.** All students should be encouraged to share their customs regarding eating and physical activity. These customs should be respected by everyone in the classroom. Please keep in mind that most students have little control over what food their parents buy and how it is prepared and served, so encourage healthy eating without being critical of things beyond a child's control.
- **Build on everyone's strength.** The HEAT Club activities are developmentally appropriate, but you might need to modify some activities to meet the needs of individual students. No student should feel that he or she cannot play a game or participate in an activity.
- **Have fun!** We hope you will have fun while learning with your students.

ACKNOWLEDGMENTS

The HEAT Club is a health curriculum for first-, second-, and third-graders. The HEAT Club was originally developed in 2003 as part of the Shape Up Somerville: Eat Smart, Play Hard research study, a community-wide intervention to prevent childhood obesity. The HEAT Club promotes increasing physical activity and the consumption of fruits, vegetables, and whole grains while decreasing sedentary time and the consumption of foods high in saturated fat and sugar. Funding for development was provided by the Centers for Disease Control and Prevention, with additional funding from the U.S. Potato Board, Dole Food Company, Blue Cross and Blue Shield of Massachusetts, and United Way of Massachusetts Bay.

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After-School HEAT Club Curriculum

The *After-School HEAT Club Curriculum* is available in the accompanying web resource at www.HumanKinetics.com/TheHealthyEatingAndActiveTimeClubCurriculum.

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Table 1.1 Academic Connections for Unit 1

Lesson	Comprehensive health	Math	English language arts	Science and technology	Social studies	Arts
1. HEAT Club Kickoff	✓					✓
2. MyPlate Fun!	✓	✓	✓	✓		
3. Grains	✓	✓		✓		
4. Fruits and Vegetables	✓	✓	✓	✓		✓
5. Dairy	✓	✓	✓	✓	✓	
6. Protein	✓		✓	✓		
7. All Activities Count	✓		✓			✓
8. How Do You Feel?	✓		✓			✓
9. Screen Time—Add It Up!	✓	✓	✓	✓		✓
10. Energy Balance	✓	✓	✓	✓		✓

LESSON 1

HEAT CLUB KICKOFF

This lesson introduces students to the HEAT Club. The overarching goal for this unit is to help students understand that food is fuel for the body, much like gas is fuel for a car. By making healthy choices, students feed their bodies and their minds.

The class will also experience the benefits of regular movement through the Cool Moves included in the lesson (and in all subsequent lessons). They will begin to understand that physical activity uses the fuel provided by the food they eat and can also leave them energized.

As you welcome students to the HEAT club, gather information from the class about their views on healthy eating and active time. As an example, you can create a web of answers and questions to be answered as you work your way through the program (see figure 1.1).



Figure 1.1 Assess students' prior knowledge and identify misconceptions by creating a healthy eating and active time word web (similar to this one) with your class.

>>> **Objectives**

- Know the goals of the HEAT Club.
- Learn simple stretches.
- Understand that healthy bodies need to move and be fueled by healthy foods in order to grow, play, and learn.
- Identify healthy foods and activities.

>>> **Preparation**

Read about the background of the HEAT Club in appendix A.

>>> **Materials**

 Activity books (one per student)

 >>> **Cool Moves**

- Hug Yourself Stretch—Standing up, students cross their arms and wrap them around their bodies as far as they can stretch. Then they turn the upper body to the right and left. Continue for 20 seconds. They then recross arms so the other arm is on top. Repeat the stretch for 20 seconds.
- Ostrich Stretch—Students stand with legs straight and bend over at the waist (as far as they can comfortably go) to try to touch their toes (imitating an ostrich sticking its head in the sand). They stay in this position for 5 seconds. Repeat three to five times. Remind students not to hold their breath or lock their knees during the stretch.

Refer to the web resource to learn more Cool Moves.



Reproducibles and Activity Book Pages



What does HEAT, of HEAT Club, stand for?

H _____

E _____

A _____

T _____

From C. Economos, J. Collins, E. Hennessy, D. Hudson, and L. Marcotte, 2014, *The Healthy Eating and Active Time Club Curriculum* (Champaign, IL: Human Kinetics).

1

Grades 1, 2, and 3 activity books, page 1

Healthy Eating, Active Time

Write at least one example in each box.

Healthy eating	Active time
Not-so-healthy eating	Inactive time

From C. Economos, J. Collins, E. Hennessy, D. Hudson, and L. Marcotte, 2014, *The Healthy Eating and Active Time Club Curriculum* (Champaign, IL: Human Kinetics).

2

Grade 2 activity book, page 2

HEAT Club Brainstorm!

List examples of healthy eating and active time in the columns below.

Healthy eating	Active time
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

From C. Economos, J. Collins, E. Hennessy, D. Hudson, and L. Marcotte, 2014, *The Healthy Eating and Active Time Club Curriculum* (Champaign, IL: Human Kinetics).

2

Grade 3 activity book, page 2.

>>> **Key Talking Points**

- The HEAT in HEAT Club stands for healthy eating and active time. The lessons and activities we do as part of the HEAT Club show us ways to eat smart and play hard.
- Cool Moves give us active breaks during the school day. Moving energizes us so we can focus on learning.
- Our bodies are healthy and happy when we move them and when we feed them healthy foods.

>>> **Grade 1 Directions**

1. Welcome students to the HEAT Club and distribute HEAT Club activity books. Ask each student to write his or her name on the cover (they can decorate these later).
2. Direct students to page 1 of the activity book: “What does HEAT stand for?” Explain that HEAT stands for *healthy eating* and *active time*. Ask students to write these words on page 1. Explain that the club will teach them ways to eat smart and play hard. Ask the class to tell you what these things mean. Children at this age might not understand what being active means; they might consider anything other than sleeping to be active. Help them distinguish activities that move their bodies in an active way (such as playing tag or basketball) from those that do not move their bodies (such as watching TV or playing a video game).
3. Teach students some Cool Moves; tell them that throughout the year they will do Cool Moves to stay active during class.
4. Lead them in the HEAT Club cheer (“Give me an H! Give me an E!” and so on).
5. Ask students, “What does ‘healthy’ mean?”
 - Healthy means our bodies are growing and working so we can feel our best.
 - Healthy means eating the colors of the rainbow. Healthy foods give us fuel to keep our bodies strong and working well. When we eat healthy foods, we feel good.
 - Remind students that food helps our bodies grow and gives us fuel to run and play. Eating healthy foods also helps us do well in school.
 - Healthy means being active. Being active works our muscles, bones, lungs, and heart so they become strong. Being active can also help us do well in school.
6. Together, brainstorm a list of healthy foods and a list of active-time activities. Write students’ ideas on the board. Remind students that during active time, their bodies are moving.
7. Invite students to decorate the cover of their activity books with pictures of themselves eating smart and playing hard.

>>> **Grade 2 Directions**

1. Welcome students to the HEAT Club and distribute HEAT Club activity books. Ask each student to write his or her name on the cover (they can decorate these later).
2. Direct students to page 1 of the activity book: “What does HEAT stand for?” Explain that HEAT stands for *healthy eating* and *active time*. Ask students to write these words on page 1. Explain that the HEAT Club will teach them ways to eat smart and play hard. Ask the class to tell you what these things mean. Children

- at this age might not understand what being active means; they might consider anything other than sleeping to be active. Help them distinguish activities that move their bodies in an active way (such as playing tag or basketball) from those that do not move their bodies (such as watching TV or playing a video game).
3. Teach students some Cool Moves and tell them that throughout the year they will do Cool Moves to stay active during class. Moving helps them be more successful in school.
 4. Lead them in the HEAT Club cheer (“Give me an H! Give me an E!” and so on).
 5. Ask students, “What does ‘healthy’ mean?”
 - Healthy means our bodies are growing and working so we can feel our best.
 - Healthy means eating the colors of the rainbow. Healthy foods give us fuel to keep our bodies strong and working well. When we eat healthy foods, we feel good.
 - Remind students that food helps our bodies grow and gives us fuel to run and play. Eating healthy foods also helps us do well in school.
 - Healthy means being active. Being active works our muscles, bones, lungs, and heart so they become strong. Being active can also help us do well in school.
 6. Direct students to page 2 of the activity book: Healthy Eating, Active Time. Ask them to write down at least one example under each of these categories: healthy eating, not-so-healthy eating, active time, and inactive time. Students may work together to come up with ideas.
 7. Write each of the four categories on the board, and record students’ responses. Are there more items under healthy eating and active time, or under not-so-healthy eating and inactive time? Discuss.
 8. Remind students that when they choose healthy foods their bodies get energy and nutrients to grow, play, and learn. Explain that we all need to include active time in our days because moving our bodies helps us build strong muscles, bones, lungs, and hearts. Being active can also help us feel more energized throughout the day. For instance, students might feel more awake after going for a walk (explored further in lesson 7).
 9. If time allows, students may decorate their activity books with pictures of themselves eating smart and playing hard.

»» **Grade 3 Directions**

1. Welcome students to the HEAT Club and distribute HEAT Club activity books. Ask each student to write his or her name on the cover (they can decorate these later).
2. Direct students to page 1 of the activity book: “What does HEAT stand for?” Explain that HEAT stands for *healthy eating* and *active time*. Ask students to write these words on page 1. Explain that the HEAT Club will teach them ways to eat smart and play hard. Ask the class to tell you what these things mean. Children at this age might not understand what being active means; they might consider anything other than sleeping to be active. Help them distinguish activities that move their bodies in an active way (such as playing tag or basketball) from those that do not move their bodies (such as watching TV or playing a video game).
3. Teach students some Cool Moves and tell them that throughout the year they will do Cool Moves to stay active during class. Moving helps them be more successful in school.

4. Lead them in the HEAT Club cheer (“Give me an H! Give me an E!” and so on).
5. Ask students, “What does ‘healthy’ mean?”
 - Healthy means our bodies are growing and working so we can feel our best.
 - Healthy means eating the colors of the rainbow. Healthy foods give us fuel to keep our bodies strong and working well. When we eat healthy foods, we feel good.
 - Remind students that food helps our bodies grow and gives us fuel to run and play. Eating healthy foods also helps us do well in school.
 - Healthy means being active. Being active works our muscles, bones, lungs, and heart so they become strong. Being active can also help us do well in school.
6. Direct students to page 2 of the activity book: HEAT Club Brainstorm! Divide the class into groups of four or five. Instruct half the groups to brainstorm and record a list of healthy foods and the other half to brainstorm and record a list of active-time activities.
7. Remind students that when they move their bodies, they build strong muscles, bones, lungs, and hearts. Food provides them with the fuel and energy they need to grow, learn, and play.
8. Invite students to share their lists. Create one large list on the board of healthy foods and active-time activities. If necessary, help the class identify foods or activities that do not belong on the list (e.g., French fries or playing video games).
9. If time allows, students may decorate their activity books with pictures of themselves eating smart and playing hard.

2nd 3rd >>> Extension Activity: HEAT Club Survey

1. Instruct students to interview five other students and ask them about their favorite healthy foods and physical activities.
2. As the class shares results, create a chart to illustrate the different foods and activities that people enjoy. Identify the most popular choices and discuss.

>>> Go Green Connection

- The HEAT Club will teach you ways to take care of your body, but we should also always consider ways to take care of our planet. Throughout this curriculum, we will provide simple tips for you and your students to pitch in and be environmentally friendly.
- Taking care of our bodies and taking care of the environment often go hand in hand. Just as eating too much junk food can harm our bodies, putting too much junk (trash) into our communities can harm the environment. In this activity, we learned about reducing the amount of not-so-healthy foods we put into our bodies.
- What are some not-so-healthy things we put into the environment? How can we reduce them? (Example: using a cloth towel instead of a paper towel)
- See appendix B for more ideas on going green.

LESSON 2**MYPLATE FUN!**

MyPlate is a graphic tool to convey dietary concepts of variety and proportion at a glance. The MyPlate icon was released by the United States Department of Agriculture (USDA) in 2011, replacing MyPyramid. MyPlate is accompanied by online resources to help people make healthy food choices and be active every day. We encourage you to visit www.choosemyplate.gov to access these resources. Materials in both English and Spanish are available to help everyone meet their dietary recommendations.

Each food group highlighted in MyPlate offers unique nutritional benefits (though actual nutrient content depends on the specific foods chosen in each group). Some foods can be difficult to classify. For example, corn products are grouped differently depending on how the corn is prepared: Sweet corn is counted as a vegetable, whereas popcorn and cornmeal products such as corn tortillas are counted as grains. Hominy is grouped under vegetables, but hominy grits are grouped under grains. Beans and legumes can count as either a protein or a vegetable. They are good sources of protein and other nutrients, such as iron and zinc, and like foods in the grains and vegetables groups, they are high in carbohydrate and are good sources of vitamins, minerals, and dietary fiber.

Though children are not expected to understand the nuances of MyPlate, the goal of this lesson is that they learn to classify most foods according to the major groups. Older students will use this tool to evaluate their diets and to plan a meal that contains foods from each of the major groups. They will also be challenged to identify the different food groups represented in “combination foods,” such as sandwiches, spaghetti and meatballs, and tacos.

It should be emphasized that not all foods fit onto MyPlate. For example, where might chips, cookies, or soda be categorized? Foods that provide little nutrition or are high in added sugar or fat (cookies, candy, chips, soda) should be eaten only once in a while. For this reason, we call them “sometimes” foods. Instead of “sometimes” foods, we want to focus on foods that work to keep us healthy. These healthy choices come from the MyPlate groups.

When teaching students about MyPlate, be sure to emphasize the range of choices in each food group. Students might not understand the benefits that individual foods or nutrients offer, but they will learn that it is good to select a variety of foods in each group.

The MyPlate lessons reinforce math through discussions about the recommended number of servings to consume from each group and portion sizes. Consider supplementing these discussions with visual props such as measuring spoons, plates, and cups so that students have a visual representation of recommended serving sizes. MyPlate also integrates basic fractions. For example, half of the plate should consist of fruits and vegetables, less than one-fourth of the plate should consist of protein, and so on. Call these basic fractions to mind to help students understand the proportion of the diet that should come from each group.

>>> Objectives

- Understand how foods are grouped in MyPlate.
- Recognize that different foods offer different nutrients.
- Understand that healthy bodies need a variety of foods each day.
- Learn how MyPlate can be used to identify and create healthful meals.

>>> Preparation

Review the MyPlate website (www.choosemyplate.gov). You will be revisiting the food groups over the next four lessons, so if possible post a picture of the MyPlate icon on the

wall or board. You can print icons from the MyPlate website or order free color posters via the USDA Team Nutrition website: <http://tn.ntis.gov>.

>>> **Materials**



Activity books



>>> **Cool Moves**

Circles—Students stand at least an arm’s length apart. Instruct students to use slow, gentle motions to avoid injury. Ask them first to move their hands in circles, then their outstretched arms, then one outstretched leg at a time, and finally one foot at a time. Repeat several times, going in both clockwise and counterclockwise directions.

Refer to the web resource to learn more Cool Moves.

>>> **Key Talking Points**

- We eat smart when we eat foods from all the groups in MyPlate: grains, fruits, vegetables, dairy, and protein.
- Different foods play different roles in keeping our bodies healthy. Foods from the MyPlate groups give us the vitamins and minerals we need to stay healthy.
- Not all foods have a place on MyPlate. Foods that have few or no nutrients, or are high in added sugar or fat (cookies, candy, chips, soda, and so on) should be eaten only once in a while. For this reason, we call them “sometimes” foods. Instead of “sometimes” foods, we want to focus on foods that work to keep us healthy. These healthy choices come from the MyPlate groups.



Reproducibles and Activity Book Pages

My Favorite Foods and Drinks
 Draw your favorite foods and drinks. Make at least two of them healthy choices.

From C. Economos, J. Collins, E. Hennesey, D. Hudson, and L. Marcotte, 2014, *The Healthy Eating and Active Year Club Curriculum* (Champaign, IL: Human Kinetics).

Grade 1 activity book, page 2

Build a Healthy Meal With MyPlate

Choose **MyPlate.gov**

MyPlate logo from USDA's Center for Nutrition Policy and Promotion.
 From C. Economos, J. Collins, E. Hennesey, D. Hudson, and L. Marcotte, 2014, *The Healthy Eating and Active Year Club Curriculum* (Champaign, IL: Human Kinetics).

Grades 1, 2, and 3 activity books, page 3

Draw a Healthy Meal
 Draw a meal that contains foods from each food group. What is a healthy drink to go with this meal?

From C. Economos, J. Collins, E. Hennesey, D. Hudson, and L. Marcotte, 2014, *The Healthy Eating and Active Year Club Curriculum* (Champaign, IL: Human Kinetics).

Grade 3 activity book, page 4

- A balanced diet contains fruits, vegetables, grains, protein, and dairy. Aim to fill half your plate with fruits and vegetables. Choose whole grains like whole-grain bread and whole-wheat pasta. Include dairy such as low-fat milk and yogurt. Choose protein foods such as nuts, beans and lentils, chicken, and fish.

>>> **Grade 1 Directions**

1. Integrate Cool Moves before, after, or during the lesson to get your students moving.
2. Direct students to page 2 of the activity book: My Favorite Foods and Drinks. Ask them to draw a picture of a different favorite food or drink in each rectangle. Ask them to make at least two of the items a healthy food or drink.
3. When they are finished drawing, ask students to cut out each rectangle. Assemble the class into small groups and ask each group to put their pictures together.
4. Instruct groups to sort the pictures. At this time, they may sort them any way they want (e.g., by food type, healthy vs. not healthy, eating occasion).
5. Ask each group to describe how they sorted their pictures. Explain that another way to sort foods is using a tool called MyPlate. Direct students to page 3 of the activity book: Build a Healthy Meal With MyPlate. Explain that MyPlate helps us build healthy meals. It shows how we should try to eat from different food groups. Review the food groups with students and list examples of foods in each group.
6. Write the MyPlate groups across the top of the board. Ask groups to look at their drawings and find the pictures that belong to each food group. One food group at a time, ask students to come up to the board and tape their pictures in place (or to save time, you can write the name of each food in the proper category). For combination foods, ask students to decide which groups the food belongs in.
7. Examine the results: Are there pictures or words in each of the groups? If not, can students name some foods that belong in empty groups? Are various types of foods included in each group?
8. Remind the class that each food group is important; all foods give our bodies energy and nutrients to keep us healthy so we can play and learn.



ACADEMIC CONNECTION: ENGLISH LANGUAGE ARTS

In the sorting activity, ask students to describe or write about their sorting strategies. Ask them to identify the similarities and differences among groups. For example, if a student is sorted by “healthy vs. less healthy,” ask, “What do the healthy foods have in common? What do the less healthy foods have in common? How are the two groups different?” If desired, use a Venn diagram to show similarities and differences.

>>> **Grade 2 Directions**

This is a good lesson to do right after lunch.

1. Integrate Cool Moves before, after, or during the lesson to get your students moving.

2. Draw a large MyPlate on the board and direct students to page 3 of the activity book: Build a Healthy Meal With MyPlate. Explain that MyPlate is a tool that helps us build a healthy meal. It shows how we should try to eat from different food groups. Work with students to identify each food group and brainstorm some examples of foods that belong in each group.
3. Explain that each section of MyPlate represents different types of foods they should eat every day.
4. Fruits and vegetables make up half the plate, which means we should try to cover half our plates with fruits and vegetables at every meal. Fruits and vegetables are very important because they give us lots of nutrients that our bodies need to grow strong and help us do well in school. It's important to eat a variety of fruits and vegetables—we want to “eat the rainbow.”
5. Foods from the protein and dairy groups are important because these foods help our bodies grow strong. We want to choose foods from these groups carefully because they can also have saturated fat, a type of fat that is not good for the heart. It's smart to choose healthy protein, like beans or chicken, and low-fat or nonfat dairy products.
6. Ask students to think about what they have eaten today (breakfast, snack, lunch). Instruct them to write down each food they ate today in the appropriate group. Remind them that some foods belong in several groups. For example, a sandwich might have bread, meat, lettuce, tomato and a slice of cheese; the cheese would fit in both dairy and protein.
7. Invite some students to tell the class what they ate and how each food fits in MyPlate. Write these on the board.
8. Ask students to consider what they have eaten recently: Did they eat foods from each food group? What is missing? What could they add? Are they eating too many foods that don't properly fit onto MyPlate?

>>> **Grade 3 Directions**

1. Integrate Cool Moves before, after, or during the lesson to get your students moving.
2. Direct students to page 3 of the activity book: Build a Healthy Meal With MyPlate. Draw a MyPlate on the board. Explain that MyPlate is a tool that helps us build a healthy meal. It shows how we should try to eat from different food groups. Together, name each group, and ask students to list examples of foods that belong in each group.
3. Explain that foods in each group contain different nutrients that our bodies need. Ask students if they can tell you why foods from each group are important. At this point, they might only know that some foods are “good for you” because “my mom tells me to eat them.” They will learn more about what each food group offers over the next few weeks.
4. Remind them that it is important to eat foods from each group and to eat a variety in each group (i.e., it's better to eat apples, oranges, and strawberries instead of only apples). This helps us get all the nutrients we need while making eating fun and interesting.
5. Tell students they can eat smart by choosing whole grains, low-fat or fat-free milk, and lean (lower in fat) meats (e.g., chicken breast without skin has less fat than a chicken thigh with skin or fried chicken). They should also eat many different colors of fruits and vegetables to get all the nutrients their bodies need.
6. Direct students to page 4 of the activity book: Draw a Healthy Meal. Ask them to create a meal that contains at least one food from each of the food groups.

7. Encourage students to think about MyPlate as they pack their lunchboxes, eat their school lunches, or prepare meals at home. Which food groups are represented? Which food groups are not represented? What foods can they add to make sure they are eating the MyPlate way?

>>> **Extension Activities**

- Using a school cafeteria menu, ask students to create a list of foods in each MyPlate group. Instruct them to create new school lunch menus that contain at least one food from each group.
- Ask students to consider what they ate for breakfast, lunch, or dinner (or all three meals), and evaluate whether they consumed foods from each MyPlate group. What could they add to their meals? What could they remove?

>>> **Go Green Connection**

Did you ever stop to think about where your food comes from? Where does the milk you drink come from?

- Identify the locally grown fruits and vegetables in your area.
- Look at some food packages (or stickers on fruits and vegetables) to see where these foods came from. How far did they have to travel to get to you?
- Buying your food locally, or growing it yourself, makes sure it will be fresh and tasty, *and* it's better for the environment than shipping foods from far away.

LESSON 3**GRAINS**

Foods in the grains group are the main source of carbohydrates and fiber in our diets. These nutrients provide the B vitamins thiamin, riboflavin, niacin, and folate, which help our bodies turn food into energy and maintain cell function. Other nutrients found in the grains group are iron, zinc, and magnesium. Students need not memorize the nutrients found in grains; the goal is to help them recognize whole-grain foods and choose them over refined grain foods.

These are examples of whole-grain foods:

- Whole-grain cereals
- Oatmeal
- Brown rice
- Bulgur
- Whole-wheat bread
- Whole-wheat pasta
- Polenta
- Whole-wheat tortillas

Whole-grain foods are healthier choices in the grains group because they provide fiber and nutrients that are found naturally in the whole grain kernel. When part of the grain, such as the bran or germ, is removed during the milling process, the product is refined. An example of a refined grain product is white bread. When all parts of the grain kernel are left intact (the bran, germ, and endosperm) the product is considered a whole-grain food. The complex carbohydrates and fiber in whole-grain foods make you feel fuller longer and help to clean the digestive tract by pushing out waste. When grains are refined, the B vitamins and iron found naturally in the grain are lost, so processors add these nutrients back to the product (a process called enrichment) or fortify the product with other nutrients that were not originally in the food, such as folic acid. However, even when refined products are enriched or fortified, they are nutritionally inferior to their whole-grain counterparts.

Children need five or six one-ounce servings of grain per day. The goal is that at least half of these grains are whole grains.

Here are some one-ounce servings of whole grains:

- One slice of whole-grain bread
- One fourth of a whole-wheat bagel
- One half of a whole-wheat English muffin
- One small whole-wheat tortilla
- One half cup of cooked brown rice or whole-wheat pasta
- One cup of cold whole-grain cereal

Some foods that might be considered part of the grain food group but that tend to be higher in fat and lower in fiber include these foods:

- Biscuits
- Cornbread
- Challah bread
- Doughnuts
- Matzo
- Crepes

- Pancakes or waffles
- White pasta
- Rice noodles
- Wonton wrappers

>>> **Objectives**



- Learn which foods belong in the grains group.
- Learn why it is smart to choose whole-grain foods.
- Learn serving sizes for the grains group.
- Use a food label to identify nutrients in whole-grain foods.

>>> **Preparation**

If desired, visit the MyPlate website (www.choosemyplate.gov) for more examples of whole-grain foods and more information on the benefits of whole grains.

>>> **Materials**



- Activity books
- Extension activity: Hockey puck, smartphone, large egg, light bulb



>>> **Cool Moves**

Popcorn Pop—Do this activity in an open space where students can spread out and move freely. Tell students they are going to make popcorn. Instruct them to jump up and down slowly. Call out, “Popcorn popping fast!” and tell students to jump faster. Call out, “Popcorn popping slow!” and tell them to jump slower. Call out, “Popcorn kernels are sticking together!” and have students join hands or link arms and twirl around. Finally, call out, “Popcorn finished and in the bowl!” and have students either sit or lie down on the floor (or in their seats).

Refer to the web resource to learn more Cool Moves.

>>> **Key Talking Points**

- Foods from the grains group should be part of every meal.
- Whole-grain foods have fiber and many nutrients (vitamins and minerals) that our bodies need.
- Children in your age group need five or six one-ounce servings from the grains group each day.

>>> **Grade 1 Directions**

1. Integrate Cool Moves before, after, or during the lesson to get your students moving.
2. Review the MyPlate groups and explain that grains are an important part of a healthy diet. Explain that grains are small, hard seeds produced by plants such as wheat and oats. An unpopped popcorn kernel is another example of a grain.
3. Direct students to page 4 of the activity book: Grains Brainstorm! Together, brainstorm a list of foods that belong in this MyPlate group. If students need help, prompt them to think about foods made with wheat, rice, oats, or any type of flour. Have students write their lists in their activity books. How many different grain foods can they list?



Reproducibles and Activity Book Pages

Grades 1 and 2 activity books, page 4

Grains Brainstorm!

Write a list of foods that belong in the grains group.

Grade 2 activity book, page 5





Find the Grains

Circle each food in the grains group. Draw a star next to whole-grain foods.

From C. Economos, J. Collins, E. Hennessy, D. Hudson, and L. Marcotte, 2014, The Healthy Eating and Active Time Club Curriculum (Champaign, IL: Human Kinetics).

Serving Up Whole Grains


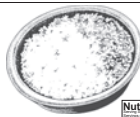
Think of these objects when estimating a one-ounce serving of grain foods.

- A one-ounce serving of pasta or rice is about the size of ...  A light bulb
- A one-ounce muffin is about the size of ...  A large egg
- A one-ounce serving of bread is about the size of ...  A hockey puck
- A one-ounce bagel is about the size of ...  A hockey puck

From C. Economos, J. Collins, E. Hennessy, D. Hudson, and L. Marcotte, 2014, The Healthy Eating and Active Time Club Curriculum (Champaign, IL: Human Kinetics).

Go for the Grain!





Compare the food labels and circle three important nutrients that can be found in greater amounts in brown rice (a whole grain) than in white rice (not a whole grain).

Brown rice	White rice
	
Nutrition Facts Serving Size 1/2 cup (125g) Amount Per Serving Calories 110 Total Fat 0g Sodium 0mg Total Carbohydrate 24g Dietary Fiber 1g Sugars 0g Protein 2g	Nutrition Facts Serving Size 1/2 cup (125g) Amount Per Serving Calories 110 Total Fat 0g Sodium 0mg Total Carbohydrate 24g Dietary Fiber 0g Sugars 0g Protein 2g
Ingredients: Long-grain brown rice	Ingredients: Long-grain rice enriched with iron (ferric orthophosphate) and thiamine (thiamine mononitrate)

From C. Economos, J. Collins, E. Hennessy, D. Hudson, and L. Marcotte, 2014, The Healthy Eating and Active Time Club Curriculum (Champaign, IL: Human Kinetics).

Serving Up Whole Grains

Think of these objects when estimating a one-ounce serving of grain foods.

- A one-ounce serving of pasta or rice is about the size of ...  A light bulb
- A one-ounce muffin is about the size of ...  A large egg
- A one-ounce serving of bread is about the size of ...  A hockey puck
- A one-ounce bagel is about the size of ...  A hockey puck

From C. Economos, J. Collins, E. Hennessy, D. Hudson, and L. Marcotte, 2014, The Healthy Eating and Active Time Club Curriculum (Champaign, IL: Human Kinetics).

Grade 2 activity book, page 6

Grade 3 activity book, page 5

Grade 3 activity book, page 6

- Explain that some grains are better for us than others. Whole-grain foods are good for us because they contain all of the original nutrients found in a whole-grain kernel. Grain foods that aren't whole grain, such as white bread, white bagels, and flour tortillas, have some nutrients removed, so they are not the best choices. Help the class identify whole-grain options from the list they created (e.g., whole-wheat bread, bran cereal, oatmeal, brown rice). If none are listed, help them name some foods made from whole grains.
- Explain that grains give us energy, vitamins, and minerals so we can learn, play, and grow.

