

Eat Well, Play Well

.....
Come Bien, Juega Bien

Exhibit Teachers' Guide

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Introducing *Eat Well, Play Well*

The modern American lifestyle has contributed to a health crisis that is affecting our entire country. According to the latest publication of *Dietary Guidelines for Americans*, 65 percent of U.S. adults were overweight between 1992 and 2002, an increase from 56 percent during the previous decade. Approximately 16 percent of children and adolescents aged six to 19 years were considered overweight during this same time period and the numbers show signs of having increased since then.

Being overweight or obese can lead to a host of health problems, including increased risks of diabetes, cancer, and heart disease. The leading causes of being overweight or obese are physical inactivity and poor diet. The Centers for Disease Control and Prevention (CDC) have determined that lack of exercise and poor diet are second only to smoking in the number of deaths caused in the United States.

Because of this, the topics of nutrition and fitness are more relevant than ever. It is extremely important that schools, museums, and communities work together to educate the public on these health topics that are so integral in helping to avert this health crisis.

The Oregon Museum of Science and Industry (OMSI) has created ***Eat Well, Play Well*** as a response to this need. ***Eat Well, Play Well*** is an interactive, bilingual exhibit experience explores nutrition science and the benefits of physical activity and teaches visitors how to make healthy choices. The exhibit is part of a project funded by the National Institutes of Health that includes a total of five exhibitions and accompanying educational materials. The project is focused on educating the public about current clinical research in nutrition and physical activity and its applications to personal and family wellness. The exhibits and programs are intended to:

- promote intergenerational learning about healthy nutrition and physical activity,
- promote understanding of how clinical research methods and outcomes provide us with information about healthy nutrition and physical activity, and
- encourage families to apply their understanding of healthy eating and physical activity by practicing healthy decision-making and helping them find ways to overcome common barriers to healthy decision-making.

Eat Well, Play Well features up-to-date science and targets children in kindergarten through fifth grade and their families with its educational messages. The exhibit includes bilingual Spanish and English exhibit text and educational materials. Visitors will discover what an appropriate serving size looks like, see firsthand what it takes to burn off calories, test their flexibility and balance, review the latest clinical research and realize that they can reduce their risk of disease with healthy choices that are within their reach.

The information and activities in this Teachers' Guide will help extend students' experiences from the museum to the classroom.

Learning Objectives

The majority of adults, and even many kids, know the difference between healthy and unhealthy choices. The ***Eat Well, Play Well*** exhibit not only teaches visitors basic nutrition and fitness information but also allows them to practice healthy eating and physical activities in simulated, real-world situations. The exhibit focuses on positive motivational health messages, such as short-term and long-term benefits, rather than focusing on negative statistics. Activities will give visitors a better understanding of the scientific research that underlies recommendations for healthy eating and physical activity and will empower them to make healthy choices for themselves.

The exhibit content is focused around a single “big idea”:

- The whole family benefits when we make informed healthy choices.

Several secondary messages support this big idea:

- Healthy eating and physical fitness help to keep our bodies strong, give us the energy to do our favorite activities, and enable us to look and feel our best.
- Healthy living is a family responsibility.
- I can look to science, including results from clinical research, to get information to help me make healthy choices.
- A healthy lifestyle requires a balance of calories in and calories out.
- Small, simple changes to my activity level can make a big difference.
- Healthy eating involves choosing whole foods and drinking water.

Take-home messages for each exhibit component are noted in the *Exhibit Descriptions* section below.

Background Information

See the *Additional Resources* section at the end of this Teachers' Guide for more information.

Everyday activities as exercise

Many people think of exercise as going down to the gym or heading out to jog. But research has shown that many everyday activities, some of which are not often thought of as exercise, can bring substantial health benefits. Unstructured play is a great way for families and young children to maintain a healthy activity level while having fun. Research has also demonstrated the benefits of simple activities like walking. Guidelines suggest that walking 10,000 steps a day, or around 3-5 miles for most people, can provide many of the same health benefits as more intense types of aerobic exercise.

Most people will only take between 500-2,000 steps in the course of their daily routine, so reaching 10,000 steps still means seeking out additional activity. However, research is also showing that activities such as walking need not occur in large blocks of time to improve health. A quick trip up the stairs and a ten-minute recess out on the playground can add up, providing similar benefits to going out for a 45-minute walk around the neighborhood every day.

What's the big deal about fruits and vegetables?

Strong scientific evidence from clinical research studies supports the benefits of eating a variety of fruits and vegetables every day. Beyond keeping all of our body systems functioning, research suggests that eating a diet rich in fruits and vegetables as part of an overall healthy diet may reduce risk for chronic diseases, such as stroke, coronary heart disease, and type 2 diabetes, and may help decrease bone loss.

And the more fruits and veggies we eat, the better. For example, research shows that eating five or more servings of fruits and veggies lowers our risk for cancer of the pancreas. By increasing to eight servings, we can also help prevent most digestive problems and significantly lower our risk for heart disease and stroke. If