>>> Grade 2 Directions

1. Integrate Cool Moves before, after, or during the lesson to get your students moving.
2. Review the MyPlate groups and explain that grains are an important part of a healthy diet. Explain that grains are small, hard seeds produced by plants such as wheat and oats. An unpopped popcorn kernel is another example of a grain.
3. Direct students to page 4 of the activity book: Grains Brainstorm! Together, brainstorm a list of foods that belong in this MyPlate group. If students need help, prompt them to think about foods made with wheat, rice, oats, or any type of flour. Have students write their lists in their activity books. How many different foods can they name?
4. Explain that whole grains give us important nutrients. Fiber helps us feel full. It also helps clean out our digestive systems. Other nutrients in whole grains help us convert the food we eat into energy. Explain that some grain foods are better for us than others. Whole grains are good for us because they contain all of their original nutrients. Grain foods that aren't whole grain have some nutrients removed, so they are not the best choices. Help the class identify whole-grain options from their Grains Brainstorm! list (i.e., 100% whole-wheat bread, bran cereal, oatmeal, brown rice). If none are listed, help them name some foods made from whole grains.
5. Direct students to page 5 of the activity book: Find the Grains. Ask them to circle the foods that belong in the grains group. Then ask them to put a star next to the foods made with whole grains.
6. Explain that children their age need five or six one-ounce servings of grain foods each day and that at least half of these should be whole grains. Here are examples of one-ounce servings:
 - One slice of bread
 - One fourth of a bagel
 - One half English muffin
 - One small tortilla
 - One half cup of cooked rice or pasta
 - One cup of cold cereal
7. Explain that it can be difficult to gauge a one-ounce serving, but that some common one-ounce portion sizes resemble everyday objects. We can keep these in mind to estimate how much we are eating. Direct students to page 6 of the activity book: Serving Up Whole Grains. Ask them how these portion sizes compare to portions we see at a bakery or grocery store. Many bakery muffins are close to the size of a grapefruit! Tell students that if portions are very large they should share with a friend or save some for later.

>>> Grade 3 Directions

1. Integrate Cool Moves before, after, or during the lesson to get your students moving.
2. Review the MyPlate groups and explain that grains are an important part of a healthy diet. Explain that grains are small, hard seeds produced by plants such as wheat and oats. An unpopped popcorn kernel is another example of a grain.
3. As a class, create a list of grain foods on the board.

4. Explain that some grain foods are better for us than others. Whole grains are grains that have nothing added or taken away. Brown rice, oats, barley, and wheat are all examples of whole grains. They give us important nutrients, including fiber (which makes us feel full and helps clean out our digestive systems), iron (which helps carry oxygen throughout our bodies), and B vitamins (which help us convert the food we eat into energy).
5. Whole grains can be ground into flour to make other foods such as bread, pancakes, or pasta. If all of the parts of the whole grain are left in the flour, it's called whole-grain flour and contains the same nutrients found in whole grains. Sometimes parts of the grain are removed to make soft, white flour. White flour is missing some of the nutrients and fiber found in whole grains. For this reason, foods made from whole grains are often healthier choices than foods made from white flour.
6. Return to your list on the board. Star the whole-grain foods (i.e., 100% whole-wheat bread, bran cereal, oatmeal, brown rice).
7. Direct students to page 5 of the activity book: Go for the Grain! Explain that a food label gives a lot of information about a food; it lists the serving size, calories, and amount of fat and other nutrients, such as sugar, vitamins, and minerals. It also lists the ingredients in a food. Instruct the class to use the labels to identify the nutrients found in brown rice but not found in white rice.
8. Explain that children their age need five or six one-ounce servings of grain foods each day and that at least half of those should be whole-grain foods. Here are examples of one-ounce servings:
 - One slice of bread
 - One fourth of a bagel
 - One half English muffin
 - One small tortilla
 - One half cup of cooked rice or pasta
 - One cup of cold cereal
9. Explain that it can be difficult to gauge a one-ounce serving, but that some common one-ounce portion sizes resemble everyday objects. We can keep these in mind to estimate how much we are eating. Direct students to page 6 of the activity book: Serving Up Whole Grains. Ask them how these portion sizes compare to portions we see at a bakery or grocery store. Many bakery muffins are close to the size of a grapefruit! Tell students that if portions are very large they should share with a friend or save some for later.

3rd

>>> Extension Activity: Serving Sizes and Measurements

1. Everyday objects can help students estimate the serving sizes of foods in the grains group. This extension activity can be conducted together with page 6 in the activity book (Serving Up Whole Grains).
2. List the foods on the board: one half cup of pasta or rice, one small muffin, one serving of bread, one small bagel.
3. Hold up each object and explain that each object represents the serving size of one of the foods listed on the board. Ask students to match the reference objects to the correct foods.
4. Answer key:
 - A half cup of pasta or rice is about the size of a light bulb
 - A small muffin is about the size of a large egg

- A serving of bread is about the size of a smartphone
- A small bagel is about the size of a hockey puck

>>> **Go Green Connection**

- It's good to eat foods in their natural form (such as whole grains) whenever possible.
- Do you notice a difference in the number of ingredients for whole-grain foods versus refined grain products (products made with white flour)? Which do you think uses more resources to produce? Whole foods such as fruits, vegetables, and whole grains contain the nutrients and fiber that nature intended and typically contain fewer ingredients than processed or refined foods. Thus fewer resources were used to produce the final products that end up on your plate. This means healthier for you and healthier for the environment!
- Consider:
 - Corn on the cob versus corn chips
 - Oatmeal with raisins versus oatmeal raisin granola bar
 - Fresh apple versus apple pie

LESSON 4

FRUITS AND VEGETABLES

Fruits and vegetables are filled with vitamins, minerals, and phytochemicals (health-promoting compounds found in plants) that help our bodies stay healthy and fight infections and lower our risks of developing some types of cancer. Each type of fruit and vegetable provides different nutrients and benefits. For example, citrus fruits are high in vitamin C, whereas dark leafy vegetables contain vitamin A and calcium. Fruits and vegetables can be eaten raw, cooked, or frozen; all types provide us with valuable nutrients. Table 1.2 lists fruits and vegetables by color and key benefits.

Children should aim to eat at least 2-1/2 to 4 cups of fruits and vegetables each day—that's 1 to 1-1/2 cups of fruit and 1-1/2 to 2-1/2 cups of vegetables. Remind students that when it comes to fruits and vegetables, more is better!

Examples of fruit and vegetable serving sizes (one-cup equivalents):

- One cup of cut fresh fruit or a half cup of dried fruit
- One medium piece of fruit (a medium apple is the size of a tennis ball)
- One cup of 100 percent fruit or vegetable juice
- One cup of vegetables (cooked or raw)
- Two cups of leafy greens

The MyPlate website (choosemyplate.gov) offers resources for teaching your students about the benefits of fruits and vegetables; several materials are also available in Spanish. The Fruits and Veggies, More Matters! website (www.fruitsandveggiesmorematters.org) also offers a variety of resources related to fruits and vegetables.

Table 1.2 Fruits and Vegetables Listed by Color and Key Benefits

	Blue or purple	Green	White	Orange or yellow	Red
Benefits	Aid memory Reduce effects of aging	Protect vision Build strong bones and teeth	Keep heart healthy	Protect heart and vision Fight infections	Protect heart and vision
Fruits	Blackberries Blueberries Black currants Dried plums Purple figs Purple grapes Plums Raisins	Avocados Green apples Green grapes Honeydew Kiwifruit Limes Green pears	Bananas Brown pears Dates White nectarines White peaches Plantains	Yellow apples Apricots Cantaloupe Gooseberries Yellow figs Grapefruit Golden kiwifruit Lemons Mangoes Nectarines Oranges Papayas Peaches Yellow pears Persimmons Pineapples Tangerines Yellow watermelon	Red apples Blood oranges Cherries Cranberries Red grapes Pink and red grapefruit Red pears Pomegranates Raspberries Strawberries Watermelon



(continued)

Table 1.2 (continued)

	Blue or purple	Green	White	Orange or yellow	Red
Vegetables	Purple asparagus Purple cabbage Purple carrots Eggplant Purple Belgian endive Purple peppers	Artichokes Arugula Asparagus Broccoflower Broccoli* Broccoli rabe* Brussels sprouts Chinese cabbage Green beans Green cabbage Celery Chayote squash Cucumbers Endive Leafy greens* Leeks Lettuce Green onions Okra Peas Green peppers Snow peas Sugar snap peas Spinach* Watercress Zucchini	Cauliflower Garlic Ginger Jerusalem artichoke Jicama Kohlrabi Mushrooms Onions Parsnips Potatoes (white) Shallots Turnips White corn	Yellow beets Butternut squash Carrots Yellow peppers Yellow potatoes Pumpkin Rutabaga Yellow summer squash Sweet corn Sweet potatoes/yams Yellow tomatoes Yellow winter squash	Beets Red peppers Radish Radicchio Red onions Red potatoes Rhubarb Tomatoes

*These foods contain calcium.

>>> Objectives

- Identify foods in the fruits and vegetables groups.
 - Recognize that fruits and vegetables come in many different colors and that each color does something special for the body.
 - Understand that the more fruits and vegetables we eat, the better.
 - Recognize serving sizes for fruits and vegetables.
-   • Recognize some of the health benefits of fruits and vegetables.

>>> Preparation

If desired, visit the MyPlate website (www.choosemyplate.gov) for more information on the benefits of fruits and vegetables.

>>> Materials



- Activity books



- Book: *Eating the Alphabet* by Lois Ehlert



>>> Cool Moves

Pick the Produce—Standing up, students reach their right hands above their heads as far as they can to pretend to pick an apple. They place their pretend apples in a pretend basket on the floor to their left. They then repeat with the left hand, placing the pretend apple in a basket on the floor to their right. After a few times, they begin to practice picking a pretend pumpkin off the ground and placing it in a pretend wagon. Tell them to pick apples quickly for 30 seconds and then switch to picking pumpkins for another 30 seconds. To turn this into a game, tell students to count how many apples or pumpkins they can pick in 30 seconds. Other possibilities include picking a coconut with both hands off a palm tree and placing it in a basket or pulling carrots with both hands from the ground and placing them in a basket.

Refer to the web resource to learn more Cool Moves.

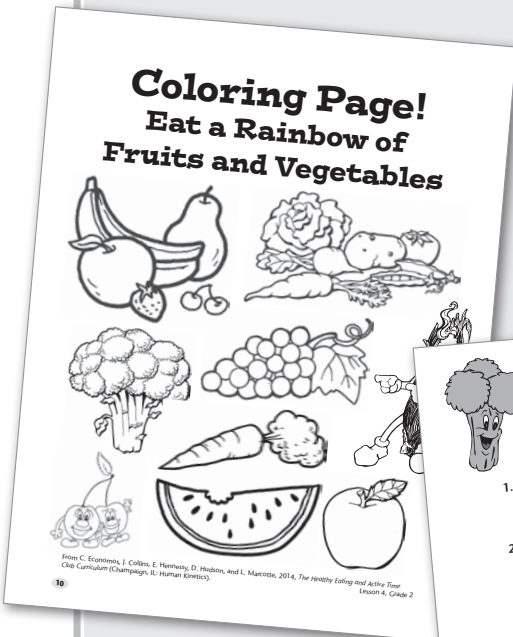
>>> Key Talking Points

- When it comes to fruits and vegetables, think *more*. We want to eat a variety of fruits and vegetables, and kids your age should eat at least 2-1/2 to 4 cups each day.



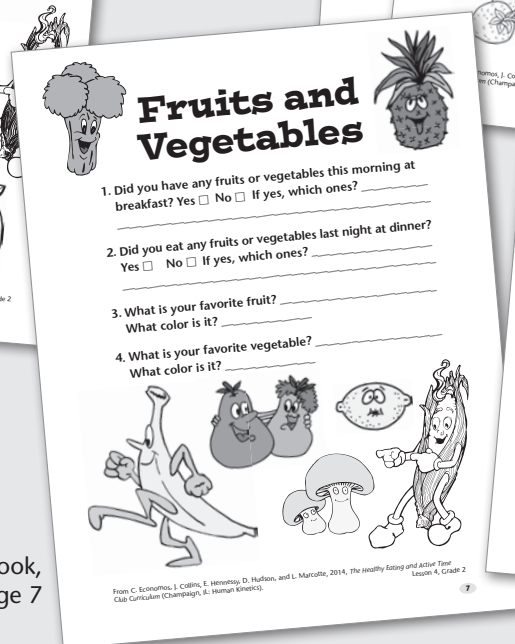
Reproducibles and Activity Book Pages

Grades 2 and 3 activity books, pages 8 and 9



Grade 1 (page 5), grade 2 (page 10), and grade 3 (page 7) activity books

Grade 2 activity book, page 7



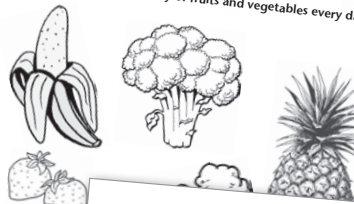
Measurement Fun

What counts as a MyPlate cup of fruits and vegetables?

- 1 MyPlate cup = 1 half cup of dried fruit
- 1 MyPlate cup = 1 cup of cooked or raw vegetables
- 1 MyPlate cup = 1 cup of 100 percent fruit juice
- 1 MyPlate cup = 2 cups of leafy vegetables



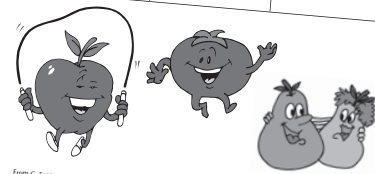
Remember to eat a variety of fruits and vegetables every day!



How Many Fruits and Vegetables?

For each meal, list the amount of fruits and vegetables you ate yesterday. Then write the total number of cups on the last line.

	Fruits	Vegetables
Breakfast		
Morning snack		
Lunch		
Afternoon snack		
Dinner		
TOTAL		



From C. Economos, J. Collins, E. Hennessy, D. Hudson, and L. Marcotte, 2014, *The Healthy Eating and Active Time Club Curriculum* (Champaign, IL: Human Kinetics).

Grade 3 activity book, page 10

- Fruits and vegetables come in many colors, and each color group has unique nutrients and health benefits.
- Eating a rainbow of fruits and vegetables gives us the nutrients we need to be healthy and strong.

>>> **Grade 1 Directions**

1. Integrate Cool Moves before, after, or during the lesson to get your students moving.
2. Review MyPlate and note that fruits and vegetables combined make up the biggest part of the plate.
3. Explain that we need to eat plenty of fruits and vegetables (at least 2-1/2 to 4 cups) every day.
4. Direct students to page 5 of the activity book: Coloring Page! Eat a Rainbow of Fruits and Vegetables; tell them they may color the fruits and vegetables.
5. Play a game to explore the different colors students might find when they eat fruits and vegetables. Call out a color (purple, green, white, orange, yellow, red) and invite students to name a fruit or vegetable that matches the color. Record the response on the board and repeat until all students have had a chance to answer (see table 1.2 for a list of fruits and vegetables).
6. Use the book *Eating the Alphabet* to show students the colorful variety of fruits and vegetables that represent every letter of the alphabet.
7. Explain that it is smart to eat a rainbow of colors because different colors offer different types of nutrients for the body. Challenge students to pay attention to the number of different fruits and vegetables they (and their families) eat in a day. Are they eating all of their colors? What can they do to add more fruits and vegetables to their diets? Ideas: Add blueberries or bananas to cereal or oatmeal, add bell peppers and mushrooms to pizza, add tomatoes and spinach to a grilled cheese sandwich.

>>> **Grade 2 Directions**

1. Integrate Cool Moves before, after, or during the lesson to get your students moving.
2. Review MyPlate and note that fruits and vegetables combined make up the biggest part of the plate.
3. Explain that we need to eat plenty of fruits and vegetables (at least 2-1/2 to 4 cups) every day.
4. Ask students why fruits and vegetables are important. Encourage them to think about things the nutrients in fruits and vegetables do. For instance, “they are good for our eyes,” “they keep us healthy,” or “they keep the doctor away.”
5. Explain that different-colored fruits and vegetables contain different vitamins and minerals, so it is smart to eat all types and colors (“eat a rainbow”). Give the class examples (see table 1.2).
6. Direct students to page 7 of the activity book: Fruits and Vegetables. Students will ask a partner the following questions:
 - Did you have any fruits or vegetables this morning at breakfast? If yes, what were they?
 - Did you have any fruits or vegetables last night at dinner? If yes, what were they?
 - What is your favorite fruit? What color is it?
 - What is your favorite vegetable? What color is it?

7. Have students summarize their survey answers. Then tally all the surveys together. How many students had fruits or vegetables at breakfast or dinner? Which fruits and vegetables were the most common? Which fruits and vegetables are the class favorites? Do they need to eat a greater variety of colors?
8. Explain that fruits and vegetables are extremely good for us and that people should eat as many as they can each day. Children their age need at least 2-1/2 to 4 cups each day.
9. Direct students to pages 8 and 9 of the activity book: Measurement Fun. Using the key on page 8, instruct them to match the correct serving sizes of fruits and vegetables on page 9. Additional examples of one-cup equivalents of fruits and vegetables can be found on the MyPlate website.
10. Optional: Let students color page 10 of the activity book: Coloring Page! Eat a Rainbow of Fruits and Vegetables.

2nd**ACADEMIC CONNECTION: MATH**3rd

As a class, use the data from the class survey activity to practice drawing bar graphs. For example, graph the colors of fruits and vegetables the class ate yesterday. Which color was consumed the most? Which was consumed the least?

>>> Grade 3 Directions

1. Integrate Cool Moves before, after, or during the lesson to get your students moving.
2. Review MyPlate and note that fruits and vegetables combined make up the biggest part of the plate.
3. Explain that we need to eat plenty of fruits and vegetables (at least 2-1/2 to 4 cups) every day.
4. Direct students to page 7 of the activity book: Coloring Page! Eat a Rainbow of Fruits and Vegetables.
5. Direct students to pages 8 and 9 of the activity book: Measurement Fun. Using the key on page 8, instruct students to match the correct serving sizes of fruits and vegetables on page 9.
6. Direct students to page 10 of the activity book: How Many Fruits and Vegetables? Ask them to list all the fruits and vegetables they ate yesterday. Tell them to count the number of times they ate fruit, the number of times they ate vegetables, and to add the two numbers together.
7. Explain that fruits and vegetables are very good for us and that people should eat as many as they can each day; children their age need 2-1/2 to 4 cups each day. Refer to the start of the lesson to review one-cup equivalents for fruits and vegetables. Additional examples can be found on the MyPlate website.

ACADEMIC CONNECTION: VISUAL ARTS

The rainbow of fruits and vegetables can be a great way to link nutrition concepts to art class, particularly when exploring and experimenting with color. Mix paints to represent different fruits and vegetables. Can students produce avocado green, eggplant purple, and mango orange? Bring in a variety of colorful produce (or have students bring examples from home) and use them to inspire students' artwork.

»» **Extension Activity**

Conduct a seasonal fruit and vegetable tasting in your classroom. Look for types of fruits or vegetables that might be unfamiliar to students. Using the Internet, identify some fun facts about each item to share with the students during the tasting.

»» **Go Green Connection**

- Compare and contrast the packaging used for various foods. How does the “packaging” for fresh fruits and vegetables compare with that of processed foods? Which type of food generates more nonrecyclable waste?
- Some packaging such as potato chips bags, candy bar wrappers, and Styrofoam egg cartons cannot be recycled and end up as trash. List some foods that are healthy for you *and* for the environment (because of their packaging).
- Some packaging such as paper milk cartons, cardboard egg crates, and plastic water bottles can be recycled or used again.
- Some food “packaging,” such as on fruits and vegetables (banana and orange peels, the outer leaves of lettuce, the outer skin of onions) can be reused for other purposes, such as composting.
- Composting is nature’s way of recycling plant material into mulch that contains the nutrients needed to grow new plants. Place fruit and vegetable scraps, along with dead leaves and grass clippings, into a bin. Occasionally add water and stir the mixture to incorporate air. Eventually you will have mulch that may be used for landscaping projects or for growing fruits and vegetables.

LESSON 5**DAIRY**

Calcium is a key nutrient in dairy products. Along with vitamin D, calcium works to build strong bones and teeth. Children from 4 through 8 years old need 1,000 milligrams of calcium each day, most of which can be obtained by consuming 2-1/2 cups of milk or milk products. Children of ages 9 to 18 need 1,300 milligrams of calcium, much of which can be obtained by consuming three cups of dairy products. Dairy products are also good sources of protein, which is needed for healthy growth and muscle development. Foods in the dairy group also provide other nutrients, such as iron, zinc, and B vitamins.

Dairy-Rich Foods

- Low-fat or fat-free milk, cheese, yogurt
- Soy milk (calcium-fortified)
- Kefir

Dairy Group Serving Sizes (one-cup equivalents)

- One cup of milk, calcium-fortified soy milk, or yogurt
- 1-1/2 ounces of natural cheese (e.g., cheddar, mozzarella, Swiss)
- Two ounces of processed cheese (e.g., Velveeta, slice of American cheese food)
- Two cups of cottage cheese

Because the dairy group on MyPlate is represented by a drink that accompanies the meal, this lesson also provides an opportunity to discuss healthy beverages. Emphasize that water and low-fat milk (or milk alternatives such as soy milk) are healthy choices for every meal (instead of soda, fruit punch, sports drinks, or other sugar-sweetened beverages).

>>> Objectives

- Identify dairy products and understand that children need 2-1/2 to 3 cups daily.
- Understand that low-fat dairy products are a smart choice.
- Understand that dairy fat is a saturated fat that comes from animals.
- Understand that dairy products contain protein, calcium, vitamin D, and other essential nutrients.

2nd**3rd****>>> Preparation**

- If desired, visit the MyPlate website (www.choosemyplate.gov) for more information on foods in the dairy group.
- Gather milk cartons from the school cafeteria, or use the milk carton examples on page 13 of the grade 2 activity book.

2nd**>>> Materials**

- Activity books
- Bring in milk containers: whole, low-fat chocolate, and skim. You can get cartons of milk, except whole milk, from the school cafeteria, or use the labels on page 12 of the activity book (Label Detectives).
- Calcium and fat detectives—print one copy, or if you have a large class, two copies. You will spread the labels around the room so students can investigate the calcium and fat content of different foods.

WR**2nd****3rd**



Reproducibles and Activity Book Pages

Grades 2 and 3 activity books, page 11

Grade 1 activity book, page 6

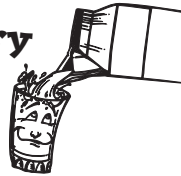
Daily Dairy

What dairy foods can you eat... For breakfast?

As a snack?

For lunch?

For dinner?



From C. Economos, J. Collins, E. Hennessy, D. Hudson, and L. Marcotte, 2014, The Healthy Eating and Active Time Club Curriculum (Champaign, IL: Human Kinetics).

What Is a Cup of Dairy?

Think of these objects when estimating a cup of dairy products.

1-1/2 ounces of cheese is about the size of...

1 cup of milk is about the size of...

1 cup of yogurt is about the size of...

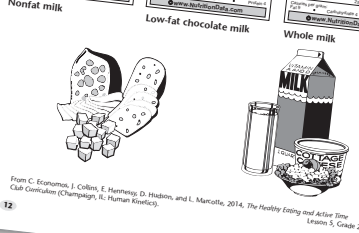


From C. Economos, J. Collins, E. Hennessy, D. Hudson, and L. Marcotte, 2014, The Healthy Eating and Active Time Club Curriculum (Champaign, IL: Human Kinetics).

Label Detective

Find the differences in the food labels and circle each.

Nutrition Facts		Nutrition Facts		Nutrition Facts	
Serving Size 1 cup (240 mL)		Serving Size 1 cup (240 mL)		Serving Size 1 cup (240 mL)	
Amount Per Serving		Amount Per Serving		Amount Per Serving	
Calories 122		Calories 122		Calories 122	
Total Fat 5g		Total Fat 5g		Total Fat 5g	
Saturated Fat 3g		Saturated Fat 3g		Saturated Fat 3g	
Trans Fat 1g		Trans Fat 1g		Trans Fat 1g	
Cholesterol 5mg		Cholesterol 5mg		Cholesterol 5mg	
Sodium 120mg		Sodium 120mg		Sodium 120mg	
Total Carbohydrate 12g		Total Carbohydrate 12g		Total Carbohydrate 12g	
Dietary Fiber 3g		Dietary Fiber 3g		Dietary Fiber 3g	
Sugars 12g		Sugars 12g		Sugars 12g	
Vitamins		Vitamins		Vitamins	
Vitamin A 10% * Vitamin C 10%		Vitamin A 10% * Vitamin C 10%		Vitamin A 10% * Vitamin C 10%	
*Percent Daily Values are based on a diet of other people's secret recipes.		*Percent Daily Values are based on a diet of other people's secret recipes.		*Percent Daily Values are based on a diet of other people's secret recipes.	

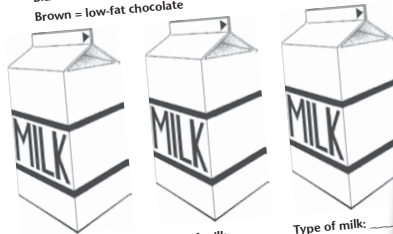


Grade 2 activity book, page 12

Magnificent Milk

Write how much fat is in each type of milk; color each carton the correct color:

- Red = whole
- Blue = nonfat
- Brown = low-fat chocolate



Type of milk: _____
Grams of fat = _____

From C. Economos, J. Collins, E. Hennessy, D. Hudson, and L. Marcotte, 2014, The Healthy Eating and Active Time Club Curriculum (Champaign, IL: Human Kinetics).



Calcium and Fat Detectives

Which food has the most calcium? Which food has the most fat? Use your detective skills to find out.

Food	Calcium	Fat	Food	Calcium	Fat
Milk			Soda		
Cheese			Peanut butter and jelly sandwich		
Pizza			Orange juice (blue cap)		
Orange juice (orange cap)			Broccoli		
Corn			Cookie		
Cereal bar					

From C. Economos, J. Collins, E. Hennessy, D. Hudson, and L. Marcotte, 2014, The Healthy Eating and Active Time Club Curriculum (Champaign, IL: Human Kinetics).

Grade 3 activity book, page 12



2-percent reduced-fat milk, one cup

Nutrition Facts	
Serving Size 1 cup (240 mL)	
Amount Per Serving	
Calories 122	
Total Fat 5g	
Saturated Fat 3g	
Trans Fat 1g	
Cholesterol 5mg	
Sodium 120mg	
Total Carbohydrate 12g	
Dietary Fiber 3g	
Sugars 12g	
Vitamins	
Vitamin A 10% * Vitamin C 10%	
*Percent Daily Values are based on a diet of other people's secret recipes.	

From C. Economos, J. Collins, E. Hennessy, D. Hudson, and L. Marcotte, 2014, The Healthy Eating and Active Time Club Curriculum (Champaign, IL: Human Kinetics).

Calcium and fat detectives

Cool Moves

Leg Grab—Standing up, students grab (from behind) either the right ankle with the right hand or the left ankle with the left hand and lift the lower leg behind (up) against the buttocks. They should be standing up with back straight and bent knee pointed toward the ground. Hold for 10 seconds. Tell them to switch legs and repeat three times. If they have trouble maintaining balance, they can place their free hands on a desk or wall. Refer to the web resource to learn more Cool Moves.

>>> Key Talking Points

- Dairy products contain calcium, which is needed for strong bones and teeth.
- Children need 2-1/2 to 3 servings of dairy every day. One serving is equal to one 8-ounce cup of milk, one cup of yogurt, or 1-1/2 ounces of low-fat cheese.
- Two important nutrients in dairy products are protein and calcium:
 - Protein is needed for healthy bones and muscles.
 - Calcium makes our bones hard so they won't break easily.
- It is best to choose low-fat versions of dairy products.
- Students with dairy allergies can get adequate calcium by consuming products fortified with calcium, such as juice, soy milk, and rice milk.

ACADEMIC CONNECTION: HEALTH

Link your discussion of the bone-strengthening nutrients in dairy foods to dental health. Remind students that calcium and vitamin D are also important for healthy teeth. Use this opportunity to reinforce other behaviors that keep teeth healthy, such as limiting sugary drinks and foods and brushing and flossing regularly.

>>> Grade 1 Directions

1. Integrate Cool Moves before, after, or during the lesson to get your students moving.
2. Review MyPlate and point to the dairy group. Ask the class to name some foods that belong in this group. Write them on the board.
3. Ask the class to tell you why this group is important for our bodies. Explain that dairy products contain calcium, which is needed for strong bones and teeth. Dairy also has protein, which helps us grow and builds and repairs our bodies.
4. Direct students to page 6 of the activity book: Daily Dairy. Give students time to list ways they can include dairy foods or drinks at each eating occasion: breakfast, snack, lunch, and dinner. Tally students' responses for each occasion. Lactose intolerance might prevent some students from consuming dairy. Be sure to mention that nondairy alternatives such as soy milk and almond milk can stand in for dairy in this case.
5. What do students think about milk? How many like it a lot, think it is OK, or do not like it? If students ask about chocolate milk, explain that chocolate milk contains the important nutrients found in dairy but also contains added sugar, which we want to limit.
6. Explain that children need 2-1/2 to 3 cups of dairy products each day to build strong bones. This means they should try to have dairy with at least two meals. Is anyone meeting this goal? Are there drinks (e.g., juice, sports drink, fruit punch, soda) they could replace with a glass of milk (or nondairy alternative such as soy milk)?
7. Remind the class that it is smart to choose low-fat or fat-free plain milk at lunch and other meals, and to choose low-fat dairy products such as plain yogurt. They can add fresh fruit to make the yogurt a little sweeter.
8. Challenge students to choose low-fat or fat-free plain milk (or milk substitutes) with meals. Check in with students in a few days to see if the class is drinking more milk.

>>> Grade 2 Directions

1. Integrate Cool Moves before, after, or during the lesson to get your students moving.
2. Review MyPlate and point to the dairy group. Ask the class to name some foods that belong in this group. Write them on the board.
3. Ask the class to tell you why this group is important for our bodies. Explain that dairy products contain calcium, which is needed for strong bones and teeth. Dairy also has protein, which helps us grow and builds and repairs our bodies.
4. Survey students about what they drink at school for lunch. Do they bring juice from home? Do they select milk? What kind of milk do they choose?
5. Explain that children need 2-1/2 to 3 servings of dairy products each day to build strong bones. This means they should try to have a dairy product with at least two meals. Review serving sizes using page 11 of the activity book: What is a Cup of Dairy?
6. Display the milk cartons or use the Label Detective on page 12 of the activity book. Ask the class to identify similarities and differences between the different types of milk. Invite a few students to look at the food label on one of the milk cartons and report on the amount of fat and sugar in that milk. Compare results and ask students to record them on page 13 of the activity book: Magnificent Milk.
7. Explain that dairy fat is a type of saturated fat, which is not very good for the heart. Dairy fat can clog blood vessels, making it harder for blood and water to travel through the body. To limit saturated fat, choose low-fat or fat-free plain milk at lunch and other meals, or choose low-fat dairy products such as yogurt.
8. Challenge students to drink milk (or milk substitutes) and to select low-fat or nonfat plain milk instead of chocolate or whole milk. Explain that chocolate milk contains the important nutrients found in dairy but also has added sugar, which we want to limit. Check in with students in a few days to see if they are drinking more milk and choosing more low-fat options.

>>> Grade 3 Directions

1. Integrate Cool Moves before, after, or during the lesson to get your students moving.
2. Review MyPlate and point to the dairy group. Ask the class to name some foods that belong in this group. Write them on the board.
3. Ask the class to tell you why this group is important for our bodies. Explain that dairy products contain calcium, which is needed for strong bones and teeth. Dairy also has protein, which helps us grow and builds and repairs our bodies.
4. Ask students if they know how much dairy they need each day. Children this age need at least 2-1/2 to 3 servings of dairy each day. Review dairy servings on page 11 of the activity book: What Is a Cup of Dairy? Ask students to circle the types of dairy products they had yesterday.
5. Place food labels (Calcium and Fat Detectives; see web resources) around the room. This activity requires an additional time commitment.
6. Explain that dairy products have a lot of calcium and vitamin D, which are needed for strong bones and teeth. Tell students they are detectives looking for good sources of calcium. They will look at food labels and find the line for calcium. Explain that each day we want to reach 100 percent of our calcium needs. We can do this by eating and drinking different foods and beverages, such as

yogurt and milk. The number on the food label tells us the percent of calcium one serving of the food gives us toward meeting the goal.

7. Direct students to page 12 of the activity book: Calcium and Fat Detectives. Students will rotate around the room detecting good sources of calcium. Ask them to use the nutrition labels to record the amount of calcium and fat in the different foods in their activity books.
8. When students have completed the page, review the answers.
9. Ask students which foods are better choices when it comes to bone health. Explain that milk is a better drink than soda or juice, and when choosing milk (and other dairy products), it is smarter to select low-fat or fat-free. Identify the low-fat options from the list of foods. Emphasize that just because a food is low in fat doesn't mean it's a healthy choice. For example, soda has less fat than milk, but it doesn't offer any of the valuable nutrients we get from milk. It also contains more sugar than plain milk. If students ask about chocolate milk, explain that chocolate milk contains the important nutrients found in dairy but also has added sugar, which we want to limit.
10. Challenge students to drink milk (or milk substitutes) and to select low-fat or nonfat plain milk instead of chocolate or whole milk. Check in with students in a few days to see if they are drinking more milk and choosing more low-fat and unsweetened options.

>>> **Extension Activity**

Ask your students to design posters that explain why it's important for us to choose milk (or milk substitutes) instead of sugar-sweetened drinks at meals. Display the posters around the classroom or hallway as a reminder for students to choose healthy beverages.

>>> **Go Green Connection**

- Check milk cartons to see where your milk comes from.
- Find out if there are dairy farmers in your area. If possible, invite one to come speak with your class about milk production.

LESSON 6**PROTEIN**

Protein is important to growth and development of children. Foods in this group provide essential vitamins and minerals. Children at ages 4 through 13 need four to five ounces of protein each day. Some animal sources of protein, such as red meat, contain significant amounts of saturated fat, which has been shown to raise cholesterol, leading to an increased risk of heart disease. Plant sources of protein and some fish contain heart-healthy unsaturated fats. Careful selection and preparation of animal proteins can limit saturated fat intake. Plant-based options can serve as tasty, low-fat, high-fiber alternatives to meat.

Protein-Rich Foods

- Lower fat (lean) meats such as chicken, turkey, lean beef, and fish
- Beans, lentils, nuts, seeds, and peas
- Quinoa

Protein Serving Size (one-ounce equivalents)

For comparison, a three-ounce serving of meat, poultry, or fish is about the size of a deck of cards.

- One ounce of meat, poultry, or fish
- 1/4 cup of cooked beans
- One egg
- One tablespoon of peanut butter
- 1/2 ounce of nuts or seeds

>>> Objectives

- Name foods in the protein group.
- Understand that protein helps your body grow.
- Identify how many servings of protein are needed each day.
- Distinguish between plant and animal sources of protein.

>>> Preparation

If desired, visit the MyPlate website (www.choosemyplate.gov) for more information about foods in the protein group.

>>> Materials

- Activity books
- Deck of cards

**>>> Cool Moves**

Muscle Madness—Students hold filled water bottles or cans in either the right or left hand and do arms curls. Starting with arms straight and hands at sides, they hold the bottle or can palm up and bend the arm at the elbow, curling the object to shoulder height. Students should exhale on the way up and inhale on the way down. Tell them to do curls for 10 seconds and then to switch arms. Repeat for one minute.

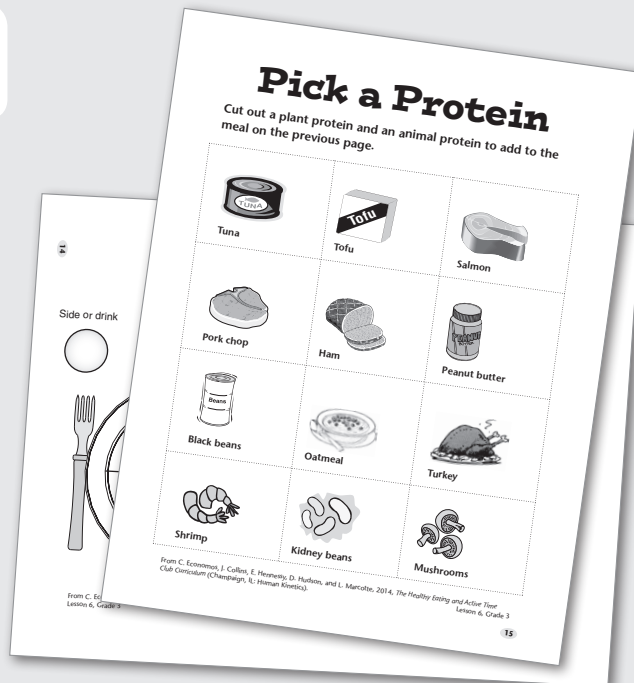
Refer to the web resource to learn more Cool Moves.



Reproducibles and Activity Book Pages



Grade 1 (page 7),
grade 2 (page 14), and grade 3
(page 13) activity books



Grade 3 activity book,
pages 14 and 15

>>> Key Talking Points

- Protein helps your body grow and stay healthy.
- Protein can come from a plant or from an animal.

>>> Grade 1 Directions

1. Integrate Cool Moves before, after, or during the lesson to get your students moving.
2. Review MyPlate and point to the protein group.
3. Explain that foods in the protein group contain not only protein but also iron and other vitamins and minerals to keep our bodies strong.
4. Ask the class to name some foods that belong in this group; write their responses on the board.
5. Ask the class to tell you which foods come from animals and which from plants. Did the class name any plant sources of protein?
6. There are both animal and plant sources of protein:
 - Animal: beef, pork, egg, chicken, fish, turkey
 - Plant: seeds (e.g., pumpkin or sesame), nuts (e.g., almonds, peanuts, walnuts), and beans (e.g., black beans, chickpeas, tofu—which is made from soy beans)

7. Explain that protein is important to help our bodies grow. It acts like building blocks for muscles and body tissues.
8. Remind the class that plant sources of protein and low-fat (lean) animal sources of protein are healthy choices in the protein group.
9. Direct students to page 7 of the activity book: What Type of Protein? Students will draw a circle around protein foods that come from animals and a square around those that come from plants.
10. Remind students that we want to eat a variety of foods from each MyPlate group. Encourage them to try new sources of protein, particularly plant sources they have not tried before.

>>> **Grade 2 Directions**

1. Integrate Cool Moves before, after, or during the lesson to get your students moving.
2. Review MyPlate and point to the protein group.
3. Explain that foods in the protein group contain not only protein but also iron and other vitamins and minerals to keep our bodies strong.
4. Ask the class to name some foods that belong in this group; write their responses on the board.
5. Ask the class to tell you which foods come from animals and which from plants. Did the class name any plant sources of protein?
6. There are both animal and plant sources of protein:
 - Animal: beef, pork, egg, chicken, fish, turkey
 - Plant: seeds (e.g., pumpkin or sesame), nuts (e.g., almonds, peanuts, walnuts), and beans (e.g., black beans, chickpeas, tofu—which is made from soy beans)
7. Show the class the deck of cards. Tell them that a portion of protein the size of the deck equals about three ounces (over half of what they need each day). Direct students to page 14 of the activity book: What Type of Protein? Tell students to draw a circle around the protein foods that come from animals and a square around those that come from plants.
8. Remind the class that plant sources of protein and low-fat (lean) animal sources of protein are healthy choices in the protein group.

>>> **Grade 3 Directions**

1. Integrate Cool Moves before, after, or during the lesson to get your students moving.
2. Review MyPlate and point to the protein group.
3. Explain that foods in the protein group contain not only protein but also iron and other vitamins and minerals to keep our bodies strong.
4. Ask the class to name some foods that belong in this group; write their responses on the board.
5. Ask the class to tell you which foods come from animals and which from plants. Did the class name any plant sources of protein?
6. There are both animal and plant sources of protein:
 - Animal: beef, pork, egg, chicken, fish, turkey
 - Plant: seeds (e.g., pumpkin or sesame), nuts (e.g., almonds, peanuts, walnuts) and beans (e.g., black beans, chickpeas, tofu—which is made from soy beans)

7. Show the class the deck of cards. Tell them that a portion of protein the size of the deck equals about three ounces. Explain that one of these portions is just over half the amount of protein they need each day.
8. Direct students to page 13 of the activity book: What Type of Protein? Tell students to draw a circle around the protein foods that come from animals and a square around the protein foods that come from plants.
9. Remind the class that plant sources of protein and low-fat (lean) animal sources of protein are healthy choices in the protein group.
10. Direct students to page 14 of the activity book: Build a Meal! Using the options on page 15 (Pick a Protein), students choose an animal protein to go with one meal and a plant protein to go with the other meal.
11. Explain that many people think *meat* when they think of protein foods. Now the class knows that there are many plant sources of protein that are healthy choices. Encourage students to plan meatless meals that use plant sources of protein (such as beans, nuts, seeds, and tofu).

ACADEMIC CONNECTION: LIFE SCIENCE

What resources are required to grow plants or crops? What resources are required to raise animals? Ask students to consider which protein source requires more natural resources to produce. How can our protein choices affect the environment?

>>> Extension Activity

As a class, look at the school lunch menu. Ask students to identify the protein-rich foods and determine whether they are animal or plant sources of protein.

>>> Go Green Connection

- Reducing total meat intake or eating a vegetarian diet can promote a healthy environment.
- Meat production uses large amounts of water and contributes methane, an environmentally hazardous gas, to the environment.
- Encourage students to have “meatless Mondays” to reduce overall meat consumption. Replace meats with plant-based proteins.
- Ask the class to name a few meals in which plant proteins can be substituted for meat (i.e., peanut butter sandwich instead of bologna).

LESSON 7**ALL ACTIVITIES COUNT**

In this lesson, students explore what active time means. They begin to understand that any time and any way they move counts. They should be active for at least one hour every day.

As students think about the types of physical activities they do, they will categorize each one. They may create their own categories, but here are some ideas:

- Play or recess—hopscotch, jump rope, monkey bars, tag, hide and seek, bike riding, roller skating, riding a scooter
- Team sports—soccer, football, softball, basketball, hockey, baseball
- Individual sports—karate, dance, gymnastics, tennis, swimming, golf, running, skiing
- Chores or work—rake leaves, shovel snow, carry groceries, walk dog, clean windows, sweep floor, clean room
- Active occupations—construction worker, mail carrier, professional athlete, waiter, nurse
- Transportation—walk or bike to school

>>> Objectives

- Understand that many types of physical activity are good for the body.
- Identify different types of physical activities, such as play, sports, chores, work, and transportation.

>>> Materials

Activity books

**>>> Cool Moves**

Simon Says—Call out various commands to get students moving; examples include hop on your right foot, jump as high as you can without falling down, run in place, do jumping jacks, and so on. If students follow the command without your saying “Simon Says,” they get one strike. Each student gets three strikes (or more, if you want them to stay active longer) before they are out, so everyone ends up getting exercise.

Refer to the web resource to learn more Cool Moves.

>>> Key Talking Points

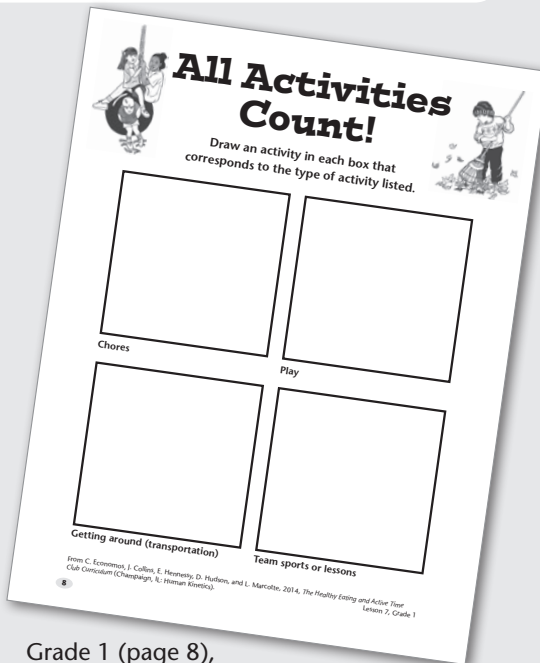
- There are many ways to move our bodies, and any time we spend being active is good for our bodies.
- We should be active for one hour or more each day.
- Some physical activities use a small amount of energy, and others use a large amount of energy. Fueling our bodies with healthy food and drinks prepares us for many types of activities.

>>> Grade 1 Directions

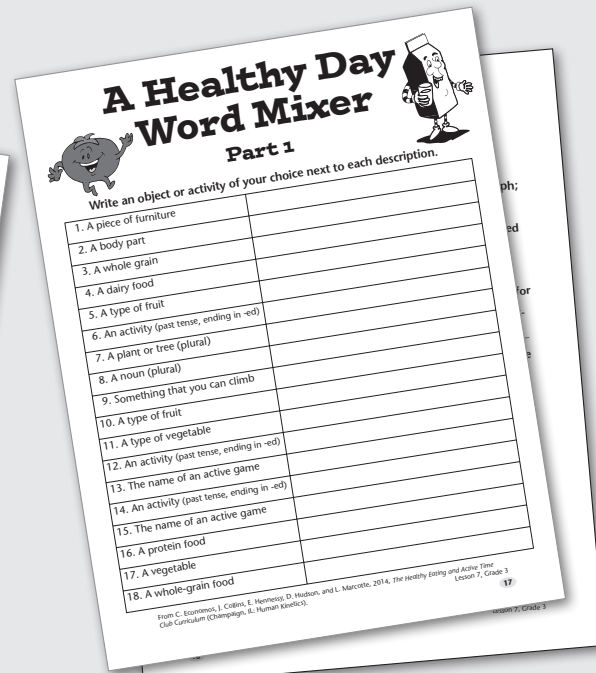
1. Start with Cool Moves. Play a quick round of Simon Says or select some stretches and tell the class that today will be an active lesson.
2. Ask students what it means to be active. Explain that when we move our bodies, we work our muscles and move our bones. When we play hard, our hearts beat fast and our lungs get exercise.



Reproducibles and Activity Book Pages



Grade 1 (page 8),
grade 2 (page 15), and
grade 3 (page 19) activity books



Grade 3 activity book,
pages 17 and 18

- Tell the class that the goal is to be active for one hour or more every day.
- With the class still standing, play a game called "When I have active time [or when I play hard], I like to" Each student shares what she or he likes to do and, together, the class pretends to do the activity. Write the activities on the board.
- Explain that some activities we choose to do (playing at recess or joining a sports team), and other activities we might have to do (rake leaves or walk a dog). All activities count—whether we're playing, doing chores, or participating in sports. Our bodies feel good when they are active.
- Direct students to page 8 of the activity book: All Activities Count! Ask students to draw at least one activity they could do at each time of day: before school (chores, walking the dog, walking to school), at school (recess, PE, Cool Moves), after school (sports, playing, walking home, riding a bike), and after dinner (dancing, playing, stretching). Review students' ideas and encourage them to try some of these activities throughout the day to meet the one-hour goal.

>>> **Grade 2 Directions**

- Start with Cool Moves. Play a quick round of Simon Says or select some stretches and tell the class that today will be an active lesson.
- Ask students what it means to be active. Explain that when we move our bodies, we work our muscles and move our bones. When we play hard, our hearts beat fast and our lungs get exercise.

3. Tell the class that the goal is to be active for one hour or more every day.
4. Arrange the class into small groups. Explain that we can be active for different reasons. Ask students to give you some examples. You might need to give them some ideas. For instance, at recess they might play on the playground, during gym class they might play a game of soccer, after school they might walk the dog. How are these activities different? How are they the same?
5. Write some categories on the board (e.g., play, team sports, individual sports, transportation, chores, work) and assign each student group a category. Instruct groups to brainstorm as many activities as they can that fall under their category.
6. Invite each group to select one activity from their list and, like charades, act it out for the rest of the class to guess. Continue to take turns until each group has acted out most of its activities.
7. Review the types of activities students included in the charades game. Remind them that some activities we choose to do (playing at recess or joining a sports team), some activities we might have to do (rake leaves or walk a dog), and other activities people do as part of a job (build houses or wait tables).
8. Some activities use more energy than others. Ask the class to identify activities that use a lot of energy and those that use less. For example, swimming or running at a fast pace requires a lot of energy. Bowling or playing hopscotch requires less. However, the amount of energy used depends on how intensely and how long the activity is performed. Remind students that all activities count toward building strong and healthy bodies.
9. Direct students to page 15 of the activity book: All Activities Count! Instruct them to draw an activity for each category listed.
10. End the lesson by encouraging students to aim for at least one hour of physical activity each day. Ask them to think about how they will meet their goal.

>>> **Grade 3 Directions**

1. Start with Cool Moves. Play a quick round of Simon Says or select some stretches and tell the class that today will be an active lesson.
2. Ask students what it means to be active. Explain that when we move our bodies, we work our muscles and move our bones. When we play hard, our hearts beat fast and our lungs get exercise.
3. Tell the class that the goal is to be active for one hour or more every day.
4. Explain that we can be active for different reasons. Ask students to name some active things they like to do or that they might see other people do. Ask them how they would categorize these activities (i.e., play, sports, chores, work, transportation; see the list at the start of the lesson for ideas).
5. Direct students to page 17 of the activity book: A Healthy Day Word Mixer, Part 1. Form small groups, and ask students to fill in the blanks on the first Word Mixer page. After completing the list, students will copy the numbered items from their lists into the story on page 18. With students standing by their desks or in a circle, read one of the groups' stories aloud. Instruct students to demonstrate the action words. For instance, "Today, I *walked* to school (walk in place or around the room). On the way, I saw my friends and we *played* a game of basketball. When I got to school, I *climbed* the stairs to get to my classroom." Remind students that the parts of the story they acted out are all action words (verbs). Repeat the activity by reading other groups' stories.

6. Direct students to page 19 of the activity book: All Activities Count! Ask students to draw or write about an activity they do in each category (chores, play, transportation, and team sports).
7. Explain that some activities use more energy than others. Ask the class to identify activities that use a lot of energy and those that use less energy. For example, running or swimming at a fast pace uses a lot of energy. Walking or bowling uses less. However, the amount of energy used depends on how intensely and how long the activity is performed. Remind students that all physical activities count toward building strong and healthy bodies. Encourage them to aim for at least one hour of physical activity per day. Ask them to think about how they will meet the goal.
8. Homework assignment: Explain to students that the things they do for active time might change as they grow up. Instruct them to ask their parents, grandparents, or neighbors about the games they played as children or teenagers, as well as about what they do now to be active. Ask students to share their findings before you start the next HEAT Club lesson. Do the types of activities people do change over time?

>>> Extension Activity

Ask students to set a short-term (something they can do this week) and a long-term (something they can do this year) physical activity goal. Ask the students to write out and illustrate their goals, and hang them throughout the classroom. Check in with students periodically to assess their progress toward each goal. If desired, set a new short-term goal each week.

>>> Go Green Connection

- Being active can also help the environment.
- Encourage students to talk with their families about riding bikes or walking instead of driving.
- Identify outdoor spaces in your local community where people can be physically active.
- Be aware of opportunities for physical activity in your community. Visit a local park or community playground; help keep these areas clean and usable for everyone.

LESSON 8**How Do You Feel?**

The goal of this lesson is for students to recognize the changes that occur when they go from sitting still to stretching to being active. They will have the opportunity to explore these changes. For instance, ask students to notice how they feel when they are active. Do they breathe harder? Do their hearts beat faster? Do they get warmer? Students will also express their feelings during or after different types of movement. Do they feel happy? Tired? Energized? They might feel tired or sleepy when they watch TV, especially if reclined on a couch or bed. They might also feel tired after playing a sport or doing something active, but this kind of tired is different from the tired feeling they get from inactivity or boredom.

Emphasize to students that when they move more, the moves get easier. Use riding a bike as an example. Most children by this age can ride a bike, and they can probably remember how it was challenging to transition first from a tricycle to a bicycle with training wheels and then to a two-wheel bicycle. Some students might remember how scary the transitions were; others might say they did not like to ride their bikes because it was not easy or comfortable. Spending active time in new ways is like riding a bike. The first time they do an activity or play a new game, it might be difficult, but the more they play, the easier it becomes. When they are active, they develop strong muscles, flexibility, and balance, which help them master new activities more easily.

>>> Objectives

Share how being active makes you feel.

>>> Materials

- Activity books



- Red and green crayons or colored pencils

**>>> Cool Moves**

Try these simple yoga poses:

- Forward Bend (Ostrich Stretch)—Standing up, students bend at the waist as much as they can comfortably, reaching for their toes. Ask them to hold the stretch for 10 seconds. Repeat twice. Remind students not to hold their breath or lock their knees during the stretch.
- Opposite Elbow to Knee, Reverse Hand to Foot (brain exercise)—Students lift the left knee to the right elbow by bending the elbow toward the lifted knee (demonstrate). They switch sides and repeat 5 to 10 times. They then bring the right hand behind the body to meet the left foot. Tell them to switch sides and repeat 5 to 10 times. Students should get a rhythm going. Explain that this exercise is for the brain as well as the body. The left side of the brain controls the right side of the body and vice versa.
- Shake Like Jelly (whole-body warm-up)—Tell students to shake their right hand, and then their left hand. Next they shake both hands. Then they shake the right foot, and then the left foot. Tell them to try shaking their heads, hips, and arms. Finally, ask them to shake their entire body.

Refer to the web resource to learn more Cool Moves.

>>> Key Talking Points

- Being active is fun and helps you be fit, strong, and flexible.



Reproducibles and Activity Book Pages

Grade 1 (page 9), grade 2 (page 16), and grade 3 (page 20) activity books

Grade 1 (page 10), grade 2 (page 17), and grade 3 (page 21) activity books

How Do You Feel?

Draw a line to match the following pictures of activities with the words that describe how you feel when doing them. Pictures and words can be used more than once.

	Energetic	
	Happy	
	Sleepy	
	Quiet	
	Bored	
	In good shape	
	Excited	

My Favorite Moves

Draw your favorite activity. Then write about how you feel when you do that activity.

From C. Escampos, J. Collins, E. Hennesey, D. Hudson, and L. Marcotte, 2014, The Healthy Eating and Active Time Club Curriculum (Champaign, IL: Human Kinetics).

Active-Time Choices

Circle in green the activities you like. Draw a red line through the ones you don't like.

From C. Escampos, J. Collins, E. Hennesey, D. Hudson, and L. Marcotte, 2014, The Healthy Eating and Active Time Club Curriculum (Champaign, IL: Human Kinetics).

Active-Time Choices

Choose one activity you like from the previous page and one you do not like. Write about why you like or do not like these activities and how they make you feel.

I like _____
because _____

I do not like _____
because _____

Now select a new activity you would like to try and explain why.
I would like to try _____
because _____

From C. Escampos, J. Collins, E. Hennesey, D. Hudson, and L. Marcotte, 2014, The Healthy Eating and Active Time Club Curriculum (Champaign, IL: Human Kinetics).

Grade 3 activity book, page 22

Grade 3 activity book, page 23

- Active time gives our minds and our bodies a break from sitting so we can focus on learning again.
- Healthy foods give our bodies fuel to be active.

ACADEMIC CONNECTION: ENGLISH LANGUAGE ARTS

In this lesson students gain writing practice by describing their favorite physical activities. Emphasize the use of action verbs and appropriate adjectives that describe how the activity makes them feel. Ask students to use complete sentences.

>>> **Grade 1 Directions**

Conduct this lesson after the class has been sitting for some time, ideally on a day when you can take the class outside to be active.

1. Acknowledge that the class has been sitting for a long time. Ask students to tell you how they feel about sitting still.
2. Invite students to stand up and do some yoga poses or stretching moves (or do Cool Moves). Ask how their bodies feel now.
3. If possible, take a walk around the school or to a local park. While walking, ask students to focus on how their bodies feel. When you get to an open space, do some active moves—run, jump, play a game, or put on music and dance. Ask students how their bodies feel now. Are they warm? Do they notice their heart beating? Do they feel good, tired, energized?
4. Be sure to stretch to cool down.
5. Discuss how the different moves made them feel. Did some moves feel better than others? Why? Remind students that when an activity feels difficult, it might not seem fun to do, but that practice makes it easier (use the example of learning how to ride a bike, which is fun for most children once they learn how).
6. Remind students that there are many ways to be active and that they can try many activities to find ones they enjoy. Physical activity is good for our bodies, and also gives our minds a break so we can be ready to learn again.
7. Direct students to page 9 of the activity book: How Do You Feel? Ask students to match the activities with the words that describe how they feel when doing them. Pictures and words can be used more than once. Discuss students' choices.
8. Then direct students to page 10 of the activity book: My Favorite Moves. Ask them to think about their favorite physical activities. Ask them to draw a favorite activity and write about how it makes them feel. Prompt them to think about how they feel before, during, and after the activity. Tell them that when they play hard, they might feel tired, but this is a different kind of tired from being sleepy at night.
9. Conclude the lesson by encouraging students to pay attention to how they feel the next time they are active, and the next time they are inactive. What can they do to be more active at home? Encourage students to be active with their families by teaching them some Cool Moves.

>>> **Grade 2 Directions**

Conduct this lesson after the class has been sitting for some time, ideally on a day when you can take the class outside to be active.

1. Acknowledge that the class has been sitting for a long time. Ask students to tell you how they feel about sitting still.

2. Invite students to stand up and do some yoga poses or stretching moves (or do Cool Moves). Ask how their bodies feel now.
3. If possible, take a walk around the school or to a local park. While walking, ask them to focus on how their bodies feel. When you get to an open space, do some active moves—run, jump, play a game, or put on music and dance. Ask students how their bodies feel now. Are they warm? Do they notice their hearts beating? Do they feel good, tired, energized?
4. Be sure to stretch to cool down.
5. Discuss how the different moves made them feel. Did some moves feel better than others? Why? Remind them that when something feels hard, it might not feel fun to do, but that practice makes it easier (use the example of learning how to ride a bike, which is fun for most children once they learn how).
6. Remind students that there are many ways to be active and that they can try many activities to find ones they enjoy. Physical activity is good for our bodies, and also gives our minds a break so we can be ready to learn again.
7. Direct students to page 16 of the activity book: How Do You Feel? Instruct students to connect the action pictures to the words that describe different feelings.
8. On page 17 of the activity book (My Favorite Moves) students will draw or write about their favorite activities and how they make their bodies feel. Tell students that when they play hard, they might feel tired, but this is a different kind of tired from being sleepy. Continue discussing how different activities make them feel. Challenge them to think about the different categories of physical activity that were discussed in lesson 7. Do they enjoy free play or sports? Do they like to ride bikes or walk to school? Why?
9. Ask students if they might feel different as they become more fit or get better at certain activities. They might feel stronger and more flexible, have more energy, or be able to exercise longer. Remind students that when an activity feels difficult, it might not seem fun to do, but that practice makes it easier (use the example of learning how to ride a bike or learning to read—these are fun for most children once they learn how). Share a personal story with the class or invite students to tell others how they improved in different activities.
10. Optional: read the book *Salt in His Shoes* by Deloris Jordan to the class. This book tells the inspirational story of Michael Jordan's pursuit of his dream to play basketball.

>>> **Grade 3 Directions**

Conduct this lesson after the class has been sitting for some time, ideally on a day when you can take the class outside to be active.

1. Acknowledge that the class has been sitting for a long time. Ask students to tell you how they feel about sitting still.
2. Invite students to stand up and do some yoga poses or stretching moves (or do Cool Moves). Ask how their bodies feel now.
3. If possible, take a walk around the school or to a local park. While walking, ask students to focus on how their bodies feel. When you get to an open space, do some active moves—run, jump, play a game, or put on music and dance. Ask students how their bodies feel now. Are they warm? Do they notice their heart beating? Do they feel good, tired, energized?
4. Be sure to stretch to cool down.
5. Discuss how the different moves made them feel. Did some moves feel better than others? Why? Remind students that when an activity feels difficult, it might

not seem fun to do, but that practice makes it easier (use the example of learning to ride a bike, which is fun for most children once they learn how).

6. Remind students that there are many ways to be active and that they can try many activities to find ones they enjoy. Physical activity is good for our bodies, and also gives our minds a break so we can be ready to learn again.
7. Direct students to page 20 of the activity book: How Do You Feel? Instruct them to connect the action pictures to the words that describe different feelings. On page 21 (My Favorite Moves), they can draw or write about their favorite activity and how it makes their body feel. Tell students that when they play hard, they might feel tired, but this is a different kind of tired from being sleepy. Continue discussing how different activities make them feel. Challenge them to think about the different categories of physical activity discussed in lesson 7. Do they enjoy active play or sports? Do they like to ride bikes or walk to school? Why? How do they feel when they try a new activity?
8. On page 22 (Active-Time Choices), students circle the activities they like in green and the ones they do not like in red. On page 23, they write about one activity they like and explain why they like it. How do they feel when they do that activity? Then have them write about an activity they do not like and explain why they do not like it. How do they feel when they do something they do not enjoy? Finally, have them choose an activity they would like to try. Why do they want to try it? This makes a good homework assignment.
9. Review their writing and lead a discussion about the types of activities they enjoy. Are there similarities in the activities? Consider the activities the students do not like. Are there similarities? What kinds of activities would students like to try?
10. Remind students that it takes practice for an activity to become easier and more enjoyable.
11. As a class, read the book *Salt in His Shoes* by Deloris Jordan. This book tells the inspirational story of Michael Jordan's pursuit of his dream to play basketball. Have a discussion about the key themes in the book and how they can be applied to the students and their lives.

>>> **Extension Activity**

Invite a local athlete to visit your classroom and speak with students. You might consider inviting an athlete from a nearby college, or even a standout athlete from the local high school. Encourage your speaker to discuss how practice and taking care of your health (eating right, getting adequate sleep, etc.) can lead to success in athletics.

>>> **Go Green Connection**

- We encourage you and your students to get outside and play as often as you can. Take a field trip to a local park, playground, or community sports venue. Encourage students to do the same with their families.
- Discuss ways to preserve outdoor spaces where people can be physically active.
- Discuss what would happen if everyone who visited the park or playground left behind just one piece of trash.
- Discuss what would happen if everyone picked up and threw away just one piece of trash.
- Discuss why it's important for everyone to do his or her part to keep these spaces clean and usable for everyone.

LESSON 9

SCREEN TIME—ADD IT UP!

Excess television viewing and screen time is detrimental to health and academics; it is also associated with increased calorie intake and weight among both children and adults. TV watching is a sedentary activity, and it exposes children to thousands of advertisements for high-sugar and high-fat foods. Many people eat mindlessly while watching television. Although replacing TV with active time is recommended, any activity (e.g., reading, homework) that moves children away from the screen is encouraged. Reducing TV time is one of the most promising ways to improve the health of both children and adults. Research indicates that children who watch the most TV score lower on standardized tests than children who watch the least, in part because they are watching TV instead of doing homework and reading.

The American Academy of Pediatrics' recommendation for all screen time (including watching TV and videos, using the computer (even for schoolwork), and playing computer and video games) is two hours or less per day of *quality programming*. Unfortunately, many children watch much more than this, and most programs, games, and videos do not support learning.

How is your class doing? The overall goal is to challenge students to consider how they spend their free time and what they could choose to do instead of watching television, playing video games, or using a computer or tablet. Ask what they can do instead of sitting in front of a screen, encourage more active time, and present this lesson as another challenge to improve their habits.

>>> Objectives

- Compare screen time to time spent being active and set goals to reduce screen time.
- Create a list of active-time things to do instead of screen-time activities.

>>> Preparation

Students will be surveyed on their screen-time habits in the first part of the lesson. Challenge students to identify ways to reduce their screen time.

>>> Materials

- Activity books



- Book: *The Berenstain Bears and Too Much TV* by Stan and Jan Berenstain

**>>> Cool Moves**

Be an Athlete—In this activity, students imitate well-known athletes. When you call out an athlete's name, students mimic a movement from that athlete's sport. Call out athletes who are popular among your students. Emphasize that these athletes achieved their abilities through hard work, lots of practice, and healthy eating. Examples of athletes to choose from include the following:

- Mia Hamm (soccer)—kick a ball
- Michael Phelps (swimming)—move arms in a front-crawl motion
- Ichiro Suzuki (baseball)—swing a bat or catch or throw a ball
- Usain Bolt (runner)—run in place
- LeBron James (basketball)—shoot hoops or jump up for a dunk
- Venus or Serena Williams (tennis)—swing a racket
- Misty May-Treanor (volleyball)—pass, set, and hit a ball



Reproducibles and Activity Book Pages

Grade 2 (page 18) and grade 3 (page 24) activity books

Screen-Time Challenge

Yesterday, did you . . . **Number of hours**

- Watch TV shows or movies?
Yes No
I watched _____ TV shows and _____ movies. _____
- Play video games?
Yes No _____
- Use a computer or tablet?
Yes No _____

Get Moving!

Circle the activities you would like to do instead of screen time. In the center, write about or draw other ideas for staying active.

From C. Economos, J. Collins, E. Hennezy, D. Hudson, and L. Marcotte, 2014, The Healthy Eating and Active Time Club Curriculum (Champaign, IL: Human Kinetics).

Screen-Time Challenge

Circle the answer to each of the following questions. Yesterday, did you watch TV . . .

- Before school? Yes No
- After school? Yes No
- While eating dinner? Yes No
- After dinner? Yes No

Yesterday, did you play video games . . .

- Before school? Yes No
- After school? Yes No
- After dinner? Yes No

Yesterday, did you use the computer . . .

- Before school? Yes No
- After school? Yes No
- After dinner? Yes No

From C. Economos, J. Collins, E. Hennezy, D. Hudson, and L. Marcotte, 2014, The Healthy Eating and Active Time Club Curriculum (Champaign, IL: Human Kinetics).

Screen-Time Swap

Write or draw the physical activity you will do in place of screen time.

From C. Economos, J. Collins, E. Hennezy, D. Hudson, and L. Marcotte, 2014, The Healthy Eating and Active Time Club Curriculum (Champaign, IL: Human Kinetics).

Track Your Screen Time!

Each time you watch TV, use a computer or tablet, or play a video game, draw an X through a matching picture. At the end of the day, write the total number for each screen and the total number of hours or games in the box. Note: If you only watch for part of an hour, you can use fractions to mark the time (for example: 1/2 hour, 1/4 hour, etc.).

Example:

Screen	Totals			
 Hours: _____ Hours: _____ Hours: _____ Hours: _____	Total times: _____			
 Hours: _____ Hours: _____ Hours: _____ Hours: _____	Total times: _____			
 Hours: _____ Hours: _____ Hours: _____ Hours: _____	Total times: _____			
 Hours: _____ Hours: _____ Hours: _____ Hours: _____	Total times: _____			

From C. Economos, J. Collins, E. Hennezy, D. Hudson, and L. Marcotte, 2014, The Healthy Eating and Active Time Club Curriculum (Champaign, IL: Human Kinetics).

Grade 1 activity book, page 12

Grade 2 (page 19) and grade 3 (page 25) activity books

Grade 2 (page 20) and grade 3 (page 26) activity books

- Tiger Woods (golf)—swing a club
- Tom Brady (football)—throw a pass

Refer to the web resource to learn more Cool Moves.

>>> Key Talking Points

- Watching too much TV keeps us from having fun doing active things, and it can leave us feeling tired.

- There are a lot of activities we can do instead of having screen time; some of them, such as riding a bike, help us reach our active-time goals of one hour per day. Other activities, such as reading, do not.
- If we watch TV or movies, play video games, or use a computer or tablet, we should do so for less than two hours each day.

>>> **Grade 1 Directions**

1. Integrate Cool Moves before, after, or during the lesson to get your students moving.
2. Read *The Berenstain Bears and Too Much TV*.
3. Ask students what they learned from the book. Discuss the key talking points.
4. On the board, make a list of things students do before or after school. Are there active pastimes on the list? Can they add more activities to meet (or surpass) their active-time goal of one hour per day?
5. Explain that they should get less than two hours of screen time each day. Explain that screen time includes TV, videos, and time spent on a computer or tablet. You might wish to frame this as number of shows or movies to give students a frame of reference.
6. Direct students to page 11 of the activity book: Get Moving! Instruct them to circle activities they would enjoy doing in place of screen time. Ask students to write about or draw other active options in the center of the page.
7. Have students complete pages 12 and 13 of the activity book (Screen-Time Challenge), which assesses their screen time from the previous day. Ask students to think about where they might cut down on screen time. Challenge them to set a personal goal for reducing screen time. For example, students might decide to go TV-free on weeknights or limit video game time to 30 minutes.

>>> **Grade 2 Directions**

1. Integrate Cool Moves before, after, or during the lesson to get your students moving.
2. Ask students to think about (but not say out loud) all the things they did yesterday between dismissal from school and bed time.
3. Write two categories on the board: active time and inactive time.
4. Ask students to name a few things they might do after school or at home in the evening. For each activity, have the class tell you if it is active or inactive (you might need to remind them what “active” means—see lesson 7). Write the activities in the appropriate column. Then invite students to come to the board and put a checkmark below the activities they did yesterday. You might need to add activities not previously listed.
5. Have the class count the number of activities listed under each category and then compare the total number of active-time to inactive-time activities. How are students spending their time? Point out that some items listed under inactive time are good to do, such as homework, reading, and eating dinner.
6. Ask students to complete page 18 of the activity book: Screen-Time Challenge. Review the results. How many students watched TV or movies, played video games, or used a computer or tablet in the previous day? How many hours did they spend doing screen-time activities?
7. Challenge students to decrease their screen time by the end of the week. Encourage them to do more things from the active-time list, but remind them that reading, doing art projects, chores, or playing board games with friends are all good tradeoffs for screen time, too. Direct students to page 19 of the activity book:

Screen-Time Swap. They will write about or draw a physical activity they plan to do in place of a half hour of screen time.

8. Refer to page 20 of the activity book: Track Your Screen Time! Ask students to take the sheet home and mark the times they watch TV, play a video game, or play on the computer. Tell the class to bring the sheet back the next day with totals recorded. How much time did students spend playing a video game or watching TV? As a class, add up the total screen time for each category and the grand total. If desired, find the average time for each category and total screen time. Do students think this is a lot of screen time or a little? Compare the results to the recommended maximum of two hours of screen time per day. Ask students to suggest non-screen-time activities they could pursue instead.

2nd 3rd

ACADEMIC CONNECTION: MATH

Use the class screen-time data to create a bar graph showing how students spend their after-school time. If you draw the axes on the white board, you can use sticky notes to represent units of time spent in each after-school activity. Make sure your graph has a title and clearly labeled axes (with units). Grade 3 students can draw their graphs on a large piece of paper, so it can be saved and compared to the results a week later. Students' graphs should have a title and clearly labeled axes, including units.

>>> **Grade 3 Directions**

1. Integrate Cool Moves before, after, or during the lesson to get your students moving.
2. Ask students to think about (but not say out loud) all the things they did yesterday between dismissal from school and bed time.
3. Write two categories on the board: active time and inactive time.
4. Ask students to name a few things they might do after school or at home in the evening. For each activity, have the class tell you if it is active or inactive (you might need to remind them what "active" means—see lesson 7). Write the activities in the appropriate column. Then invite students to come to the board and put a checkmark below the activities they did yesterday. You might need to add activities not previously listed.
5. Have the class count the number of activities listed under each category and then compare the total number of active-time activities versus inactive-time activities. How are students spending their time? Point out that some items listed under inactive time are good to do, such as homework, reading, and eating dinner.
6. Direct students to page 24 of the activity book: Screen-Time Challenge. Ask them to complete the survey about their screen time yesterday. Review the results. How many students watched TV, played video games, or used a computer or tablet? How many shows did they watch? How much total time did they spend watching TV, playing video games, or using a computer or tablet? Instruct students to record their results.
7. Challenge students to decrease these numbers by the end of the week. Encourage them to do more things from the active-time list, but remind them that reading, doing art projects, chores, or playing board games with friends are all good trade-offs for screen time, too. Direct students to page 25 of the activity book: Screen-Time Swap. They will write about or draw a physical activity they plan to do in place of a half hour of screen time.

8. Have students turn to page 26: Track Your Screen Time! Ask them to take the sheet home and mark the times they watch TV, play a video game, or play on the computer. Tell the class to bring the sheet back the next day with totals recorded.
9. The next day, make a chart on the board with different viewing times (by half-hour increments) and tally the number of students in each category. Review the results with the class.
10. Explain that children should watch less than two hours of TV or videos each day.
11. Remind students they can trade some screen time for active time. Brainstorm a list of activities they can do after school that are active rather than inactive. Some students will name inactive pursuits, so include a list of such pursuits as reading, doing homework or chores, and playing board games with friends. Acknowledge these are all good tradeoffs for TV, too. As you continue to work your way through the HEAT Club lessons, you might wish to check in on students' screen-time habits to see if they are making positive changes. Continue to reinforce this important message throughout the school year.

ACADEMIC CONNECTION: TECHNOLOGY

Ask students to name ways people use technology in their everyday lives (at home, school, and work). How is technology helpful? How can technology affect our active time? (Discuss how vehicles, elevators, TV, video games, and computers affect our active time.)

>>> Extension Activity

As an alternative to watching TV or movies, encourage your students to get creative and write their own script. Divide students into groups and ask them to write and perform a short skit about what happens when kids have too much screen time. Encourage them to include ideas for turning bad habits into better ones.

>>> Go Green Connection

- One great way to be green is to be aware of and reduce energy consumption of utilities (such as lights) and devices (such as TVs and computers).
- Ask students to compare how much electricity they use while pursuing inactive interests, such as watching TV, to how much they use while pursuing active interests, such as riding a bike or playing soccer.
- Discuss with students how much environmental energy they use daily (include things like making toast, driving to school, using lights and computers in the classroom, watching TV, playing video games).
- Discuss ways everyone can reduce the amount of environmental energy they use (an example is to go outside and play instead of watching TV).
- Appoint a weekly energy monitor in your classroom—someone who will be in charge of making sure lights and machines are turned off when not in use.

ACADEMIC CONNECTION: PHYSICAL SCIENCE

Link this Go Green Connection to the physical science concepts of energy and electricity. Review the basic forms of energy (light, sound, heat, electrical, and magnetic). Make a list of the ways we use electricity (hint: it produces light, heat, and sound).

LESSON 10**ENERGY BALANCE**

During this unit, students have learned that food is fuel (energy) for the body and that they burn energy when they are active. In this lesson we will illustrate this concept by exploring the balance between food and activity. Young students will use matching cards to visualize foods and activities that have similar energy values. Older students will create balanced combinations of foods and activities using math. All students will begin to recognize that they should balance what they eat with active time. Healthy foods are smart choices because they contain vitamins and minerals that also help build strong bodies.

You might also introduce students to the idea that the amount of food people need depends on many factors, including age, gender, and activity level. For instance, babies eat very small amounts of food, children generally need a bit more, and adults generally need a bit more still. Very active people (such as professional athletes) generally need to eat the most.

>>> Objectives

Understand that food intake should be balanced with physical activity.

>>> Materials

- Activity books
- Energy balance food cards—make several copies (one set of food and activity cards per small group of students). Cut out and paperclip each set of cards, keeping the food and activity cards separate. Back the cards with card stock and laminate to use again.
- Balance scale and blocks (or you might use the picture of a scale included in the activity books: Staying in Balance.)

**>>> Cool Moves**

- Flamingo (balance exercise)—Students stand tall and shift weight onto one leg. They lift the other leg behind as they bend at the waist. Tell them to bring their arms straight out to the side to create flamingo wings. Advise them to choose a spot on the floor in front of them to focus on to help maintain balance (the focus spot should be 6 to 12 inches, or 15 to 30 cm, out so that the head doesn't drop). Tell them to keep their eyes on their spot and start flapping their wings. Instruct them to try to keep the lifted leg straight and as high as possible. Tell them to lift their hearts to the sky, trying not to let their heads drop as they flap their wings. They should flap 5 to 10 times as they breathe in and out through their nose. Tell them to switch legs and repeat.
- Tree (balance exercise)—Students stand with arms at sides and feet shoulder-width apart. Tell them to imagine they have roots coming out of their feet. Students lift the right leg and place the right foot on the inside of the left calf or thigh (not on the knee). Advise them to pick a spot to focus on to help them maintain balance. They then bring the palms together and place them in front of the heart. Tell them to stand tall and strong like a big oak tree. Ask them to take three to five deep breaths. They then raise their limbs (arms) and flutter their leaves (hands) in the wind. Instruct them to switch sides and repeat.

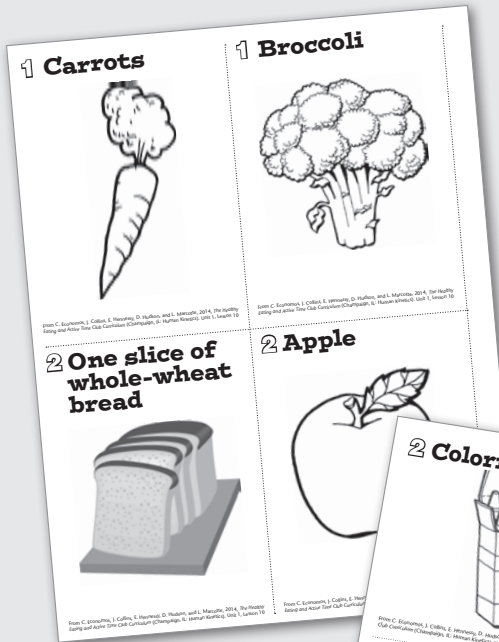
Refer to the web resource to learn more Cool Moves.

>>> Key Talking Points

- Food is fuel for the body.
- Food gives us energy to play, learn, and grow.

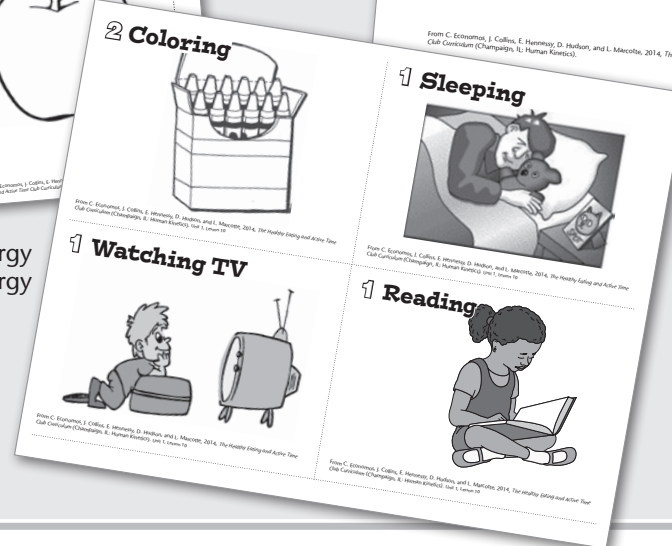
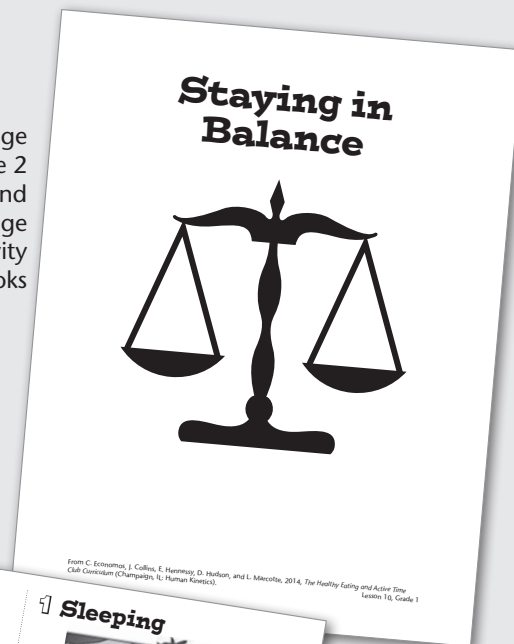


Reproducibles and Activity Book Pages



Grades 1, 2, and 3 Energy Balance Food and Energy Balance Activity cards

Grade 1 (page 14), grade 2 (page 21), and grade 3 (page 27) activity books



- Active time uses up energy from food. It's good to move to use this energy! If we eat more than we need, and don't move enough, some food energy can be stored as fat. Storing too much fat in the body is unhealthy.
- When we eat smart and play hard, we create energy balance; we eat the same amount of energy that our bodies use through movement, learning, and growing.

ACADEMIC CONNECTION: MATH

Throughout this lesson, use the phrases greater than, less than, and equal in relation to energy in and energy out. Draw these phrases on the board using the symbols $>$, $<$, and $=$.

>>> Grade 1 Directions

1. Integrate Cool Moves before, after, or during the lesson to get your students moving.
2. Explain the concept of balance using either a double-pan balance scale or the scale pictured on page 14 of the activity book. If using an actual scale, invite

students to place blocks on each side of the scale to create balance. If using the activity page, discuss how the scale works, using a seesaw as an example.

3. Remind the class that food is fuel for the body and that the body uses that fuel to keep functioning and moving.
4. Explain that one side of the scale represents the foods we eat (energy going into our bodies), and the other side represents what we do to use that energy (including active play and bodily functions such as growing, breathing, and pumping blood).
5. Explain that when we eat smart and play hard, we balance healthy foods that we eat with active time.
6. Arrange the class into small groups, and give each group a set of Energy Balance cards, including a set of food cards and a set of activity cards (located in the web resource).
7. Explain to students that each food card and activity card has a number on it. Foods with higher numbers provide more energy. Activities with higher numbers require or use more energy. In this game, we want to balance the points we get from food and the points we use from activity.
8. With all cards facing up, instruct one student from the group to select a food card and read the number of points on the card. The group then has to find one or more activities that balance the number of points on the food card. Ask students to continue to create different balanced combinations of food and activities. Encourage them to choose one or two food items they would like to eat and then to identify activities that when combined have enough points to balance all of the points from the food items. Food and activity cards may be used more than once.
9. Remind students that when they choose to eat smart, their bodies get fuel for activity as well as vitamins and minerals to build strong bodies. They also need energy to learn; the brain gets its fuel from foods we eat. Each day we want to choose healthy foods and get at least an hour of physical activity to keep our bodies in balance.

»» **Grade 2 Directions**

1. Integrate Cool Moves before, after, or during the lesson to get your students moving.
2. Explain the concept of balance using either a double-pan balance scale or the scale shown on page 21 of the activity book. If using an actual scale, invite students to place blocks on each side of the scale to create balance. If using the activity page, discuss how the scale works, using a seesaw as an example.
3. Arrange the class into small groups, and give each group a set of Energy Balance food and activity cards (located in the web resource). Explain to students that each food card and activity card has a number on it. Foods with higher numbers provide more energy. Activities with higher numbers require or use more energy. In this game we want to balance the points we get from food with the points we use with activity.
4. With all cards facing up, someone from the group will pick a food card and read the number of points on the card. The group then must find one or more activities that balance the number of points on the food card. Ask students to continue to create different balanced sets of food and activity choices. Remind them that when they choose to eat smart, their bodies get fuel for activity as well as vitamins and minerals to build strong bodies. They also need energy to learn;

the brain gets its fuel from foods we eat. Ask students to share their balanced food and activity combinations with the rest of the class.

- Return to page 21 in the activity book (Staying in Balance). Have students draw pictures of their favorite healthy foods on the left side of the scale and their favorite activities on the right side of the scale. Reinforce the importance of energy in and energy out as discussed in the game.

>>> **Grade 3 Directions**

- Integrate Cool Moves before, after, or during the lesson to get your students moving.
- Explain the concept of balance using either a double-pan balance scale or the scale shown on page 27 of the activity book. If using an actual scale, invite students to place blocks on each side of the scale to create balance. If using the activity page, discuss how the scale works, using a seesaw as an example.
- Arrange the class into small groups; give each group a set of Energy Balance food and activity cards (located in the web resource).
- Explain to students that each food card and activity card has a number on it. Foods with higher numbers provide more energy. Activities with higher numbers require or use more energy. In this game we want to balance the points we get from food with the points we use with activity.
- Ask students to create a balanced day by first choosing food cards of foods they might eat during the day and adding up the points for those foods.
- Next they will choose activity cards and try to get the activity points to balance the food points. Students might need to try different combinations of activities to match the food points. They need not use all the cards. As a class, review the different food and activity combinations.
- Return to page 27 (Staying in Balance). Ask students to draw pictures of their favorite healthy foods on the left side of the scale and their favorite activities on the right side of the scale.
- Reinforce the importance of energy in and energy out as discussed in the game. Highlight the importance of listening to your body for signals that you're hungry and signals that you're starting to feel full. How can you tell if you're still hungry? How can you tell when you're almost full? How can you tell when you're too full? By paying attention to these signals, and by staying active, we can maintain energy balance.

>>> **Extension Activity: Yoga**

Reinforce the ideas of balance and symmetry using the yoga-themed Cool Moves at the start of this lesson.

>>> **Go Green Connection**

- Save environmental energy! When it comes to energy balance and the environment, it's important to balance what we take out (through energy use, such as watching TV) with what we put back in (such as reusing, recycling, and reducing our waste; planting trees; and picking up litter).
- Discuss ways to
 - reduce the amount of trash produced at your school,
 - reuse materials in and around your school and home,
 - recycle items at school (and create opportunities to do so), and
 - improve the environment by planting trees or picking up litter.

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Table 2.1 Academic Connections for Unit 2

Lesson	Comprehensive health	Math	English and language arts	Science and technology	Social studies	Arts
11. Find the Fat	✓		✓	✓		
12. Sugar	✓	✓				
13. Super-Smart Snacking	✓		✓			
14. Active Time and Health	✓					
15. Healthy Choices	✓		✓			
16. Wrap-Up	✓					

LESSON 11**FIND THE FAT**

Fat is necessary to a healthy diet because it provides energy (calories); allows us to absorb fat-soluble vitamins A, D, E, and K; and helps regulate the body's temperature. Because it is calorie dense (fat provides nine calories per gram, compared to four calories per gram provided by protein and carbohydrate) and slow to break down, eating high-fat foods can leave us feeling full and satisfied for longer periods of time. In our bodies, fat insulates and protects our organs and bones and plays an essential structural role in every body cell.

Though fats are an important part of the diet, not all fats are created equal. Some fats promote good health, whereas others can increase our risk of disease.

Healthy Fats

- Unsaturated fats are considered heart-healthy fats. Nuts, avocados, peanut butter, olives and olive oil, and fish such as salmon and sardines are all good sources of unsaturated fats. Although these are healthy fats, you still want to watch portion sizes and number of servings because fat is more energy dense than protein or carbohydrate.

Unhealthy Fats

- Saturated fats are unhealthy fats, most often found in animal products. They tend to be solid at room temperature. For example, when butter sits on a kitchen counter, it softens but retains its shape and remains solid. In contrast, healthy fats found in plant oils are liquid at room temperature. Saturated fat can raise cholesterol levels, especially LDL (low-density lipoprotein) or lousy cholesterol—the number we want to be *low*. Many animal products contain saturated fat.
- Trans fat is another type of unhealthy fat. Trans fatty acids are formed when plant oils (naturally liquid) are made more solid—think of transforming canola oil into Crisco. Why are trans fats so bad? Because they affect our cholesterol levels, raising LDL (which we want to keep low) and decreasing HDL (high-density lipoprotein), the *healthy* cholesterol that we want to be *high*. The FDA now requires that trans fat content be listed on food labels. However, trans fats are commonly found in fried foods and baked goods, which often do not have nutrition labels.

In general, eating a diet high in saturated or trans fats increases a person's risk of developing heart disease because these fats can lead to deposits on blood vessel walls, which can lead to a heart attack or stroke. This is why it is beneficial to minimize fat from milk and animal products in favor of healthy fats found in olive oil, avocados, fish, nuts, and seeds.

It is worth mentioning that not all low-fat foods are healthy and not all high-fat foods are unhealthy. Many low-fat products have more added sugar (and often the same or more calories) but no additional nutritional benefit in terms of vitamins and minerals. An example of this is reduced-fat peanut butter. Many people think choosing reduced-fat peanut butter is making a better choice, but per serving you save only two grams of fat (and the fat is the heart-healthy kind) for the same amount of calories. The food manufacturers replace the fat with sugar so that the reduced-fat version tastes more like the original. Your best bet is to look for a natural peanut butter in which peanuts are the only ingredient.

Because plant sources of fat tend to be healthier than animal sources of fat (with the exception of fish), students will learn to identify foods that come from animals rather than plants.

- Plant foods containing fat—olive oil, peanut butter, almonds, avocados, walnuts, sunflower seeds, peanuts

- Animal foods containing fat—bacon, beef, hot dogs, butter, cheese, whole milk, fish (emphasize that fish is the healthful exception among animal sources of fat)

An effective way of explaining to students the consequences of too much saturated fat is to say that this kind of fat sticks to the blood vessels, making it hard for the blood to flow through. This means the heart must work harder to get blood and nutrients to muscles. Foods with healthy (unsaturated) fats make for happier hearts.

>>> **Objectives**

- Understand why fat is an important part of the diet.
- Identify plant and animal foods that contain fat.
- Understand that fats from plants and fish are better for us than fats from other animal foods.
- Identify smarter choices among animal foods.

>>> **Preparation**



Print and cut out the plant and animal food cards (one set per small group).

>>> **Materials**



Activity books



>>> **Cool Moves**

- Jog in Place—Students pick up their feet and run in place, moving their arms jogging style. To mix it up, vary students' pace. When you say "snail," they jog slowly. When you say "horse," they jog at a medium pace. When you say "cheetah," they jog as quickly as they can.
- Walk and Find—Students mingle as they walk around the room (or outdoor field). Say, "Find someone with the same color eyes." Students search to match up with someone with the same eye color. Then say, "Find someone with the same color hair." Students continue the activity looking for the same color pants, shoes, or shirt; same birth month; same favorite color; and so on.

For more Cool Moves, refer to the web resource.

>>> **Key Talking Points**

- Fat is a part of the food we eat. Some foods have little or no fat. Other foods are high in fat or made completely of fat.
- We need fat in our diet. Fat keeps our cells and skin healthy, protects our bones and organs, and helps us absorb vitamins.
- Some fats are healthy; other fats are unhealthy. Fats from plants and fish are healthy fats. They give us nutrients to protect our hearts and skin. Fats from animal foods other than fish and from most desserts, fried foods, and chips are unhealthy. We want to choose healthy fats and avoid unhealthy fats.
- Too much fat is not healthy for us. If a food has a lot of fat, we should enjoy it in small portions.

>>> **Grade 1 Directions**

1. Integrate Cool Moves before, after, or during the lesson to get your students moving.



Reproducibles and Activity Book Pages

Grade 1 activity book, pages 16 and 17

Grade 2 Plant and animal food cards

Olive oil

Peanut butter

Choosing Foods for a Happy Heart

Cut out the heart healthy foods on this page and put them in the Happy Heart on page 16.

Bacon	Walnuts	Butter
Almonds	French fries	Doughnuts
Avocado	Olive oil	Whole milk
Olive	Sunflower seeds	Salmon

Plant Fat or Animal Fat?

Put a circle around animal foods and a square around plant foods.

Heart-Healthy Swaps

Suggest ways to replace these foods (which contain unhealthy fats) with healthier options.

Food item	Heart-healthy swap
Butter	
French fries	
Whole milk	
Cheeseburger	
Onion dip (made with sour cream)	
Bologna	

Find the Fat!

Look over the sample school lunch menu below. Circle in red the foods that contain animal fat; circle in green the foods that contain plant fat.

Day	Menu
Monday	Chicken nuggets or Rib nuggets BBQ sauce Whole-wheat roll Apple
Tuesday	Meatball sub or Egg and cheese on an English muffin Steamed carrots Peaches
Wednesday	Slice of pizza or Chicken patty on a bun Garden salad Pineapple Cranberry jell-O
Thursday	Roast turkey and gravy or Cheeseburger on a bun French roll or Peas Mashed potatoes or Apples and cream
Friday	Bean taco boat or Hot dog in a bun Lettuce, tomato, and cheese or Broccoli Salsa or Cantaloupe wedges

Grade 1 (page 15), grade 2 (page 22), and grade 3 (page 28) activity books

Grade 3 activity book, page 29

Grade 3 activity book, page 30

2. Explain that today's lesson will focus on fats. Tell students that fats are important to eat. Fats help the body absorb essential vitamins from food. They keep our skin and cells healthy and protect our bones and organs. Fats can also add flavor to foods.
3. Explain the different types of fats. Some fats come from plants. Ask students if they can think of plant foods that are sources of fat. Emphasize that nuts, seeds, and avocados are healthy sources of plant fats. Plant oils such as olive oil are also healthy.

4. Explain that other fats come from animals. Can students name any animal sources of fats? Prompt them to think about the fat they see on a piece of meat, left in the pan while cooking bacon, or in the butter they spread on toast. Fats from animal and dairy products are not as healthy for us as plant fats are. There are, however, exceptions—some fishes are good sources of healthy fats, including salmon, tuna, sardines, mackerel, and others.
5. Direct students to page 15 of the activity book: Plant Fat or Animal Fat? Ask them to draw circles around foods that come from animals and squares around foods that come from plants.
6. Explain that all foods, no matter what MyPlate group they are in, come from either an animal or a plant. Fats from plants and fish are healthier for our hearts than fats from meat, dairy, and “sometimes” foods such as cookies, cakes, and fried foods. These less-healthy fats can block the pumps and pipes in our bodies (the heart and blood vessels). We should choose fats from plants and fish over fats from less-healthy sources.
7. Direct students to pages 16 and 17 of the activity book. Ask them to cut out the heart-healthy foods on page 17 and place them in the Happy Heart on page 16.

>>> **Grade 2 Directions**

1. Integrate Cool Moves before, after, or during the lesson to get your students moving.
2. Explain that today’s lesson will focus on fats. Tell students that fats are important to eat. Fats help the body absorb essential vitamins from food. They keep our skin and cells healthy and protect our bones and organs. Fats can also add flavor to foods.
3. Explain the different types of fats. Some fats come from plants. Ask students if they can think of plant foods that are sources of fat. Emphasize that nuts, seeds, and avocados are healthy sources of fat. Plant oils such as olive oil are also healthy.
4. Explain that other fats come from animals. Can students name any animal sources of fats? Prompt them to think about the fat they see on a piece of meat, left in the pan while cooking bacon, or in the butter they spread on toast. Fats from meat and dairy products are not as healthy for us as plant fats are. There are, however, exceptions—some fishes are good sources of healthy fats, including salmon, tuna, sardines, mackerel, and others.
5. Explain that all foods come from either an animal or a plant. We want most of our fats to come from plant sources, and we want to limit our fats from animal sources (with the exception of fish). Today, students will work in pairs or small teams to sort pictures into two categories—animal foods and plant foods. Give each pair or group a set of plant and animal food cards (located in the web resource). Ask students to separate the plant foods from the animal foods. You can adapt this activity to include physical exercise. Hold a relay in which group members take a card and place it in either the plants or animals category on the opposite side of the room.
6. Review correct answers with the class.
7. Tell students that by getting our fats from plants and fish we can help our bodies, especially our hearts. List the following healthy sources of fat on the board and ask students to brainstorm ways to include these foods in their diet: peanut butter, olive oil, avocados, almonds, olives, peanuts, walnuts, sunflower seeds, and fish.

8. Emphasize that it's not good for us to eat too much fat. If a food is high in fat, we should enjoy it in small portions.
9. Remind the class that we can also make smart choices about the animal foods we eat. Because the fat in animal foods isn't as healthy for us, we can choose low-fat or fat-free milk. We can enjoy cheese in small portions. We can eat fish a few times each week, and choose lean (lower-fat) meats such as chicken or turkey instead of higher-fat meats such as bacon, bologna, and sausage.
10. Page 22 of the activity book (Plant Fat or Animal Fat?) can be used as homework or a reinforcement activity. Students draw circles around animal foods with fat, and squares around plant foods with fat.

>>> **Grade 3 Directions**

1. Integrate Cool Moves before, after, or during the lesson to get your students moving.
2. Explain that today's lesson will focus on fats. Tell students that fats are important to eat. Fats help the body absorb essential vitamins from food. They keep our skin and cells healthy and protect our bones and organs. Fats can also add flavor to foods.
3. Explain the different types of fats. Some fats come from plants. Ask students if they can name any plant foods that are sources of fat. Emphasize that nuts, seeds, and avocados are healthy sources of plant fats. Plant oils such as olive oil are also healthy.
4. Explain that other fats come from animals. Can students name any animal sources of fats? Prompt them to think about the fat they see on a piece of meat, left in the pan while cooking bacon, or in the butter they spread on toast. Fats from meat and dairy products are not as healthy for us as plant fats are. There are, however, exceptions—some fishes are good sources of healthy fats, including salmon, tuna, sardines, mackerel, and others.
5. Direct students to page 28 of the activity book: Plant Fat or Animal Fat? Ask students to draw circles around the animal foods with fat and squares around the plant foods with fat. After students are finished, review their answers together.
6. Explain that the fat found in meat (such as bacon or steak), dairy products (such as whole milk, butter, and cheese), and "sometimes" foods (such as cakes, cookies, chips, and fried foods) are less healthy for our hearts. Over time, fat can get stuck in blood vessels and less blood can flow through, which is not good for the heart. Think of stepping on a hose to prevent water from flowing.
7. If we choose healthy fats such as nuts, seeds, peanut butter, avocados, olive oil, and fish, we can keep our heart and body healthier.
8. Remind the class that we can also make smart choices about the animal foods we eat. Because the fat in animal foods isn't as healthy for us, we can choose low-fat or fat-free milk. We can enjoy cheese in small portions. We can eat fish a few times each week, and choose lean (lower-fat) meats such as chicken or turkey instead of higher-fat meats such as bacon, sausage, and bologna. Sometimes we can choose beans from the protein group instead of meat.
9. Emphasize that it is OK to eat foods such as bacon, cheese, butter, and cookies in moderation. We need to treat them as "sometimes" foods and enjoy them from time to time and in small portions.
10. Direct students to page 29: Heart-Healthy Swaps. As a class, brainstorm ways to replace less-healthy fats with heart-healthy fats or to cut down on unhealthy fats. Begin with a list of less-healthy sources of fat and propose healthier choices:

- French fries—replace with potatoes roasted with olive oil.
- Butter—replace with peanut butter on toast.
- Whole milk—replace with low-fat or fat-free milk.
- Cheeseburger—replace with turkey burger or chicken sandwich.
- Onion dip made with sour cream—replace with guacamole or salsa made from vegetables.
- Bologna—replace with fish, chicken, or lean ham.

11. Direct students to page 30: Find the Fat! Ask them to identify animal fats and plant fats on the school menu (including the kinds of oils foods are prepared in, such as when frying French fries).

3rd >>> **Extension Activity**

For homework, ask students to record what they eat for dinner and how it was prepared. Could they make any changes to replace less-healthy sources of fat (e.g., butter, bacon, bologna) with healthy sources of fat (e.g., olive oil, avocado, fish)?

>>> **Go Green Connection**

Just as making small changes in what we eat (such as substituting plant fats for animal fats) can make our bodies healthier, small changes in our behavior (such as recycling and using less electricity) can make the environment healthier.

LESSON 12**SUGAR**

You have probably heard about the debate over the value of carbohydrate, fueled by popular diets that drastically reduce foods with carbohydrate to promote weight loss. All types of carbohydrate break down into sugar, which is then taken into the cells for energy. Carbohydrate is present in virtually all foods except proteins such as meat, poultry, fish, and oils and fat. Carbohydrate is necessary in the diet; it is the only source of energy that the brain will use. Grains, fruits, vegetables, and dairy are natural sources of sugar, and these foods also provide many important nutrients for the body. Foods high in simple sugar, such as candy, jelly, and sugar-sweetened beverages, provide only empty calories (calories with no vitamins or minerals). Sugary foods typically take the place of healthier alternatives, such as drinking soda instead of water.

Learning the nuances of carbohydrate is too complicated for most first-graders. Instead, they will learn to identify foods that have a lot of sugar and to recognize that sweets can be enjoyed every once in a while but that their growing bodies need better foods with more nutrients in order to grow strong. Students in grades 2 and 3 will calculate the amount of sugar in various foods (soft drinks, cookies, sugar-added versus low-sugar cereals, and doughnuts) and measure out teaspoons of sugar for more dramatic results.

>>> Objectives

- Identify sources of added sugar in their diets.
- Understand that four grams of sugar equals one teaspoon.
- Understand that some healthy foods, such as fruit, naturally contain sugars along with other nutrients such as vitamins and minerals.

>>> Materials

- Activity books
- Sugar, teaspoons, plates, food labels from a variety of sugary foods (and a lower-sugar example, if desired, such as flavored yogurt vs. plain yogurt or chocolate milk vs. plain milk)

**>>> Cool Moves**

Tableside Dancing—With music playing softly in the background, students skip in place eight times to the beat of the music. Mix it up by having them hop and march in place. Then ask them to turn slightly to the left and (pretend) to kick a ball three times with the right foot. Then tell them to do a whole-body shimmy down and up. They then repeat by turning slightly to the right and kicking with the left foot. Once everyone has practiced all the movements, tell them to practice their routines until they can perform them without help. Extend the activity by asking students to come up with new moves to include.

Refer to the web resource to learn more Cool Moves.

>>> Key Talking Points

- Sweets and foods with a lot of added sugar taste good but usually lack the nutrients (vitamins and minerals) we need to make our bodies strong.
- Sweetened foods should be saved for special occasions.
- It is better to choose foods that are naturally sweet, such as fruit, because these foods also have nutrients (vitamins and minerals) that our bodies can use.



Reproducibles and Activity Book Pages

What Do You Eat?

For each meal or snack, circle the foods you like to eat.

Breakfast	Cereal	Banana	Oatmeal	Doughnuts
Lunch	Nachos & cheese	Sandwich	Salad	Green beans
Dinner	Pasta	Broccoli	Cheeseburger	Fish
Snack	Yogurt	Carrot	French fries	Apple
Dessert	Cookies	Ice cream	Grapes	Cake
Drink	Water	Soda	100% fruit juice	Skim milk

From C. Economos, J. Collins, E. Hennessy, D. Hudson, and L. Marcotte, 2014, *The Healthy Eating and Active Time Club Curriculum* (Champaign, IL: Human Kinetics). Lesson 12, Grade 1

Grade 1 activity book, page 19

How Much Sugar?

Count and color how many teaspoons of sugar are in each food.
4 grams of sugar = 1 teaspoon

Food	Grams of sugar	Teaspoons of sugar
One can of cola	40 grams =	
One cookie	6 grams =	

From C. Economos, J. Collins, E. Hennessy, D. Hudson, and L. Marcotte, 2014, *The Healthy Eating and Active Time Club Curriculum* (Champaign, IL: Human Kinetics). Lesson 12, Grade 2

Grade 2 (page 23) and grade 3 (page 32) activity books

Find the Sugar!

Read each food label and highlight the line that shows the amount of sugar in each food. Compare each food and rank them in order from the least amount of sugar to the greatest amount of sugar.

Chocolate cake

Nutrition facts	
Calories	235
Total fat	11g
Carbohydrate	35g
Sugar	33g
Protein	3g

Soda

Nutrition facts	
Calories	155
Total fat	0g
Carbohydrate	40g
Sugar	40g
Protein	0g

Oatmeal cookie

Nutrition facts	
Calories	81
Total fat	2.8g
Carbohydrate	29g
Sugar	25g
Protein	1g

Low-fat fruit yogurt

Nutrition facts	
Calories	168
Total fat	2g
Carbohydrate	32g
Sugar	32g
Protein	7g

Orange juice

Nutrition facts	
Calories	110
Total fat	0g
Carbohydrate	27g
Sugar	24g
Protein	2g

Sugar Content Rankings

1. _____
2. _____
3. _____
4. _____
5. _____

From C. Economos, J. Collins, E. Hennessy, D. Hudson, and L. Marcotte, 2014, *The Healthy Eating and Active Time Club Curriculum* (Champaign, IL: Human Kinetics). Lesson 12, Grade 3

Grade 3 activity book, page 31

>>> Grade 1 Directions

1. Integrate Cool Moves before, after, or during the lesson to get your students moving.
2. Direct students to page 19 of the activity book: What Do You Eat? For each meal or snack, have them circle the foods they like to eat. Then write the list of foods on the board and tally the responses to identify the most popular foods for each meal.
3. Discuss the most popular foods. To which MyPlate groups do these belong? To which MyPlate groups do the less-popular foods belong? Are there items that do not fit into a MyPlate group?
4. Explain to students that sweets and foods with a lot of added sugar (e.g., cakes, candy, soda) are "sometimes" foods. There is no place for them in MyPlate because even though they taste good, our bodies don't want or need a lot of these types of foods.
5. Remind the class that though sweets taste good and can be fun to eat, they offer few nutrients for our bodies. Eating too much of these foods can give our body more energy than it needs, which can create an energy imbalance. Refer to lesson 10 in unit 1 (Energy Balance) as a reminder.
6. Create a list of healthy alternatives (such as fruits or yogurt) that are naturally sweet and have nutrients that our bodies need to grow strong and healthy. Brainstorm strategies for enjoying healthier sweets. We can add berries to oatmeal or whole-grain cereal instead of choosing sugary cereal. We can add bananas to a peanut butter sandwich instead of jelly. We can add fruit to plain yogurt instead of choosing flavored yogurt. We can make a fruit salad using many fruits.

>> Grade 2 Directions

1. Integrate Cool Moves before, after, or during the lesson to get your students moving.
2. Ask students to name some sugary foods and discuss where they fit in MyPlate. Can they tell you why we should save these foods for special occasions? Remind the class that foods with a lot of added sugar usually provide few or no vitamins or minerals. There is no place for sweets on MyPlate because our bodies do not want or need them to stay healthy. Sweets are considered “sometimes” foods.
3. To make this lesson interactive, ask the class to measure out teaspoons of sugar on a plate to illustrate how much sugar is in different foods. As a reference, four grams of sugar equal one teaspoon. Or use sugar packets instead of pouring teaspoons of sugar. One sugar packet equals one teaspoon (four grams). Taping the packets into a chain makes for a powerful visual aid.

Examples:

- There are 16 grams of sugar in a toaster pastry (4 teaspoons or packets), so a pack of two toaster pastries has 8 teaspoons or packets of sugar.
- There are 20 grams of sugar (5 teaspoons or packets) in many pudding cups.
- There are 32 grams of sugar (8 teaspoons or packets) in a 4-ounce chocolate chip muffin.
- There are 37 grams of sugar (9-1/4 teaspoons or packets) in a 20-ounce sports drink.

Use the food labels you (or students) brought from home for additional examples. This activity is a great way to reinforce math skills.

4. Direct students to pages 23 and 24 of the activity book: How Much Sugar? Students will indicate the amount of sugar in each food. Remind them that four grams of sugar is equal to one teaspoon.
5. Explain that “sometimes” foods such as soda, candy, cake, and sports drinks (and “juice” drinks that are not 100 percent juice) contain a lot of added sugar. “Added sugar” means just what it sounds like: Sugar is added to a food to make it sweeter. Some foods are naturally sweet; they don’t need added sugar to taste sweet. Can students name foods that are naturally sweet? Examples include most fruits and some vegetables, such as sweet potatoes and bell peppers. Ask the class why it might be better to choose these naturally sweet foods over foods with added sugar. Explain that naturally sweet foods come with fiber and many other nutrients that work to keep the body healthy. Foods with added sugar tend not to have these same nutrients. Treats such as ice cream, candy, and soda are fun to eat once in a while, but if we eat too much of them we can fill up on these foods and miss out on the foods we need to be healthy and strong.
6. Close the lesson by encouraging students to substitute naturally sweet foods for foods with added sugar. Challenge them to try a substitution in their lunches, after-school snacks, or after-dinner desserts.

>> Grade 3 Directions

1. Integrate Cool Moves before, after, or during the lesson to get your students moving.
2. Ask students to name some foods that contain sugar (students will likely name various types of sweets and candy). Ask them if they can think of other foods with sugar.
3. Explain that some foods, such as sweets, sodas, and sports drinks, have sugar added to them. Other foods such as fruits or milk naturally contain sugar. Ask students which types of foods they think we should choose—foods with added

sugar, or foods that are naturally sweet. Ask them to explain why. Emphasize that naturally sweet foods are better choices because along with sugar they also contain vitamins, minerals, and sometimes fiber—all good things! Foods with added sugar usually don't offer these same nutrients.

4. Direct students to page 31 of the activity book: Find the Sugar! Start with the label for chocolate cake and highlight the line for sugars.
5. Repeat for other foods. Compare labels and rank foods from the least amount of sugar to the most. Look again and identify other differences (for example, point out the vitamins and minerals and note that some foods have these nutrients whereas others do not). What can students tell you about these differences?
6. Instruct students to turn to pages 32 and 33 of the activity book: How Much Sugar? Explain that they will calculate the amount of sugar in various foods. Tell the class that four grams of sugar equal one teaspoon.
7. Explain that sugar is found naturally in some foods. Berries, grapes, and other fruits are naturally sweet. There is even some sugar in plain white milk. We don't need to avoid these sources of sugar because these foods offer many other important nutrients. Explain to students that they can make smart choices by using the nutrition labels on packaged foods to find options that are lower in sugar. This is a good thing to do when choosing a breakfast cereal, for example.
8. When we eat smart, we choose naturally sweet foods such as fruits over foods with added sugar. Challenge students to try a substitution in their lunches, after-school snacks, or after-dinner desserts. Remind them that it's OK to enjoy a sweet treat once in a while but that they should emphasize foods that are rich in nutrients.

ACADEMIC CONNECTION: MATH

Practice graphing skills by graphing the amount of sugar in different sweetened drinks (for example, lemonade, fruit punch, chocolate milk, sodas, and sports drinks). Use one sugar cube to represent every four grams of sugar (a sugar cube equals one teaspoon of sugar). Ask students to draw and label axes and glue the appropriate number of sugar cubes in place for each drink.

>>> **Extension Activity**

Ask students to bring in empty cereal boxes. Pass the boxes around the room, and ask students to use the Nutrition Facts panel to record the amount of sugar per serving, in each type. As a class, discuss which cereals seem like the better choices.

>>> **Go Green Connection**

- Whole foods (foods with nothing added or taken away and that haven't changed much since leaving the garden or farm) are better for you and better for the environment.
- Choose whole foods that are naturally sweet, such as fresh fruit, rather than processed foods with added sugar, such as some juices.
- Processed foods can have more sugar than natural foods and often have more packaging, which creates more waste.
- Compare the packaging for foods that are naturally sweet, such as fresh fruit, with that of processed sweet foods, such as fruit roll-ups.

LESSON 13

SUPER-SMART SNACKING

In this lesson students put their healthy-eating knowledge from past lessons to work. They learn about many different types of healthy snacks and how to plan their own snacks.

The goal is to help students see snacks as a way to stay fueled between meals and to meet their daily MyPlate recommendations (particularly for fruits and vegetables). Often, snacking calls to mind packaged, processed foods that offer few nutrients. Reshape students' mindset so they choose snacks that do something good for the body.

>>> Objectives

- Identify healthy snacks.
- Create a list or collage of healthy snacks.

>>> Preparation

Visit the MyPlate website (www.choosemyplate.gov) for resources and ideas for healthy snacks.

>>> Materials



- Activity books



- Scotch tape or masking tape (for attaching snack pictures to the whiteboard)



>>> Cool Moves

Knots of Fun—Divide students into teams of six or more, depending on how difficult you want to make the exercise (having more students makes the activity more difficult). Tell each student to join right hands with a team member who's *not* standing immediately to his or her left or right. Then tell each student to join left hands with a second team member who's *not* standing immediately to his or her left or right. Now tell teams to untangle themselves without letting go of one another's hands. They might have to loosen their grips a little to allow for twisting and turning. They might also have to step over or under other team members. The first team to untangle their knot is the winner. There are four possible outcomes to the knot (one large circle with students facing either direction, two interlocking circles, a figure eight, or a circle in a circle). Stress the importance of being patient and working together.

Refer to the web resource to learn more Cool Moves.

>>> Key Talking Points

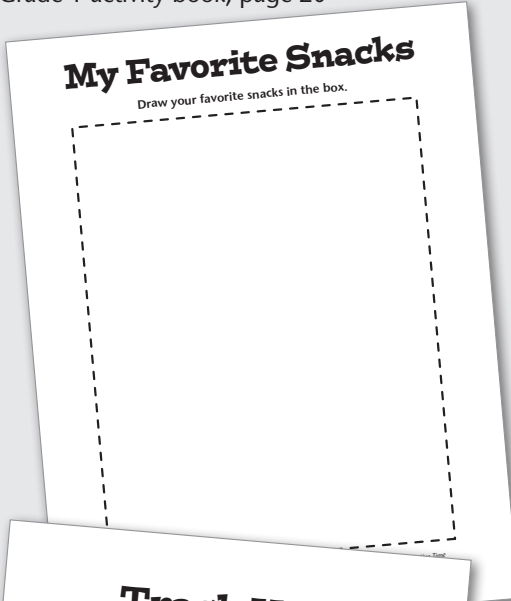
- Healthy snacks keep us energized between meals. If we choose snacks wisely, they help us get the nutrients we need each day.
- Fruits and vegetables contain many vitamins and minerals that our bodies need to keep healthy. They make great everyday snacks.
- “Sometimes” foods include foods high in saturated fat and sugar (potato chips, candy, doughnuts, buttered popcorn, gummy bears, cookies); these are not snacks that fuel our bodies.

We want to choose healthy snacks from the MyPlate groups over “sometimes” foods that do not have a place on MyPlate. Examples of healthy snacks are fresh fruits and vegetables, air-popped popcorn, plain yogurt, peanut butter and apples, low-fat cheese, hummus on pita bread or whole-wheat crackers, or a handful of almonds.

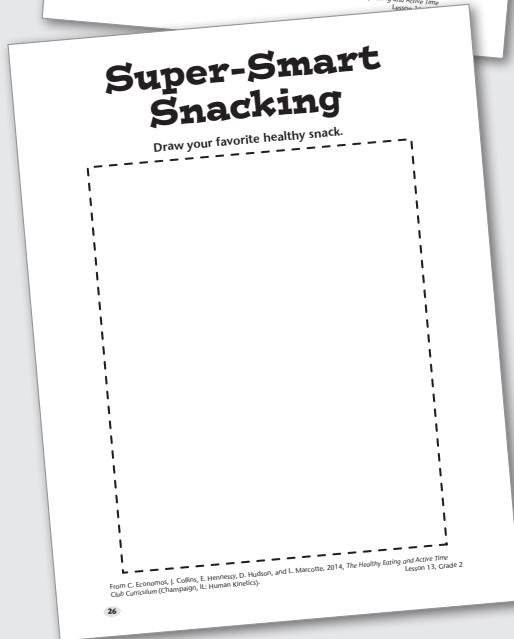
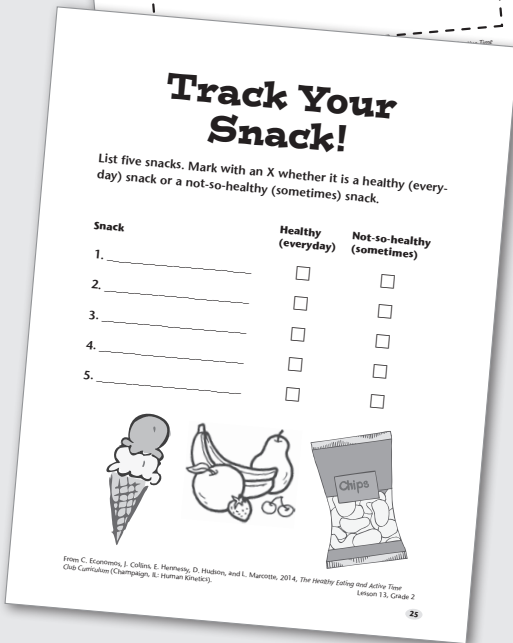
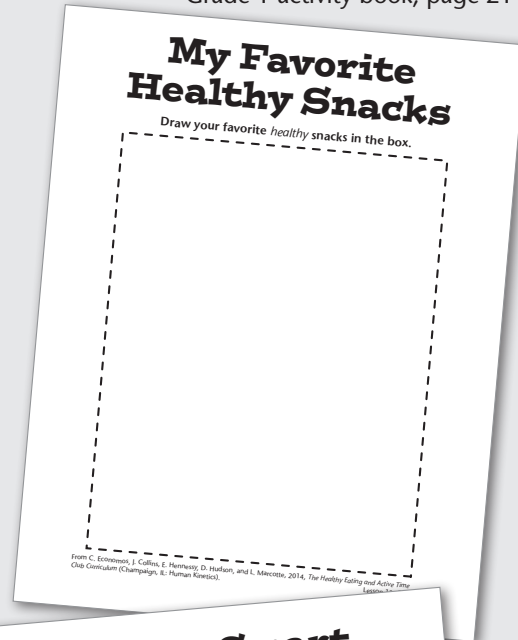


Reproducibles and Activity Book Pages

Grade 1 activity book, page 20



Grade 1 activity book, page 21



Grade 2 (page 26) and grade 3 (page 34) activity books

>>> Grade 1 Directions

1. Integrate Cool Moves before, after, or during the lesson to get your students moving.
2. Direct students to page 20 of the activity book: My Favorite Snacks. Ask students to draw pictures of their favorite snacks in the box.
3. Write "Sometimes Snack" and "Everyday Snack" on the board. Explain that foods with a lot of added sugar or fat, especially those foods that don't fit into

MyPlate, are “sometimes” snacks. We want to choose everyday snacks such as fruits, vegetables, nuts, whole grains, and other items that fit on MyPlate.

4. Invite students to tear out their pictures and tape them under the appropriate category on the board.
5. Discuss similarities and differences in “sometimes” snacks and everyday snacks. Discuss which choices are best for snack time. What other healthy snacks can they add to the list? It can be difficult to define “sometimes” when it comes to how frequently we should enjoy “sometimes” foods. Discuss this with your students. Ask what they think is a reasonable definition of “sometimes.” The answer will vary depending on activity level and other health factors, but emphasize that we always want to choose foods that do something good for our bodies.
6. Direct students to page 21 of the activity book: My Favorite Healthy Snacks. Tell them to draw a picture of their favorite healthy snack.
7. Use these pictures to create a healthy snack collage. Ask students to cover a bulletin board (or large strip of paper) with healthy snack ideas. Give the collage a title. If possible, post the board in the hall so other classrooms can see the ideas for smart everyday snacks.
8. Create a list of students’ everyday snack options that can be sent home to parents.

>>> **Grade 2 Directions**

1. Integrate Cool Moves before, after, or during the lesson to get your students moving.
2. Ask students to think about different foods and drinks they have for snacks. Tell them to write down five snacks in the table on page 25 of the activity book: Track Your Snack! Ask them to tell you what makes a snack healthy (it comes from one or more MyPlate groups, it’s high in vitamins and minerals, it’s low in saturated fat and added sugar). Tell them to look at each snack they have listed and mark if it is a healthy everyday snack or an unhealthy (or less healthy) “sometimes” snack they should eat only once in a while.
3. Discuss similarities and differences in “sometimes” snacks and everyday snacks. Discuss which choices are the best for snack time. It can be difficult to define “sometimes” when it comes to how frequently we should enjoy “sometimes” foods. Discuss this with your students. Ask what they think is a reasonable definition of “sometimes.” The answer will vary depending on activity level and other health factors, but emphasize that we always want to choose foods that do something good for our bodies.
4. Have students name their everyday snacks (the class can make corrections, if necessary) and list these on the board. Are there other snacks they could add to the list?
5. Explain to students that snacking is a bridge between two meals; it gives them energy to learn and to play. If they choose to eat smart, they will also get vitamins and minerals for building strong bodies.
6. Create a class list of students’ everyday snack options that can be sent home to parents.
7. Direct students to page 26 of the activity book: Super-Smart Snacking. Ask them to draw their favorite healthy snack.

>>> **Grade 3 Directions**

1. Integrate Cool Moves before, after, or during the lesson to get your students moving.

2. Ask students to name some foods they might eat for a snack. Ask them what makes a snack healthy (it comes from one or more MyPlate groups, it's high in vitamins and minerals, it's low in saturated fat and added sugar). Tell them to look at each snack they have listed and mark if it is a healthy everyday snack or an unhealthy (or less healthy) "sometimes" snack.
3. Discuss similarities and differences in the "sometimes" snacks and the everyday snacks. Discuss which choices are the best for snack time. It can be difficult to define "sometimes" when it comes to how frequently we should enjoy "sometimes" foods. Discuss this with your students. Ask what they think is a reasonable definition of "sometimes." The answer will vary depending on activity level and other health factors, but emphasize that we always want to choose foods that do something good for our bodies.
4. Have students name their everyday snacks (the class can make corrections, if necessary), and list these on the board. Are there other snacks they could add to the list?
5. Explain to students that snacking is a bridge between two meals; it gives them energy to learn and to play. If they choose to eat smart, they will also get vitamins and minerals for building strong bodies.
6. Create a class list of students' everyday snack options that can be sent home to parents.
7. Direct students to page 34 of the activity book: Super-Smart Snacking. Ask them to draw their favorite healthy snack.

>>> **Extension Activity**

As a class, build a list of healthy snacks. Type out the list and provide a copy to each student. Ask them to decorate the list, and then take it home to share with their families. Encourage them to display it in a prominent place, such as the refrigerator, as a reminder to pack healthy snacks for school.

>>> **Go Green Connection**

- Whenever possible, eat foods in their natural forms (fresh fruits, vegetables, whole grains).
- Whole foods such as fruits, vegetables, and whole grains contain more nutrients and fiber than processed and refined foods and typically contain fewer ingredients.
- Usually, the fewer ingredients that go into a food, the less energy and resources it requires to produce what ends up on your plate. This means the food is healthier for you and healthier for the environment.

LESSON 14

ACTIVE TIME AND HEALTH

In this lesson we focus on changes that occur in young student's bodies when they are active by giving them a chance to monitor changes in their breathing and temperature with different age-appropriate methods. Students should understand that active time makes them feel good and energized (see lesson 7), and when they move their bodies, they exercise their hearts, lungs, and muscles. This makes them fit, flexible, and strong.

- Grade 1—Students progress from sitting to doing simple yoga stretches to marching, jumping, or running. They then discuss the changes that they notice in their bodies.
- Grade 2—Students progress from sitting to doing simple yoga stretches to marching, jumping, or running. They monitor a partner and record changes they see in his or her breathing rate and temperature.
- Grade 3—Students measure their own heart and breathing rates. Help students find a pulse by placing two fingers on either the inside of the wrist or the neck.

Students measure their heart rate at rest, after doing yoga stretches, and after jogging in place (or around a gym) or jumping for three minutes. For each action, they also count the number of times they took a breath in one minute. Students should breathe faster (more breath counts per minute) and notice that their heart rate also increases with activity. This is the body's way of providing the muscles with oxygen and nutrients for work.

The two best places to measure heart rate are the wrist and neck. Place two fingers on the inside of the wrist to count the heart rate at the radial pulse, or to the side of the windpipe to count the rate of the carotid pulse (see figure 2.1). Count the number of beats for 15 seconds and multiply that number by 4 to get the heart rate per minute.

Students should understand that when they move their bodies, they exercise their heart. And the more they exercise their heart, the easier exercise will feel, which means they will be able to move harder and longer.

>>> Objectives

- Recognize the benefits that physical activity has on the body.
- List healthy foods that fuel active play.

>>> Materials



Activity books






Figure 2.1 Taking pulse at (a) radial or (b) carotid pulse points.



Reproducibles and Activity Book Pages

Listen to Your Body

After doing each of the three activities, feel how hard you are breathing, how fast your heart is beating, and how cool or warm your body feels. Check the box under the picture that shows how you feel.




Activity	Breathing and heartbeat		Body temperature	
	Slow	Fast	Cool	Warm
Easy stretching 				
Walking for one minute 				
Jumping for three minutes 				

From C. Economos, J. Collins, E. Hennessy, D. Hudson, and L. Marcotte, 2014, *The Healthy Eating and Active Time Club Curriculum* (Champaign, IL: Human Kinetics).
Lesson 14, Grade 2

Grade 2 activity book, page 27

Listen to Your Body

After doing each of these activities, feel how your heart rate and your breathing change. Write what you feel in the boxes.

Activity	Heart rate	Breathing
Sitting for one minute 		
Stretching for two minutes 		
Running for two minutes 		

From C. Economos, J. Collins, E. Hennessy, D. Hudson, and L. Marcotte, 2014, *The Healthy Eating and Active Time Club Curriculum* (Champaign, IL: Human Kinetics).
Lesson 14, Grade 3

Grade 3 activity book, page 35



>>> Cool Moves

For today's Cool Moves, we will do yoga exercises:

- Meow and Moo (back and hip exercise)—On all fours, students inhale, arch their backs like cats, and press down on their hands. At the same time, they lower the head and press chin against the chest. Tell them to exhale as they lift the head and push the spine down until it curves downward, like a cow, and they are looking up (if desired, have them moo as they exhale). Do three sets.
- Straight-Back Squat (hip exercise)—Students stand up, bend their legs, and drop their tailbones toward the floor. Tell them to try to keep their backs straight. Make sure feet are flat on the floor and knees do not go past the front of their toes. If they need to, they can flatten their soles to the floor. Tell them to breathe deeply in and out five times; they should focus on straightening the spine on the inhale and dropping the buttocks on the exhale. Tell them to imagine they are as light as frogs on lily pads. Direct them to lift arms over head with the inner arm by the ear and palms facing in (this is called the chair pose).
- Take Five (breathing exercise)—This is a good exercise for students who need a breather during the school day. It can be done either sitting or standing. Tell students to hold one hand up in a fist beside the head. As they breathe in slowly through the nose, they should open one finger at a time until they are all open. As they breathe out slowly through the nose, they close one finger at a time. Repeat three to five times.

Refer to the web resource to learn more Cool Moves.

>>> Key Talking Points

- Active moves make our bodies feel good and can put us in a good mood.
- Physical activity keeps us healthy by building strong muscles, bones, hearts, and lungs.
- Our Cool Moves energize us so we are ready to learn.
- Healthy foods give us energy for play.

>>> Grade 1 Directions

This lesson is best done in a space that allows room to move.

1. Begin with yoga Cool Moves. Instruct students to focus on their breathing. To help them observe their breathing, let students lay on the floor with something resting on their bellies (e.g., a piece of paper). Have them watch the object move up and down as they breathe.
2. Encourage students to think about how their bodies feel when they reach and stretch. Remind them that they are using their muscles and moving their bones.
3. Do some active moves with the class (marching in place, doing jumping jacks, hopping). Ask students if these activities changed their breathing. Are they breathing faster?
4. Explain that active moves work the heart, bones, lungs, and muscles. They make our bodies strong!
5. Remind students they must feed their bodies so they have the energy and nutrients they need to be active. Invite them to name some foods that will fuel them to play hard.

>>> Grade 2 Directions

This lesson is best done in a space that allows room to move.

1. Ask students to name some of the good things that physical activity does for the body. Organize them into pairs so they can explore what happens when bodies move. Explain to students that, like scientists, they will be making observations in this activity. One student is the observer, and the other is the subject.
2. Direct students to page 27 of the activity book: Listen to Your Body. Walk the observer through the instructions as the subject does the actions (first, some easy stretching—use the Cool Moves at the start of the lesson, then walking for one minute, then jumping for three minutes). Remind the observer to notice how the subject is breathing and whether he or she feels warm (touch forehead or cheek with back of hand).
3. Once all the actions and questions have been completed, partners switch and repeat the experiment.
4. Review findings with the class. What happened as the subject did some exercise? Why do they think the changes occurred? Explain that physical activity works the heart, lungs, and muscles. It makes the lungs breathe faster and the heart pump faster, which heat up the body. More important, exercise makes bodies strong and builds stronger bones.
5. Remind students they must feed their bodies to give them the energy and nutrients they need to be active. Invite students to name some foods that will fuel them to play hard.

>>> Grade 3 Directions

This lesson is best done in a space that allows room to move.

1. Tell students they will do some experiments to see what changes occur when their bodies go from resting to moving. Review page 35 of the activity book: Listen to Your Body. Demonstrate how to take a heart rate (finding their pulse on the neck might be easier than on the wrist). Practice before doing the activity.
2. Ask students to relax and sit still while you time them for one minute. Then have them find their pulses and count their heartbeats for 15 seconds. They should multiply this number by 4 to get their heart rates and write that number next to "Sitting for one minute." Now ask students to count their breaths for one minute and record their breathing rates.
3. Repeat these instructions for two more activities (each conducted for two minutes): Cool Moves yoga (see the web resource) and running or jumping in place. Check if students notice how their bodies react: Are they breathing faster? Feeling warmer?
4. Explain that physical activity works the heart, lungs, bones, and muscles. It makes the lungs breathe faster and the heart pump faster, which heat up the body. More important, exercise makes bodies strong and builds stronger bones.
5. Remind students that they must eat smart so they have the energy and nutrients they need to be active. Invite the class to name some foods that will fuel them to play hard.

3rd**>>> Extension Activity**

- This lesson provides an opportunity to discuss which foods best fuel the body for physical activity. Discuss what students eat before or after being active or playing a team sport; many teams are treated to pizza, ice cream, or other foods often high in fat or sugar. What are some better choices? Remind students to choose items from the MyPlate groups, especially fruits and vegetables. Invite students to design a menu of healthy pre- or postgame snack options or a healthy menu for a sports banquet. Share your class list with parents to reinforce HEAT Club goals outside of school time.
- Sports drinks have become popular among children. These drinks are designed for endurance and professional athletes who engage in strenuous activity for over an hour. Most children do not play at such intense levels or for a sustained period of time; water is sufficient for them to remain hydrated. For children, sports drinks are a source of empty calories. Show children a bottled sports drink and review the label. How much sugar is found in these drinks? Many bottles contain more than one serving. How much sugar is in a whole bottle? For everyday activities, water makes a great go-to sports drink.

>>> Go Green Connection

- We encourage you and your students to get outside and play as often as you can. Take a field trip to a local park, playground, or community sports venue (or encourage students to do so with their families).
- Discuss places in or near your community where physical activity can take place (such as parks).

LESSON 15**HEALTHY CHOICES**

This lesson is meant to help students synthesize the HEAT Club content and apply it in everyday situations (planning meals, integrating for physical activity, evaluating past choices). We live in an environment where healthy eating and physical activity are not often easy or automatic choices. Giving students opportunities to visualize how healthy eating and physical activity can be integrated into the day is a first step toward implementing HEAT Club changes at home. Encourage students to set specific goals and to share what they have learned with their family.

>>> Objectives

- Recognize that foods in the MyPlate groups provide nutrients and help people make smart choices.
- Identify healthy meals and activities.
- Identify one food and one activity goal to make for a healthier day.

**>>> Preparation**

Optional (grade 1): Collect magazines or grocery store circulars with many pictures of healthy foods and drinks. Students can use these to create healthy collages.

>>> Materials

- Activity books



- Optional: magazines (or grocery store ads) that contain photos of healthy foods and drinks, scissors, tape or paste, colorful paper

**>>> Cool Moves**

- Movement Train—Lead the class in a “train” by having students put their left arms on the left shoulders of the students standing in front of them. Make it interesting by stopping the train and incorporating dips (bend knees), wiggle worms (raise arms overhead and wiggle), bunny hops, and side kicks (both right and left legs). To do this, tell the leader to start a new movement while calling it out loud; tell others to follow the leader. You can reverse the train by having everyone turn around and following a new leader. Another option is to have the last person in the line quickly walk to the front of the line to be the new leader.
- You can also ask students to choose their favorite Cool Moves.

Refer to the web resource to learn more Cool Moves.

>>> Key Talking Points

- We eat smart by choosing foods with vitamins and minerals that do not have a lot of saturated fat and added sugar.
- Fruits, vegetables, whole grains, and low-fat milk, cheese, and yogurt are all smart and tasty choices.
- Our bodies need active time for running, playing, and doing Cool Moves.

>>> Grade 1 Directions

1. Ask the class to tell you what makes a meal healthy. What types of foods and drinks would be at this meal?



Reproducibles and Activity Book Pages

Grade 1 activity book, page 22

My Healthy Meal

Draw a meal that contains foods from each food group.
What is a healthy drink to go with this meal?

Side or drink

Side or drink

Grade 2 activity book, page 28

HEAT Club Cartoon!

Draw a cartoon showing a HEAT Club day from beginning to end.

Morning	Afternoon	Night
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From C. Economos, J. Collins, E. Hennessy, D. Hudson, and L. Marcollo, 2014, *The Healthy Eating and Active Time Club Curriculum* (Champaign, IL: Human Kinetics).

Eat Smart and Play Hard Reporter

Reporter's name: _____

Ask your subject the following questions and write the answers in the space provided.

1. What did you have for breakfast?	
2. Did you walk or bike to school?	
3. What did you eat for a snack today?	

From C. Economos, J. Collins, E. Hennessy, D. Hudson, and L. Marcollo, 2014, *The Healthy Eating and Active Time Club Curriculum* (Champaign, IL: Human Kinetics).

Grade 3 activity book, page 36

HEAT Club Goals

List three healthy-eating goals and three physical activity goals that you would like to achieve to make your day even better. Circle one healthy-eating goal and one physical activity goal to try first. Once you meet these goals, move on to the others.

Healthy eating	Physical activity
1.	1.
2.	2.
3.	3.

From C. Economos, J. Collins, E. Hennessy, D. Hudson, and L. Marcollo, 2014, *The Healthy Eating and Active Time Club Curriculum* (Champaign, IL: Human Kinetics).

Grade 3 activity book, page 38

- Direct students to page 22 of the activity book: My Healthy Meal. Ask them to draw a meal with foods from each MyPlate group. Remind them to think about how much of the plate each food group should cover (for example, half of the plate should be fruits and vegetables). Encourage them to choose wisely from each MyPlate group, choosing whole grains, low-fat dairy products, and healthy proteins. The meal ideas can be displayed or put together into an Eat Smart handbook for the class. As an alternative activity, create healthy meal collages or placemats using magazine pictures that students cut and paste.
- Invite students to do a "show and tell" with their meals.

4. Remind students that food is fuel for the body—it helps them grow and play.
5. Do some Cool Moves to get their bodies moving.
6. Ask the class to remind you what it means to have healthy eating and active time. Encourage students to share their healthy meal ideas with their family.

>>> **Grade 2 Directions**

1. Tell students they will create cartoon stories of a HEAT Club day.
2. Instruct them to turn to page 28 of the activity book: HEAT Club Cartoon. Explain that a cartoon story has three parts—a beginning, a middle, and an end. Tell them to create a picture story that includes healthy eating and active time and to use words to describe what is happening or what people are saying.
3. Before students begin, do a HEAT Club brainstorm to generate some ideas for their cartoons. On the board, write two columns labeled Healthy Eating and Active Time. Challenge students to list words or phrases under each. Write their ideas on the board so they can inspire students' cartoons.
4. Give students time to work on their cartoons. Invite them to share their cartoons, or collect them all and make a HEAT Club cartoon book for the classroom.
5. Remind students that food is fuel for the body—it helps them grow and play.
6. Choose some favorite Cool Moves to get everyone moving.

>>> **Grade 3 Directions**

1. Ask the class to remind you what healthy eating and active time (HEAT) means.
2. Direct students to pages 36 and 37 of the activity book: Eat Smart and Play Hard Reporter. Each student will interview a partner about his or her activities.
3. Tell students to assess whether they ate smart and played hard by looking at their active time and the foods they ate. Ask students to highlight the positive things their classmates are doing to stay active and eat healthy. Ask students to share some of the healthy foods their partner ate and to describe his or her active time. Tell students to think about their own day. Ask them to share one thing they could improve on in the future (for example, cutting back TV time by one hour after school or choosing a fruit or vegetable at snack time).
4. Direct students to page 38 of the activity book: HEAT Club Goals. Instruct students to write down three healthy-eating goals and three physical activity goals. They should circle one healthy-eating goal and one physical activity goal that they would like to work on first so that they understand it's OK to focus on one goal at a time. Once they have achieved a goal, they can begin working to achieve another one.
5. Pick some favorite Cool Moves to get their bodies moving.

>>> **Extension Activity**

3rd

Review a school menu and choose the healthier lunch options.

>>> **Go Green Connection**

- Discuss smart choices everyone can make on a daily basis for the environment.
- While discussing food and physical activity goals, also allow time for students to talk about trying to adopt these three environmental goals:
 - *Reduce* the amount of trash produced at your school.
 - *Reuse* materials in and around your school and home.
 - *Recycle* more items and create opportunities to do so at home and school.

LESSON 16**WRAP-UP**

In this final lesson you will review the key points of the HEAT Club with your class. Make this a celebration by inviting parents to contribute healthy snacks and by playing games and doing Cool Moves. Invite the class to create a cooperative game (in which everyone is moving and no one wins or loses) or do some of the Cool Moves.

>>> Objectives

- Make the connection between physical activity and nutrition.
- Review the ideas and concepts covered in the HEAT Club.
- Encourage students to continue living the HEAT Club way.

>>> Preparation

Optional: Plan a HEAT Club celebration with healthy snacks and active games.

>>> Materials

- Activity books
- Optional: Healthy snacks and materials for any active games you have selected

**>>> Cool Moves**

Let students pick their favorite Cool Moves from the previous lessons. Refer to the web resource for more choices.

>>> Key Talking Points

- Bodies grow strong and healthy when we make smart food choices and get plenty of active time.
- Food gives our body energy (fuel) to move and play and to learn and grow.
- The healthy habits we learned in HEAT Club are important throughout our lives. Encourage your family to make healthy choices with you.

>>> Grade 1 Directions

1. Review what students have learned in the HEAT Club by recreating a word web to describe healthy eating and active time (from lesson 1).
2. Ask the class to think of ways that healthy eating and active time work together.
3. Explain that our body needs fuel (energy) to work and grow but that not just any fuel will do! What makes the best fuel? Foods such as whole-grain breads and cereals, fruits and vegetables, low-fat milk products, and lean meats and beans are smart choices because they have many nutrients (vitamins and minerals) to help our bodies grow and get stronger.
4. Explain that muscles need energy from food to move and that moving makes muscles and bones strong. Try to be active every day.
5. Get up and move! Play a favorite HEAT Club game, do some Cool Moves, or put on music and dance.
6. Be sure to give students their HEAT Club certificates of completion (page 23 of the activity book).



Reproducibles and Activity Book Pages

Grade 3 activity book, page 39

Grade 2 activity book, page 29

Draw a Healthy Meal

Draw a meal that contains foods from each food group. What is a healthy drink to go with this meal?

Side or drink

Side or drink

From C. Economos, J. Collins, E. Hennessy, D. Hudson, and L. Marcotte, 2014, The Healthy Eating and Active Time Club Curriculum (Champaign, IL: Human Kinetics).

MyPlate Café

Create a restaurant menu with healthy options for breakfast, lunch, and dinner. Be sure to include choices from all the MyPlate groups.

From C. Economos, J. Collins, E. Hennessy, D. Hudson, and L. Marcotte, 2014, The Healthy Eating and Active Time Club Curriculum (Champaign, IL: Human Kinetics).

Draw Your Favorite Food in Each Food Group

Can you name one healthy thing that each of these foods does for your body? Write it in the blank provided. Pick your favorite food from each food group and draw a picture of it in that group's box.

Grains	
Fruits	Vegetables
Dairy	Protein

From C. Economos, J. Collins, E. Hennessy, D. Hudson, and L. Marcotte, 2014, The Healthy Eating and Active Time Club Curriculum (Champaign, IL: Human Kinetics).

Congratulations, HEAT Club graduate!

Name: _____

Date: _____

Signature: _____

Date: _____

From C. Economos, J. Collins, E. Hennessy, D. Hudson, and L. Marcotte, 2014, The Healthy Eating and Active Time Club Curriculum (Champaign, IL: Human Kinetics).

Grade 2 (page 30) and grade 3 (page 40) activity books

Grade 1 (page 23), grade 2 (page 31), and grade 3 (page 41) activity books

>>> Grade 2 Directions

1. Review what students have learned in the HEAT Club by recreating a word web to describe healthy eating and active time (from lesson 1).
2. Ask the class to think of ways that healthy eating and active time work together.
3. Explain that our body needs energy (fuel) to work and grow but that not just any fuel will do! What makes the best fuel? Foods such as whole-grain breads and

cereals, fruits and vegetables, low-fat milk products, and lean meats and beans are smart choices because they have many nutrients (vitamins and minerals) to help our bodies grow and get stronger.

4. Explain that muscles need energy from food to move and that moving makes muscles and bones strong. Try to be active every day.
5. Get up and move! Play a favorite HEAT Club game, do some Cool Moves, or put on music and dance.
6. Have students complete pages 29 and 30 of the activity book: Draw a Healthy Meal and Draw Your Favorite Food in Each Food Group. Students will draw a healthy meal, draw their favorite food in each MyPlate group, and list one thing that each food does for their body.
7. Be sure to give students their HEAT Club certificates of completion (page 31 of the activity book).

>>> **Grade 3 Directions**

1. Review what students have learned in the HEAT Club by recreating a word web to describe healthy eating and active time (from lesson 1).
2. Ask the class to think of ways that healthy eating and active time work together.
3. Explain that our body needs energy (fuel) to work and grow but that not just any fuel will do! What makes the best fuel? Foods such as whole-grain breads and cereals, fruits and vegetables, low-fat milk products, and lean meats and beans are smart choices because they have many nutrients (vitamins and minerals) to help our bodies grow and get stronger.
4. Explain that muscles need energy from food to move and that moving makes muscles and bones strong. Try to be active every day.
5. Get up and move! Play a favorite HEAT Club game, do some Cool Moves, or put on music and dance.
6. Have students complete pages 39 and 40 of the activity book: MyPlate Café and Draw Your Favorite Food in Each Food Group. Students will create a MyPlate-themed menu, draw their favorite foods in each MyPlate group, and list one thing that each food does for their bodies.
7. Be sure to give students their HEAT Club certificates of completion (page 41 of the activity book).

>>> **Extension Activity**

Share what you have learned with the rest of the school. Encourage your students to design short healthy-eating and physical activity tips that can be broadcast over the PA system. Give each student a chance to share a healthy tip during the morning announcements or at a school assembly.

>>> **Go Green Connection**

Balance your food intake with your physical activity just as you balance what you take from the environment (such as electricity and water) with what you put back in (by reducing, reusing, and recycling). Remember—it's all about balance!

FRUIT AND VEGETABLE SELF-PORTRAITS

>>> **HEAT Club Connections**

Students and adults should eat a variety of fruits and vegetables each day. Fruits and vegetables are filled with vitamins and minerals that help our bodies stay healthy.

>>> **Materials**

- Plain white paper or white construction paper
- Pencils
- A collection of catalogs, magazines, and grocery store flyers that have pictures of fruits and vegetables
- Scissors
- Glue

>>> **Directions**

1. As a warm-up, ask students if they have heard the phrase “You are what you eat.” As a class, briefly discuss what this phrase means. Encourage students to think about how the foods they eat might affect their bodies—how might choosing fruits and vegetables help them stay healthy? Why are fruits and vegetables good for our bodies?
2. Ask students if they know what portraits are. Do they know what self-portraits are? You might want to show them some examples of self-portraits in a variety of media (drawings, paintings, photographs). You can also show them examples of works by the Italian artist Giuseppe Arcimboldo, who painted creative portraits made out of objects such as fruits, vegetables, and flowers.
3. Explain to students that today they will be making self-portraits that incorporate the fruits and vegetables that we should eat to maintain healthy bodies. They will cut pictures of fruits and vegetables out of the catalogs, magazines, and flyers and use those to create their self-portraits.
4. Pass out blank paper and have students draw an outline of their head and neck as a guide for the portrait. If you prefer, you can draw the head and neck outlines ahead of time and pass these out to students.
5. Encourage them to plan what their portrait will look like before they begin. They should consider how they will represent their various features by using the fruits and vegetables. What color fruits or vegetables would they use to represent their hair or their skin? Can they think of certain fruits or vegetables that are naturally shaped like features on their face (such as a nose or mouth)?
6. Pass out catalogs, magazines, and flyers and ask students to cut out the pictures of fruits and vegetables they would like to use.
7. Once students have collected all the pictures they plan to use, instruct them to glue these pictures onto the outline of their head and neck to construct their self-portrait.
8. When students have completed their portraits, have them write “A Self-Portrait by [student’s name]” across the bottom of the page. Hang the portraits around the art room or display them on a bulletin board.

GARDEN PLANNING

>>> **HEAT Club Connections**

Fruits and vegetables come in many colors. We should eat a rainbow of fruits and vegetables for a healthy variety.

>>> **Materials**

- Grid paper or plain white paper
- Crayons, colored pencils, or pastels
- Rulers (optional)

>>> **Directions**

1. Discuss plants that might be grown in a garden (berries, vegetables, flowers); some gardens are agricultural, some are decorative, and some are a mix of both. Today students will design their own fruit and vegetable gardens.
2. Discuss how fruit and vegetable gardens are typically arranged in rows (e.g., 3 rows of 5 plants each).
3. Ask students to plot their gardens on the paper. If they use plain white paper, you might want to ask them to draw a grid on it first. Using rulers they can mark out a 1×1-inch grid on which to plot out their garden.
4. Encourage students to consider how they might plot out their gardens by grouping similar types of plants near each other (for example, fruits together in one section, vegetables in another). Or they might decide to arrange their gardens according to color.
5. Ask them to draw small pictures to represent each type of plant. Or they can use mixed or three-dimensional materials to create their gardens (e.g., balls of tissue paper, magazine cutouts, sand or small pebbles, grass or twigs).

MIX AND MATCH MEALS

This activity reinforces what students learned in HEAT Club lesson 2: MyPlate Fun! Coordinate with homeroom teachers to ensure students have completed that lesson before doing this activity.

>>> **HEAT Club Connections**

- Choosing foods from each of the MyPlate groups is a great way to eat smart.
- Getting exercise each day balances the calories you eat, which helps your body stay healthy.

>>> **Materials**

- Large white construction paper
- Markers, colored pencils, or crayons
- Scissors
- Glue

>>> Directions

1. Ahead of time, create five large MyPlate outlines on large paper. Students will fill these with the foods they draw, color, and cut out. You can find MyPlate graphics at <http://www.choosemyplate.gov/print-materials-ordering/graphic-resources.html>.
2. Ask students if they recall what MyPlate is. Explain that today they will be designing MyPlate meals as a class.
3. As a warm-up, write the following categories across the top of the chalkboard or on large pieces of paper: fruits, vegetables, grains, protein, and dairy. Work through the groups one by one and ask students to name foods that fit into each of the categories. The following list includes some examples:
 - Fruits—apples, bananas, oranges, grapes, mangos
 - Vegetables—peas, broccoli, lettuce, carrots, celery, potatoes
 - Grains—bread, pasta, rice, cereal, oats
 - Protein—poultry, fish, meat, beans, nuts
 - Dairy—low-fat milk, soy milk, yogurt, cheese
4. Give each student a piece of paper and markers, colored pencils, or crayons.
5. Divide the class into five groups (count off 1, 2, 3, and so on).
6. Ask the 1s to draw, cut out, and color a food from the grains group.
7. Ask the 2s to draw, cut out, and color a food from the vegetables group.
8. Ask the 3s to draw, cut out, and color a food from the fruits group.
9. Ask the 4s to draw, cut out, and color a food from the dairy group.
10. Ask the 5s to draw, cut out, and color a food from the protein group.
11. When everyone has completed drawing, cutting out, and coloring their foods, ask students to work together to create a variety of healthy, balanced meals using the large MyPlate outlines. They can glue their foods into the appropriate sections of MyPlate. Encourage them to think about building plates in which the foods go well together.
12. Hang the MyPlate collages around the room or on a bulletin board.

TREE OF MANY FRUITS


>>> HEAT Club Connections

We all need a variety of different fruits and vegetables each day.

>>> Materials

- Balloons (small size, variety of round and long shapes—blow up balloons beforehand)
- Water acrylic paints
- Paper mâché paste (recipe follows)
- Buckets or paint trays (several to divide up paste)
- Masking tape
- Newspaper

- Paper clip and string (for hanging balloons)
- Pin (for popping balloons when the paper mâché is dry)

>>> **Preparation**

- Identify a tree that can be decorated, either indoors or in the school yard, where visitors will see it.
- Prepare paper mâché paste (see recipe that follows) and divide into several large paint trays or buckets.
- It might be best to work on this activity over several sessions because pasted strips need to dry completely between layers. The paper mâché should also be completely dry before paint is applied.

>>> **Paper Mâché Paste Recipe**

- One cup flour
- Two cups water
- Half tablespoon salt (prevents mold)
- Fork, whisk, or spoon to stir

Mix flour and salt together. Add water and stir until flour is completely mixed in and there are no lumps. This recipe will provide enough paste for three or four students. Multiply the recipe to make enough paste for the classroom; use the proportions of one cup of flour to two cups of water.

>>> **Directions**

1. Explain that many fruits grow on trees, such as apples, oranges, bananas, mangos, pears, peaches, and coconuts. Today students will be creating their own paper mâché fruits.
2. Ask students to tear newspapers into strips (show them that the paper rips in straight lines in one direction but not the other).
3. Have students choose a tree fruit they would like to make and select balloons to make these fruits. If a balloon is not the shape they want, they can ball up dry newspaper and use masking tape to attach it to the balloon until they have the shape they desire.
4. Ask students to dip a newspaper strip into the paste and gently strain off the excess with their fingers. Tell them to lay the strip on the balloon, smoothing out any lumps or air bubbles with their fingers. Instruct them to repeat the process until the balloon is covered. Explain to students that the edges of the strips should overlap, and the strips should be several layers thick. Have students leave a small hole around the balloon tie so they can remove the balloon later, and so the fruit can be hung up when finished. The final paper mâché should be several layers thick, and paste should dry between layers to prevent molding (this might require completing the activity over several sessions).
5. When the paper mâché is completely dry, use a pin to pop the balloon. Remove the balloon from the fruit. Students can then paint their fruits. Encourage them to use more than one color and to mix colors. Try tints and shades of color (adding white or black).
6. Poke small holes on either side of the opening. Thread string through the holes and tie the ends so that the fruit will hang. Decorate a tree!

>>> Extension

Ask students what else might be on a fruit tree. They might think of bees, which are needed to pollinate the flowers, butterflies, caterpillars, birds, and so on. If time allows, or if you wish to extend the activity, ask students to create paper mâché creatures to add to the tree.

MOSAIC BEAN ART

>>> HEAT Club Connections

- Beans are a healthy, low-fat food from the protein group. They are rich in protein and fiber.
- Beans are in many delicious foods, such as burritos.

>>> Materials

- Pieces of cardboard for each student (at least 8-1/2 × 11 inches)
- Dry beans in a mix of different colors (white beans, pinto beans, yellow and green split peas, green and orange lentils, mottled cranberry beans, lima beans, black beans)
- Pencils
- White glue
- Picture of Van Gogh's *Starry Night* (or another Van Gogh painting) to use as an example

>>> Directions

1. As a warm-up, ask students if they have heard of mosaics.
 - Mosaics are decorative patterns or pictures made from colored objects such as tiles, beads, or glass. Today students will be making mosaics from beans.
 - Vincent Van Gogh, a Dutch artist of the late 1880s, painted in a style called impressionism. Though Van Gogh didn't make mosaics, he used many dots of different colors to create beautiful paintings.
2. Show the students *Starry Night* as an example of how they can use the beans to create mosaic-like pictures.
3. Ask students to brainstorm the picture they would like to create. Have them draw outlines on the cardboard as a guide for where they will place the beans. Once they have a simple picture or pattern in mind they can glue the beans onto the cardboard, using different-colored beans to create their mosaics.
4. Remind students that beans are a healthy, low-fat food from the protein group. They are rich in protein and fiber. Once students have completed their bean mosaics, hang them up as reminders to incorporate beans into their diets.

HEALTHY ME PLACEMATS

If you wish, split this activity over two class sessions. In the first session, students draw and color a self-portrait. In the second session, they design the placemat around their self-portrait.

>>> **HEAT Club Connections**

- We need at least one hour of physical activity every day.
- When you play hard, you use your muscles and bones, and you breathe harder.
- Children and adults should eat a variety of different fruits and vegetables every day.

>>> **Materials**

- Magazines (especially children's and family magazines)
- Glue
- Large colored construction paper (11 × 17 inches)
- Large white paper (11 × 17 inches), cut into fourths (enough for each student to have one 5-1/2 × 7-1/2-inch piece)
- Markers or colored pencils
- Scissors

>>> **Directions**

1. Give each student a piece of the plain white paper (approximately 5-1/2 × 8-1/2 inches). Ask them to draw and color a self-portrait.
2. When students have completed their self-portraits, give them each a piece of large colored construction paper. Tell them to lay the paper down in front of them so that the long edge is parallel to the edge of the table (oriented like a placemat). At the top of the piece of paper, write *Healthy Me* in the center. Ask them to glue their self-portraits below the words *Healthy Me*. At the bottom of the paper, along the edge, tell them to write their name in large letters.
3. At the top left side of the paper, students write *Healthy Eating*; at the top right side, they write *Active Time*.
4. Pass out magazines and ask students to flip through them to look for pictures of healthy foods they like to eat and physical activities in which they like to engage. Ask them to cut these pictures out of the magazines.
5. Tell students to glue the pictures they cut out from the magazines around the appropriate headers to make a health collage.
6. When the health collages are complete, laminate them to turn them into placemats. Each time students use the placemat they will be reminded of active things they can do and the healthy foods they can enjoy.

YOU ARE WHAT YOU EAT (AND DO!)

>>> **HEAT Club Connections**

Feeding our bodies healthy foods gives us the fuel we need to play and learn all day long.

>>> **Materials**

- Markers, crayons, or colored pencils
- Roll of newsprint or butcher paper

>>> **Preparation**

Cut a roll of newsprint or butcher paper into five-foot-long pieces—enough for one per student.

>>> **Directions**

1. Distribute a piece of the newsprint or butcher paper to every student. Match students with a partner.
2. One at a time, ask students to lie down on the paper. Tell partners to trace their outline. When one student's outline is complete, students switch. Encourage students to try action poses such as dancing, holding a basketball, or running.
3. While students are working, discuss how healthy foods fuel playing and learning. Remind students that when they choose healthy foods, their bodies get energy and nutrients to grow, play, and learn. Explain that we need to include active time in our day because moving our bodies helps us build strong muscles, bones, lungs, and hearts. Being active can also help us feel more energized throughout the day.
4. Ask students to draw their favorite healthy foods (e.g., fruits, vegetables, low-fat milk and low-fat dairy products, and whole-grain foods) inside the body outline. They can also decorate the outline with a face and hair.
5. Next ask them to draw their favorite learning and active play activities around the outside of their body outline.
6. Tell students to write their names at the top of their paper.
7. Hang the outlines around the classroom or in the hallway.

MY WALK TO SCHOOL

This activity pairs well with Walk to School Month (more information is available online at www.iwalktoschool.org) or in conjunction with a school-wide Walk to School Day.

>>> **HEAT Club Connections**

- Walking is a great way to keep our body moving and to stay healthy.
- We need at least one hour of physical activity every day.

>>> **Materials**

- White paper or roll of newsprint or butcher paper

- Markers, colored pencils, or crayons
- Rulers

>>> **Directions**

1. Distribute paper and markers, colored pencils, or crayons to all students.
2. As a class, discuss what students see on their walk to school. Who do they see when they walk? What do they pass by? Remind students that part of being healthy is being active in their everyday lives, and that one way to keep active is to walk to school. Ask students to tell you about any safety concerns in walking to school (traffic, crosswalks, strangers).
3. Ask students if they know what a cartoon strip is. Discuss how cartoon strips use individual blocks or boxes to advance the action in a story. Explain that today students will be creating cartoon strips depicting their walking route to school. Students who do not walk to school can think of another place they frequently walk (e.g., a neighborhood park, to the grocery store, or to a friend's house) or they can use their imaginations.
4. Ask students to use rulers to create cartoon-strip blocks on their paper. They should have at least eight equal-size blocks in two rows (four blocks per row). The blocks should be large enough for students to draw in (at least 2-1/2 x 2-1/2 inches).
5. In each of the blocks, students draw what they see during their walks to school (buildings, parks, neighbors, animals, trees). They should draw things in the order they see them, with the first block showing them leaving their home and the last showing their arrival at school. Encourage them to include any safety issues previously discussed.
6. When they have completed their cartoon strips, tell them to write My Walk to School along with their name across the top of the paper.
7. Display the cartoon strips on a bulletin board or wall in the hallway.

>>> **Alternative**

Using a long sheet of newsprint or butcher paper, students can create one large class mural showing their walks to school. As a class, brainstorm what students see on their way to school. Each student should contribute something: a person they frequently pass, a pet in a yard, a building or other landmark.

SCREEN-FREE CHALLENGE POSTERS

For background information on Screen-Free Week, a national effort that's part of the Campaign for a Commercial-Free Childhood, visit www.commercialfreechildhood.org.

>>> **HEAT Club Connections**

- Students should have no more than two hours of screen time each day (screen time includes TV, videos, computer games, tablets, and texting on smartphones).
- Students who watch less TV have more active time.

>>> Materials

- Large sheets of drawing paper (at least 11 × 17 inches)
- Markers or colored pencils

>>> Directions

1. As a warm-up, ask students what it means to go screen free (no TV, computer, video games, mobile devices). Ask them if they can think of some benefits of going screen free. “Do you think you could do this for a week?” Also ask, “How would you encourage your friends and other children not to watch TV or play video games?”
2. Discuss what other activities students could do instead of watching TV, using the computer, or playing video games (read, do crafts, play sports or games). Discuss the differences in moving activities and nonmoving activities.
3. Pass out a piece of paper to each student. Explain that they will each design a poster to challenge other students to go screen free for a week. Encourage them to think about the words that they would use and the pictures they would draw to make going screen free appealing to classmates.
4. When students have completed their posters, hang them in the hallway. If your school is participating in Screen-Free Week, coordinate with HEAT Club classroom teachers, PE teachers, and the librarian or library volunteers to create a special display using the students’ posters.

MR. STRONG BONES

**>>> HEAT Club Connections**

- We all need calcium to help build strong bones. Calcium is found mainly in dairy foods such as milk, yogurt, and cheese.
- Weight-bearing exercise, such as jumping and running, is also important for building strong bones.

>>> Materials

- Black construction paper
- White glue
- Lima beans or large shell pasta (head, thorax, hips)
- Short and small tube macaroni (spine)
- Thin twisted macaroni (arms, legs)
- Elbow noodles (ribs)
- Small shells (joints)
- Spaghetti (fingers, toes)
- Black permanent marker
- Picture of a skeleton
- White crayons to write their names and to label and decorate their skeletons

>> Directions

1. Give each student a sheet of black paper and a variety of beans and pasta shapes.
2. Show students a picture of a skeleton with the basic bones labeled; they can use this as a guide to build their skeletons. Explain that they will be making their own Mr. Strong Bones. Let them create their skeletons, starting with the head, then the neck and trunk, working down, gluing the pasta and beans to the paper.
3. Ask them to title, decorate, and label their paper using a white crayon.
4. When all the bones are glued down, they can draw a face on the head (lima bean or large shell) with the black permanent marker.
5. While students are working, talk about symmetry between the two sides of the body, how many ribs (12 pairs), fingers, and toes we have. Did you know that humans have 206 bones? They are held together by ligaments and cartilage. What would we be like without our skeletons? How would we move? Remind them that we need calcium from our food—found primarily in dairy products—to build strong bones. Engaging in regular, weight-bearing physical activity such as running and jumping also helps build strong bones. Encourage students to create their skeletons showing off something active, such as leaping or hopping.

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EVENTS AND RESOURCES FOR LIBRARY CONNECTIONS

Classroom teachers at your school are implementing the HEAT (healthy eating and active time) Club curriculum, which encourages first- through third-grade students to eat smart and play hard by teaching them the importance of good nutrition and physical activity. In an effort to reinforce these health messages throughout the school environment, this extension has been developed as a resource for librarians and library volunteers who agree to promote the HEAT Club's objectives in the library setting.

Librarians (and volunteers or teachers who work within a library) have unique opportunities to link classroom lessons with alternative forms of learning. Librarians and media specialists can reinforce and publicize nutrition and physical activity messages, as well as recommend additional books or resources on health-related topics.

By offering supplemental information about the relation of physical activity and nutrition to health when you interact with students, you reinforce messages they receive in the classroom. To help you promote HEAT Club messages to students, we have organized a school year's worth of nutrition and physical activity-related events, features, and ideas. This month-by-month list includes ideas for ways to encourage healthy eating and active time among students. Featured theme-related books are listed for each activity, event, or idea. You might also know of other books or have a favorite you like to use. You can highlight these nutrition and physical activity books in your library to encourage students to learn more about the importance of healthy lifestyles while developing reading skills. We encourage you to work with homeroom teachers,

PE teachers, and others in your school to promote good nutrition and physical activity throughout the school.

SEPTEMBER: FALL KICKOFF!

Encourage students to start the new school year on the right foot, both academically and physically. For many students, the return to school means leaving the lazier days of summer behind and getting back into a daily routine. Make September all about promoting healthy habits. As students begin learning the importance of healthy eating and physical activity in the HEAT Club, encourage them to use the library's resources to get more information on their own. Consider planning a special library event around Family Health and Fitness Day. This is a national health and fitness event for families, usually held at the end of September, intended to promote family involvement in physical activity.

For more information on nutrition and physical activity, visit these websites:

- MyPlate, the U.S. government's new tool to guide Americans in eating healthful meals: www.choosemyplate.gov
- Family Health and Fitness Day: www.fitnessday.com/family

Featured Books

- *Jonathan and His Mommy* by Irene Smalls
- *Eat Healthy, Feel Great* by William Sears, Martha Sears, and Christina Watts Kelly
- *I Can Move* by Mandy Suhr

OCTOBER: FALL INTO GOOD HEALTH!

With fall in full swing and the new school year under way, now is a great time to encourage students to stay focused on the healthy habits they have been learning about in HEAT Club. October is a great time to remind students of the benefits of eating a nutritious school lunch. As students have learned in HEAT Club, eating a balanced diet of healthy foods helps fuel our bodies and minds. Consider tying library activities to a celebration of National School Lunch Week, celebrated annually in October.

October is also a great time to encourage students to spend time outside, enjoying the crisp fall air and colorful fall foliage. Consider working with other teachers and school administrators to coordinate your school's participation in International Walk to School Month, a global event for students, parents, teachers, and community leaders to celebrate the many benefits of walking and to promote safe walking routes within your community.

For more information about school lunch and International Walk to School Month, visit these websites:

- United States Department of Agriculture: www.fns.usda.gov/slp
- School Nutrition Association: www.schoolnutrition.org/Level2_NSLW2013.aspx?id=18468
- iWalk: www.iwalktoschool.org

Featured Books

- *This Is the Way We Eat Our Lunch* by Edith Baer
- *Let's Eat: What Children Eat Around the World* by Beatrice Hollyer
- *Ruby's School Walk* by Kathryn White
- *When We Go Walking* by Cari Best

NOVEMBER: MAKE NOVEMBER MOVEMBER!

As the temperature drops, it is tempting to stay indoors, but there are many things that students and their families can do outdoors (and indoors) to stay active during the cooler months. Students

can help rake leaves. Families can organize a weekend football game. Post ideas for ways for students and their families to stay active as the weather turns colder.

Featured Books

- *Arthur Jumps Into Fall* by Marc Brown
- *Are You Ready to Play Outside?* by Mo Willems
- *A Stick Is an Excellent Thing: Poems Celebrating Outdoor Play* by Marilyn Singer
- *Get Moving: Tips on Exercise* by Kathy Feeney

DECEMBER: ENJOY THE WINTER HARVEST!

Colder months bring winter vegetables such as parsnips, potatoes, rutabagas, yams, and winter squash. Encourage students to think about vegetables to try during winter months and the healthy ways they can enjoy them. Soups are most popular during colder months and provide great options for adding a variety of vegetables to your meals.

Featured Book

Growing Vegetable Soup by Lois Ehlert

JANUARY: FANTASTIC FIBER MONTH!

Two fun food events make January a great time to celebrate the benefits of fiber. Did you know that January is Oatmeal Month? Whole-grain foods such as oats, whole-wheat bread, and brown rice are packed with energy, vitamins, minerals, and fiber. January 6 is National Bean Day, a great occasion to remind students that beans taste great and are packed with nutrients their bodies need.

For more information on whole grains, visit the whole-grains section of the MyPlate website (www.choosemyplate.gov/food-groups/grains-tips.html). For more information on the benefits of beans and tips for incorporating them into a healthful diet, visit www.usdrybeans.com.

Featured Books

- *Wheat* by Elaine Landau
- *One Bean* by Anne Rockwell

- *Stone Soup* by Marcia Brown
- *Bean Appétit: Hip and Healthy Ways to Happy Tummies* by Shannon Payette Seip

FEBRUARY: TAKE HEALTH TO HEART!

Valentine's Day isn't the only reason to think about hearts in February. February is also designated American Heart Month to raise awareness about heart health. This is a great opportunity to remind students about the importance of staying healthy by choosing nutritious foods and being physically active. The goal is to help them eat smart and play hard the HEAT Club way.

February can also be a time to encourage female students to take part in physical activity. Consider holding a library activity or program to celebrate National Girls and Women in Sports Day, which honors female athletic achievement and recognizes the importance of sports and fitness participation for all girls and women.

For more information about heart health and activities for American Heart Month, visit the American Heart Association's website at www.heart.org. For information on National Girls and Women in Sports Day, visit www.womenssportsfoundation.org.

Featured Books

- *Dinosaurs Alive and Well! A Guide to Good Health* by Marc Brown and Laurie Krasney Brown
- *Healthy Me: Fun Ways to Develop Good Health and Safety Habits* by Michelle O'Brien-Palmer
- *Slip! Slide! Skate!* by Gail Herman
- *Wilma Unlimited* by Kathleen Krull
- *Allie's Basketball Dream* by Barbara E. Barber

MARCH: MAKE MARCH ALL ABOUT GOOD NUTRITION!

March is National Nutrition Month, established to heighten awareness of the importance of making informed food choices and developing sound eating and physical activity habits. National School Breakfast Week also takes place

in March and is a good time to remind students of the importance of starting their days with a nutritious meal. Be it at school or at home, a hearty breakfast will give students the energy they need to learn and play.

For more information on National Nutrition Month, visit the American Dietetic Association's website at www.eatright.org. For information about school breakfast, visit the following websites:

- School Breakfast Program, United States Department of Agriculture: www.fns.usda.gov/sbp
- School Nutrition Association: www.schoolnutrition.org/Level2_NSBW2014.aspx?id=18805

Featured Books

- *The Berenstain Bears and Too Much Junk Food* by Stan and Jan Berenstain
- *Good Enough to Eat: A Kid's Guide to Food and Nutrition* by Lizzy Rockwell
- *Bread and Jam for Frances* by Russell Hoban and Lillian Hoban
- *Breakfast With Markus and Charlie* by Mark Andrew Gorup

APRIL: CELEBRATE SCREEN-FREE WEEK!

Screen-Free Week is a national project supported and promoted by the Center for a Commercial-Free Childhood. Students and their families are encouraged to spend a week with their screens turned off. Your school can participate in Screen-Free Week by encouraging students to turn off TVs, computers, video games, and mobile devices. This is a great opportunity for them to get outside and be active—and to discover a new favorite book!

For more information, visit www.commercialfreechildhood.org/screenfreeweek.

Featured Books

- *When the TV Broke* by Harry Ziefert and Mavis Smith
- *The Berenstain Bears and Too Much TV* by Stan and Jan Berenstain

MAY: GET MOVING IN MAY!

With spring's arrival, May is a great time to encourage students to spend time being active outdoors. They can enjoy outdoor recess and playing outside after school. May is also National Bike Month, which encourages Americans to bike to work or school. The League of American Bicyclists promotes bicycling for fun, fitness, and transportation as they work toward a bicycle-friendly America.

For more information on encouraging students to be active outdoors, visit these websites:

- Let's Move Outside: www.letsmove.gov/lets-move-outside
- League of American Bicyclists: www.bikemonth.com

Featured Books

- *Oh, the Things You Can Do That Are Good for You* by Tish Rabe
- *Run and Hike, Play and Bike* by Brian P. Cleary
- *Shimmy Shake Earth Quake: Don't Forget to Dance* by Cynthia Jabar

JUNE: SWEETEN UP SUMMER!

One of the best things about summer is all the colorful and healthy fresh fruit and vegetables available as the warmer months roll around. Celebrate National Fresh Fruits and Vegetables Month by promoting the many tasty and healthful benefits of fruits and vegetables. Encourage students to try new kinds of fruits and vegetables and to look for easy recipes for healthy summer snacks they can make themselves.

For more information on fruits and vegetables, visit these websites:

- fruits & veggies more matters: www.fruitsandveggiesmorematters.org
- MyPlate: <http://choosemyplate.gov>

Featured Books

- *We Love Fruit!* by Fay Robinson
- *The Vegetables We Eat* by Gail Gibbons
- *A Fruit Is a Suitcase for Seeds* by Jean Richards

CREATIVE IDEAS AND RESOURCES FOR PE TEACHERS

Classroom teachers at your school are implementing the HEAT (healthy eating and active time) Club curriculum, which teaches first- through third-grade students about the importance of good nutrition and physical activity. In an effort to reinforce these health messages throughout the school environment, this extension has been developed as a resource for PE teachers who agree to promote the HEAT Club's objectives during PE class.

Physical education can significantly influence students' physical and mental health. As a PE teacher, you have a unique opportunity to link classroom lessons with active forms of learning. You can also reinforce health messages by getting students excited about physical activity and exercise, teaching lasting skills and healthy lifelong behaviors, building confidence, and stressing the importance of caring for their bodies.

The early elementary school years are an important time to teach students that being active is fun, and to show them how they can make regular physical activity part of their lives, whether they are athletic or not. As you know, exposing students to a variety of activities allows them to identify forms of physical activity that they enjoy and can participate in throughout their lives.

This extension complements the HEAT Club curriculum. Included are examples of creative ways schools have integrated physical activity into the school day, information on a number of health-oriented campaigns and events, and other resources. In addition, the Cool Moves web resource features short activities designed to get students moving. Although these are designed for use in the classroom, they can be adapted for or

reinforced during PE. Choose the resources that work best for you and use them along with your own ideas to increase physical activity among your students.

Creative School Physical Activity Ideas

- At the St. Bernard Elementary School in Toronto, a PE teacher formed an indoor running club of about 100 students. When the weather is bad outside, students can still get moving inside. The group tracks their mileage, and each week a student earns an award for greatest achievement, which is shared in the morning announcements.
- PE teachers in the Renton school district in New Mexico decided to focus on messages about the health benefits of staying active through life. Students who are considered unathletic might feel excluded during PE time. PE teachers lead games such as Clean Up Your Yard during class time. In this game, students stand on each side of a volleyball net with various balls and soft objects spread on either side. The goal is to get all the objects on one team's side over to the other team's side, making for a never-ending active game in which everyone participates.
- At Thompson Elementary School in Washington, D.C., the physical education program was revamped to include activities such as break dancing, yoga, rock climbing, ultimate Frisbee, and circus activities such as juggling. The goal is to get students to participate in activities that they find fun and aren't seen as

typical physical education. The hope is they will continue the activity through their teen years and beyond.

- Some PE teachers have found that heart rate monitors, pedometers, flexibility tests, and other fitness assessments help students track their progress. Setting and meeting goals and monitoring progress give students something to be proud of. Many measures of fitness can be done without equipment, though some PE teachers have identified companies to donate heart rate monitors and pedometers.
- A PE teacher in Windermere Elementary School in Ohio took notice of students' excitement over Harry Potter and developed a way to play "quidditch" without the flying brooms and magic balls. Students need only basic skills such as running, chasing, throwing, and catching. The details for this game and several variations can be found at www.pcentral.com (enter "quidditch" into the search field).
- As part of their PE elective class, eighth-grade students at Booth-Fickett Middle School in Arizona teach younger students fun new games and, more important, promote a love for being active and an appreciation for the value of exercise. The eighth-graders felt empowered and proud of this partnership, whereas the younger students enjoyed learning from older students. All ages were active and had a great time.

NATIONAL EVENTS AND ADDITIONAL RESOURCES

International Walk to School Month

www.iwalktoschool.org/index.htm

International Walk to School Month, typically held in October, encourages students and their families, teachers and school administrators, community leaders, and other community members to come together to support safe walk-

ing routes to school. This is a public and visible effort to create permanent change in communities across the globe by promoting healthier habits and conserving the environment. Walk to School Month events encourage a more walkable world—one community at a time.

Screen-Free Week

www.commercialfreechildhood.org

Screen-Free Week, promoted annually by the Center for a Commercial-Free Childhood (CCFC), encourages students, families, schools, and communities to turn off their televisions, computers, video games, and mobile devices. Encouraging reduced screen time for students is positively associated with preventing childhood obesity. If your school participates in Screen-Free Week, you can work with classroom teachers, art teachers, and librarians to identify ways to promote physical activity for the entire school in celebration of Screen-Free week. More tips, ideas, and resources are available on the CCFC website.

National Physical Fitness and Sports Month

<http://healthfinder.gov/nho/MayToolkit.aspx>

Everyone can benefit from getting regular physical activity. National Physical Fitness and Sports Month, celebrated annually in May by the President's Council on Fitness, Sports & Nutrition provides a great opportunity to encourage your school and community to be physically active. This month is also an opportunity to show students that physical activity can be fun by trying new fitness activities. Consider using National Physical Fitness and Sports Month as motivation to encourage your school to be active throughout the day. You might introduce a "fitness minute" in the morning school announcements to encourage students, teachers, and staff to do a daily short exercise such as jumping jacks or toe touches. Encourage your students to try new physical fitness activities, and invite a local fitness instructor to come as a guest and teach a yoga or dance class. The National Physical Fitness and Sports Month Toolkit provides additional ideas and resources for spreading the word about physical fitness in your community.

ADDITIONAL RESOURCES

- www.pecentral.org—PE Central houses a large collection of games and activities for students pre-K through 12. The searchable database allows you to identify games by age group and game type.
- <http://pe4life.org>—PE4life promotes active, healthy living through children's PE program development and professional development. The organization offers trainings and workshops for schools.
- www.sparkpe.com—SPARK PE has developed research-based physical education curricula for elementary and secondary schools. Their website offers a variety of free resources, including sample lesson plans.

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AFTER-SCHOOL CONNECTIONS

After-school programs provide students with supervision and a safe learning environment after the school day ends. These programs are great opportunities to reinforce and expand on classroom learning. Although state and national standards and standardized testing often leave classroom teachers with little flexibility, the after-school environment affords more freedom in terms of academic programming. After-school programs are thus excellent opportunities to expand on HEAT Club concepts.

The *After-School HEAT Club Curriculum* is a companion text to the HEAT Club curriculum (see figure 4.1). It is available in the accompanying web resource; use the pass code HEATCC-7TNG9I-OSG to log in at www.HumanKinetics.com/TheHealthyEatingAndActiveTimeClubCurriculum. The after-school program allows students to continue learning beyond the classroom through healthy cooking activities, active games, and creative arts. It integrates the same Cool Moves used in the in-school curriculum to keep students moving. Given the relative flexibility of the after-school

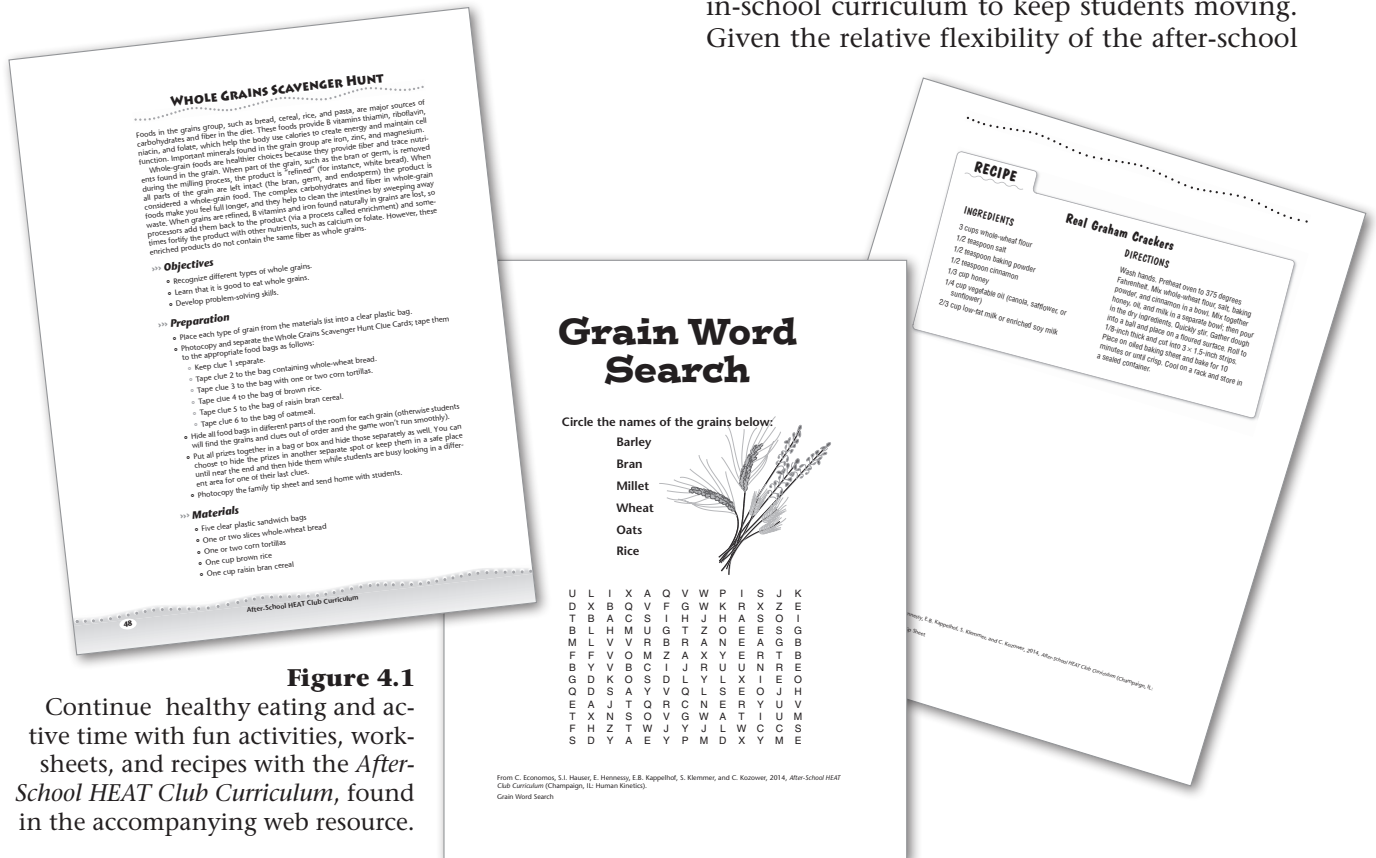


Figure 4.1

Continue healthy eating and active time with fun activities, worksheets, and recipes with the *After-School HEAT Club Curriculum*, found in the accompanying web resource.

From C. Economics, S.I. Hauser, E. Hennessy, E.B. Kappelhof, S. Klemmer, and C. Kooszer, 2014, *After-School HEAT Club Curriculum* (Champaign, IL: Human Kinetics).

setting, appendixes with ideas for field trips and healthy celebrations are provided. The after-school curriculum also includes resources for free promotional materials, program funding, and program supplies.

The after-school curriculum also includes resources for engaging families in the HEAT Club. Each lesson contains a family tip sheet (see figure 4.2) that communicates key messages to families. These sheets encourage at-home application of the lesson concepts. For example, the Bone Build-

.....

FAMILY TIP SHEET

.....

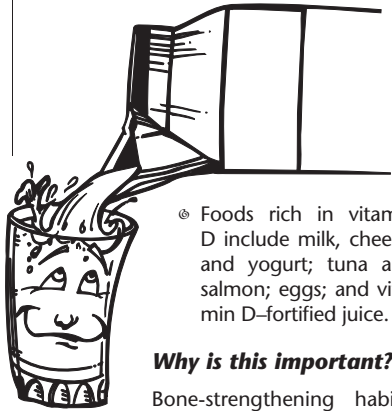
Bone Builders

Your child learned

- ⦿ how to do bone-strengthening exercises and
- ⦿ that bone-strengthening exercises help bones grow strong.

Did you know?

- ⦿ Bone-strengthening activities are activities you do on your feet, such as running, jumping, skipping, hopping, and playing tag. Putting the weight of your whole body on your bones helps them to grow strong.
- ⦿ Eating foods high in calcium and vitamin D also helps bones become stronger.
- ⦿ Nutritious, calcium-rich foods include milk, cheese, and yogurt; almonds; calcium-fortified juice; calcium-fortified soy milk, almond milk, and rice milk; and dark green, leafy vegetables such as kale, spinach, and bok choy.



- ⦿ Foods rich in vitamin D include milk, cheese, and yogurt; tuna and salmon; eggs; and vitamin D-fortified juice.

Why is this important?

Bone-strengthening habits, such as doing weight-loading activities and eating calcium-rich foods, help students develop strong bones and prevent diseases such as osteoporosis.

Here's what you can do:

- ⦿ Encourage bone-strengthening activities by setting up an obstacle course in your home or backyard where family members can hop or jump around.
- ⦿ Encourage your family to eat calcium-rich foods. Here are some suggestions:
 - ⦿ Include milk or calcium-fortified soy, rice, or almond milk as a beverage at meals. Choose fat-free or low-fat milk.
 - ⦿ Add fat-free or low-fat milk instead of water to oatmeal and hot cereals.
 - ⦿ Use fat-free or low-fat milk when making condensed cream soups (such as cream of tomato).

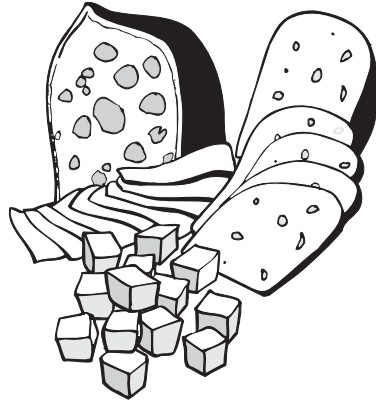
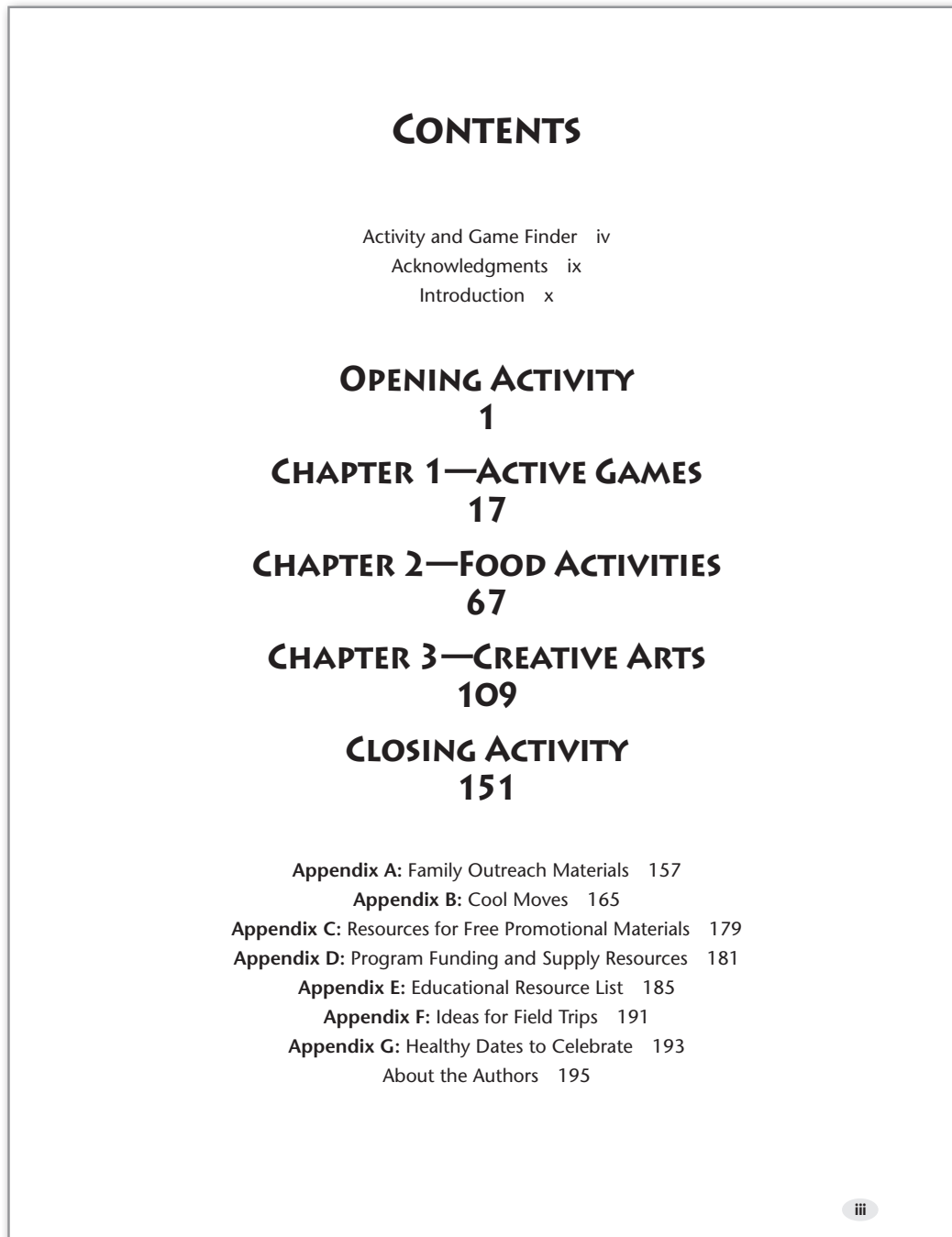


Figure 4.2 Family tip sheets from the *After-School HEAT Club Curriculum* keep healthy learning and activity going at home.

ers family tip sheet includes a list of calcium-rich foods for parents to encourage their children to eat and ideas for bone-building physical activity. These tips help families adopt healthier habits together.

Figure 4.3 gives a preview of the *After-School HEAT Club Curriculum* contents, and figure 4.4 gives a preview of its Activity and Game Finder.



The image shows a table of contents page for the 'After-School HEAT Club Curriculum'. The page is centered and features a list of sections and their corresponding page numbers. The sections are: Activity and Game Finder (iv), Acknowledgments (ix), Introduction (x), Opening Activity (1), Chapter 1—Active Games (17), Chapter 2—Food Activities (67), Chapter 3—Creative Arts (109), Closing Activity (151), Appendix A: Family Outreach Materials (157), Appendix B: Cool Moves (165), Appendix C: Resources for Free Promotional Materials (179), Appendix D: Program Funding and Supply Resources (181), Appendix E: Educational Resource List (185), Appendix F: Ideas for Field Trips (191), Appendix G: Healthy Dates to Celebrate (193), and About the Authors (195). The page number 'iii' is located at the bottom right corner.

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Figure 4.3 Contents from the *After-School HEAT Club Curriculum*, available in the accompanying web resource.

ACTIVITY AND GAME FINDER

Activity	Page	Materials needed	Objectives
OPENING ACTIVITY			
HEAT Club Kickoff	2	<ul style="list-style-type: none"> • MyPlate poster • Eight paper grocery bags • Heat Club Kickoff food cards 	<ul style="list-style-type: none"> • Introduce the HEAT Club. • Learn about the five food groups and MyPlate. • Practice putting foods into correct food groups. • Be active and have fun.
CHAPTER 1—ACTIVE GAMES			
Bone Builders	17	<ul style="list-style-type: none"> • Masking tape • Measuring tapes or yardsticks • Tumbling mats (optional) • Index cards or paper for recording measurements 	<ul style="list-style-type: none"> • Learn about and practice bone-strengthening exercises. • Understand that jumping and landing help bones grow strong. • Be active and have fun.
Fish Food	25	<ul style="list-style-type: none"> • Large open space • Sponge ball • Cones or other objects to mark boundaries for Sharks and Minnows 	<ul style="list-style-type: none"> • Learn and develop motor skills. • Recognize that fish and other seafood are an important part of a healthy diet. • Be active and have fun.
Hopscotch Around the World	30	<ul style="list-style-type: none"> • Book <i>Hopscotch Around the World</i> by Mary D. Lankford (Beech Tree Books) • Photocopies of all or some of the different hopscotch game directions • Map of the world (optional) • Chalk or hoops, or if playing indoors, spots or tape 	<ul style="list-style-type: none"> • Play hopscotch games from different countries. • Recognize that children all over the world play games and are active but sometimes in different ways than in the United States. • Practice reading skills and following written directions. • Be active and have fun.
Seed Speculation	33	<ul style="list-style-type: none"> • Blackboard or poster paper and writing materials • Cherry tomatoes (one per pair of students) • Bowl for the tomatoes • Plastic knives (one per pair of students) • Paper plates (one per pair of students) • Index cards (one per student) • Rubber spots, tape, or other material to use for designating four bases 	<ul style="list-style-type: none"> • Have fun playing with a nutritious fruit. • Be active. • Work on math and problem-solving skills. • Learn about seed survival rates and what seeds need to grow.
Stretch for Success	38	<ul style="list-style-type: none"> • Carpet, small rugs, or yoga mats (optional, but beneficial) 	<ul style="list-style-type: none"> • Recognize the importance of stretching. • Practice stretching exercises. • Learn some yoga positions.
Partner Play	43	<ul style="list-style-type: none"> • Carpet, small rugs, or mats (this activity can also be played outside) • Several small balls (soccer ball size) or cushions—one for every two students 	<ul style="list-style-type: none"> • Practice listening skills and following directions. • Learn how to play cooperatively. • Be active and have fun.
Whole Grains Scavenger Hunt	48	<ul style="list-style-type: none"> • Five clear plastic sandwich bags • One or two slices whole-wheat bread • One or two corn tortillas • One cup brown rice • One cup raisin bran cereal • One cup uncooked oatmeal • Scavenger Hunt clue cards • Tape • One prize per student (ideas: stickers, rub-on tattoos, pencils, erasers) 	<ul style="list-style-type: none"> • Recognize different types of whole grains. • Learn that it is good to eat whole grains. • Develop problem-solving skills.

Figure 4.4 Part of the Activity and Game Finder from the *After-School HEAT Club Curriculum*, available in the accompanying web resource.

APPENDIX



SHAPE UP SOMERVILLE

EAT SMART, PLAY HARD

Shape Up Somerville: Eat Smart, Play Hard was a community-based research program that aimed to prevent obesity in a culturally diverse and high-risk group of first- through third-grade schoolchildren living in Somerville, Massachusetts. Led by principal investigator Christina Economos, PhD, the program's intention was to use community participation as a way to create environmental and policy changes that increased opportunities for physical activity and healthy eating among early elementary schoolchildren. Our hope was that children participating in the study would start to eat better and move more, thus lowering the prevalence of overweight youth.

The city of Somerville was chosen for several reasons, including significant diversity among school-age children (almost 50 percent of children attending Somerville public schools represent ethnic minorities); a willingness to participate in a plan for change; and data from studies conducted in the city's public schools and health clinics that showed Somerville youth were either at significant risk for being overweight or already were overweight. More specifically, a review of medical charts for fourth-graders in the 1999 to 2000 school year showed that more than 45 percent of these students were either overweight or at risk for overweight, and our own preliminary data from September 2003 found that 46 percent of first- through third-graders fell into these categories.

Two sociodemographically matched communities in the greater Boston area were chosen as control communities, and did not receive the intervention. In Somerville, during the first two years of the study, we worked with children,

parents, teachers, school food-service providers, school administrators, and community members to pilot programs and strategies. Environmental and policy changes took place at school and during after-school programs; these were reinforced by additional changes at home and in the community that supported behavioral action and maintenance. Each component of the intervention was carried out in partnership with children, parents, teachers, school food service providers, city departments, policy makers, healthcare providers, the school department, before- and after-school programs, restaurants, or the media. To monitor the impact of the program, the Shape Up Somerville (SUS) team collected data from children, parents, and community members. For example, all children, in all three cities, had their height and weight measured in the fall and in the spring over two years. We also asked questions about their health behaviors, including diet and exercise. Environmental and programmatic changes were also documented in the control communities.

OUTCOMES

Taken together, the interventions were shown to be successful in Somerville. The rate of weight gain among Somerville children was reduced significantly over the course of the program compared to that of the two control communities. The SUS research study serves as a national model for cost-effective environmental and policy interventions targeting obesity prevention at the community level.

INITIATIVES AND PARTNERSHIPS RESULTING FROM THE SHAPE UP SOMERVILLE RESEARCH PROJECT

In the Community

- **Walking.** Through a collaborative effort with the city, parents, and community organizations, a Walking School Bus was piloted; International Walk to School Day was celebrated; and a pedestrian training was held to inform city leaders of possible solutions for a more walkable city.
- **Restaurants.** We worked with local restaurants to encourage them to offer healthier menu options for children and families.
- **Events.** We organized and attended several community events with ethnically diverse groups to promote healthy eating, physical activity, and clean parks and to discuss ways to take action.
- **Physicians.** We trained pediatricians and family physicians on how to talk with families about healthy weight gain in children.
- **Media.** We wrote a monthly column for the local newspaper to promote awareness of key issues we were addressing in the community. We also distributed a newsletter to 200 community partners with updates and health information.
- **Task Force.** A Shape Up Somerville task force comprising community stakeholders was created to coordinate and drive community obesity prevention efforts. This group remains active in the community.

In the Schools

- **School food service.** SUS partnered with school food service to make menu and à la carte changes that were healthier and enjoyable; arrange fresh produce deliveries; and conduct monthly taste tests in the cafeterias to encourage eating fruits and vegetables. The food service department also received new kitchen

equipment, and staff received additional training.

- **School curriculum.** Together with school administrators, we created a new early elementary nutrition and physical activity health curriculum, the HEAT Club; provided teachers with additional training; and purchased new equipment for children to play with at recess.
- **After-school programs.** We partnered with six after-school programs and provided them with a new, fun, and active curriculum and new cooking and play equipment; organized farm tour fieldtrips; and trained program leaders in nutrition and yoga for kids.

In the Home

- **Parent newsletter.** We distributed a bimonthly newsletter to more than 600 participating families with healthy tips and recipes, SUS updates, ways to become involved, and coupons for healthy foods.
- **Promotional gifts.** SUS and our sponsors provided children and families with zipper pulls, thermal lunch bags, water bottles, and books as reminders of healthy habits.
- **Growth reports.** We measured children's height and weight with school nurses and surveyed them about nutrition and physical activity behaviors twice a year. The results were reported to parents of children enrolled in the project.

RESOURCES

- Folta, S.C., Kuder, J.F., Goldberg, J.P., Hyatt, R.R., Must, A., Naumova, E.N., Nelson, M.E., & Economos, C.D. (2013). *Changes in diet and physical activity resulting from the Shape Up Somerville community intervention.* BMC Pediatrics, 13(1): 157.
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- Economos, C., Hyatt, R., Goldberg, J., Must, A., Naumova, E., Collins, J., & Nelson, M.E. (2007). *A community-based environmental change intervention reduces BMI z-score in children: Shape Up Somerville first year results*. Obesity, 15: 1325-1326.

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APPENDIX

B

HEAT CLUB GREEN PRINCIPLES

Going green—that is, being aware of and reducing our impact on natural resources and the environment—is important for everyone. Schools are ideal places to teach and model green practices.

The following outline will help guide you in discussing key environmental concepts with your students. Specifically, this appendix describes teaching strategies (the 5 Es), an educational framework (place based), and content examples (reduce, reuse, recycle; environmental energy use) for incorporating green principles into your classroom.

A wealth of environmental education information is also available on the Internet. We encourage you to allow students to research and explore these educational sites and related environmental topics under your supervision. At the end of this appendix we include a list of websites to get you started.

THE 5 Es

The 5 Es are research-supported strategies for effective delivery of environmental education. The strategies are to engage, explore, explain, extend, and evaluate (Bybee et al. 2006). Keep these strategies in mind when exploring topics with your students.

Engage

- Capture students' curiosity with questions.
 - Why does this happen?
 - How can we find out?
- Provide new food and physical activity experiences.

Explore

- Provide direct, hands-on experience with food activities and active games.

- Offer a wide range of experiences for students with different learning styles.
- Offer periodic opportunities for students to
 - work without direct instruction,
 - be puzzled,
 - explore for themselves,
 - test new ideas, and
 - suspend judgment.

Explain

- Connect concepts and activities with students' current worldviews (i.e., include local places, people, and issues).
- Encourage students to explain concepts in their own words; guide them by providing explanations and definitions when appropriate.

Extend

- Present opportunities for discussing and sharing common experiences.
- Explore real-life ways for children to apply what they are learning.

Evaluate

- Ask questions to help students think critically about topics being covered.

PLACE-BASED EDUCATION

In early elementary school, children have a natural curiosity about the world around them. Environmental education can build on this curiosity by first focusing on exploring the environment close to their home. Place-based education fosters awareness of and participation in the

local community (Sobel 2004). By increasing awareness, children begin to take ownership of their local environment and start to see themselves as active citizens taking care of it.

You can use place-based education in several ways:

Awareness and Support of Local Agriculture

- Key Recommendations
 - Identify plants and animals native to your local area.
 - Identify locally and seasonally available foods.
- Practical Applications
 - Take a field trip to a local farm.
 - Start a school garden.
 - Participate in a community garden project.
 - Learn about and apply practices from the Edible School Yard Movement (<http://edibleschoolyard.org>).
- Curriculum Connections
 - Lessons 2 through 6: Discuss with students where the fruits, vegetables, grains, dairy products, and proteins they consume come from.

Awareness of the Local Natural Environment

- Key Recommendations
 - Foster students' awareness of their connection to and interaction with the environment and its resources.
 - Check out the Promoting Environmental Awareness in Kids (PEAK) program (www.lnt.org/programs/peak.php).
- Practical Applications
 - Take a field trip to a local space for physical activity (park, community playground, sports venue).
- Curriculum Connections
 - Lesson 7: Find opportunities for physical activity in your community. Visit a local park or community playground and help ensure these areas stay clean and usable for everyone.

- Lessons 7 and 14: Discuss why it's important for everyone to do their part to keep these spaces clean and usable for everyone.

Awareness of Environmental Impacts From Everyday Activities

- Key Recommendations
 - Recognize everyday activities that use environmental energy; research their impact on the environment.
 - Recognize that small changes in behavior can lead to big improvements in the environment.
- Practical Applications—Discuss small things everyone can do to improve the environment:
 - Reduce packaging waste by packing snacks and lunch items in reusable containers.
 - Choose foods in nature's packaging (apples, bananas, oranges) over foods in manmade packaging (chips, fruit snacks).
 - Use a reusable water bottle instead of disposable bottles.
 - Recycle paper, bottles, and cans.
 - Conserve energy by turning off lights when not in use.
 - Pick up litter at your local park or playground.
- Curriculum Connections—Just as making small changes in what we eat can make our bodies healthier, making small changes in our daily activities and behaviors can make our environment healthier.
 - Lessons 2 through 6: Switch from processed foods to whole foods, such as brown rice instead of white rice. By doing so you add vitamins, minerals, and fiber to your diet and, because whole foods require less packaging and ingredients, they produce less trash and require fewer resources to produce.
 - Lesson 7: Ride a bike or walk instead of driving. Using your own energy to get around instead of a car helps keep

you in energy balance. Self-transport also uses less fuel and produces less pollution.

- Lesson 9: Reduce screen time by a little every day to save electricity and increase opportunities for active play.

REDUCE, REUSE, RECYCLE AND ENVIRONMENTAL ENERGY USE

First- through third-grade schoolchildren tend to think concretely. Thus, introducing tangible concepts and ways to take specific and immediate action to help the environment are some of the best ways to engage them. The practice of “reduce, reuse, recycle” and learning about environmental energy use allow children to directly relate environmental issues to actions they take in their everyday lives.

Reduce

- Key Recommendations
 - Learn ways to reduce the amount of waste produced in school and at home. Check out this website: www.epa.gov/waste/education/toolkit.htm.
- Practical Applications
 - Print or write on both sides of the paper.
 - Purchase school supplies in bulk.
 - Compost cafeteria and classroom food scraps. The resulting soil can be used for landscaping or school gardening projects (<http://compost.css.cornell.edu/schools.html>).
 - Ask students to think about and write down everything they have thrown away today. Discuss ways they can reduce the amount of waste they produce.
- Curriculum Connections
 - Lessons 2 through 6: Discuss how choosing whole foods such as fresh fruits and vegetables is healthy for our bodies and healthy for the environment. These foods have little or no packaging, and what we don't

eat (e.g., apple core) is compostable. Thus consuming these foods produces little or no trash.

Reuse

- Key Recommendations
 - Find creative ways to reuse materials in and around school and at home.
- Practical Applications
 - Purchase recycled school supplies (paper, notebooks, pencils, etc.).
 - Start a magazine and book exchange.
 - Purchase reusable instead of disposable products (e.g., cloth towels instead of paper ones).
 - Pack snacks and lunches in reusable containers.
 - Discuss ways to reuse materials instead of throwing them away.
- Curriculum Connections
 - Lessons 2 through 6: Compare foods with packaging that can be reused for compost (e.g., fresh fruits and vegetables) or recycled (e.g., milk cartons, cereal boxes) to packaging that creates trash (potato chip bags, Styrofoam).

Recycle

- Key Recommendations
 - Learn which items around the school and in your classroom can be recycled. Check out this website: www.epa.gov/osw/education/teachers.htm.
 - Create opportunities for recycling in school and in your classroom.
- Practical Applications
 - Use separate containers for paper and plastic recyclables.
 - Place recycling bins in convenient locations in your classroom and around the school.
 - Recycle old textbooks.
- Curriculum Connections
 - Lesson 4: Learn how different food and beverage containers are recycled.

Environmental Energy Use

Awareness of energy sources, use, and conservation

- Key Recommendations
 - Research different energy sources (coal, oil, natural gas, electricity, solar, wind, nuclear, biomass, geothermal, hydropower) and determine which sources are renewable and which are not.
 - Avoid unnecessary uses of environmental energy (e.g., leaving computers on overnight).
 - Focus on giving back to the environment (through green practices such as reducing, reusing, and recycling) instead of just taking (through daily activities such as driving instead of walking or biking).
- Practical Applications
 - Go to www.energyquest.ca.gov/story/index.html to learn more about energy.
 - Turn off lights and unplug electrical appliances when not in use.
 - Appoint a weekly energy monitor in your classroom—someone to make sure lights and machines are turned off when not in use.
- Curriculum Connections
 - Lesson 9: Reduce screen time by a little every day to save electricity and increase opportunities for active play.
 - Lesson 7: Ride a bike or walk instead of driving. Using your own energy to get around instead of a car helps keep you in energy balance, uses less fuel, and produces less pollution.
 - Lesson 10: Make the connection between energy from food, which powers our bodies, and energy in the environment, which powers our homes, schools, and cars. In both cases we should aim to stay in energy balance.
 - Lesson 16: Balance your food intake with physical activity, and balance what you take from the environment (by using energy and resources) with what you give back (by reducing, reusing, and recycling).

SYSTEMS THINKING AND ENVIRONMENTALLY FRIENDLY CONSUMERISM

Finally, by exploring systems concepts, children learn about the interconnectedness of the world around them; they recognize how their actions and choices affect the environment and identify ways they can be more environmentally friendly in their daily lives.

- Key Recommendations
 - Learn where the food you eat and products you use come from.
 - Learn how your food gets to you and how far it travels.
 - Learn which ingredients go into the foods you eat and the products you use.
- Practical Applications
 - Check food packaging (or stickers on fresh produce) to determine where the food was manufactured or grown.
 - Check the ingredients list on food packages to determine what is in the final product.
- Curriculum Connections
 - Lessons 2 through 6: It is better to eat foods in their natural form. Whole foods such as fruits and vegetables contain more nutrients and fiber than processed and refined foods; they also use less packaging and produce less waste.
 - Lessons 3 and 4: Compare the ingredient lists for brown rice (whole grain) to that of white rice (refined, processed). Also consider the ingredients list for snack foods that fit on MyPlate (such as fresh fruit) to those that do not (such as fruit roll-ups). Other examples include the following:
 - Corn on the cob vs. corn chips
 - Oatmeal with raisins vs. oatmeal raisin muffins
 - Fresh apple vs. apple pie

REFERENCES AND RESOURCES

Suggested Environmental Education Websites

- Environmental Protection Agency (EPA) Student Center: www.epa.gov/students
- Natural Resources Defense Council—Green Squad: www.nrdc.org/greensquad
- Kids Saving Energy: Energy games and facts for kids: www1.eere.energy.gov/kids
- Environmental Protection Agency (EPA): Recycle City: www.epa.gov/recyclecity

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APPENDIX



HEAT CLUB RECOMMENDED BOOK LIST

The books on this list complement the HEAT Club's central messages and provide another forum for talking about nutrition and physical activity. You might wish to introduce some of these books during a reading lesson or have them available in your classroom library. You might read certain books aloud to the class and discuss the key themes. How does the book relate to what the class is learning in HEAT Club time? What are the most important points communicated in the book? How can these messages apply to our own behaviors?

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Krudwig, V. (1998). *Cucumber Soup*. Fulcrum.

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Rockwell, L. (2009). *Good Enough to Eat: A Kid's Guide to Food and Nutrition*. HarperCollins.

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ABOUT THE AUTHORS

Christina Economos is an internationally known expert in the field of childhood obesity prevention. Her research efforts focus on large-scale community-based participatory interventions with potential for scalability. Christina served as the principal investigator for Shape Up Somerville, which demonstrated a reduction in undesirable weight gain among elementary school students in an ethnically and socioeconomically diverse urban community.

Jessica Collins is a recognized public health leader in Massachusetts and a sought-after speaker at national events. She leads multisector collaborations to address emerging public health issues through sustainable systems changes. Jessica served as the project manager for Shape Up Somerville and director of the BEST Oral Health program, both of which are recognized nationally.

Sonya Irish Hauser is a professor and researcher in nutrition science. Her research and academic interests focus on community approaches to obesity prevention and novel methods of health promotion. Her research efforts have included rigorous testing of the HEAT Club curriculum in after-school programs across the United States.

Erin Hennessy is a behavioral scientist with advanced training in nutrition. Her research interests focus on the multilevel influences of eating and activity behavior among at-risk families. She has worked on several federal- and foundation-funded community-based interventions, including Shape Up Somerville. Dr. Hennessy has won numerous awards for her research, including those from the National Institutes of Health, Centers for Disease Control and Prevention, and New Balance Foundation.

David Hudson is an expert in sustaining healthy communities, worksites, and schools

through changes in policy, systems, and physical infrastructure. David served both as senior researcher coordinator and director of Shape Up Somerville in collaboration with partners for those who live, work, and visit the city.

Erin Boyd Kappelhof is a registered dietitian who specializes in international nutrition communications. She primarily helps food and health organizations and companies define and disseminate their science-based messages to health professionals, consumers, and other audiences.

Sandra Klemmer is a clinical dietitian and also has a private nutrition practice. With an interest in health behavior change, Sandy was a staff member of the Shape Up Somerville project, and she explored the health behaviors of college students as a research assistant for the Tufts Longitudinal Health Study.

Claire Kozower has focused her career on the intersection of sustainable agriculture, nutrition, and community food security. She has many years of experience in nonprofit organic vegetable farms in the Northeast, including working on education staff, assisting with farm production, and serving as executive director. Her role with Shape Up Somerville included coordinating a farm-to-school program, school food service systems and infrastructure improvements, professional development and wellness opportunities for food service personnel, nutrition education for students and families, and after-school curriculum design and implementation.

Lori Marcotte is a curriculum developer who designs and implements comprehensive programs that aim to improve nutrition and physical activity behaviors in school-aged children. Her contributions reach students in the classroom as well as in out-of-school settings.



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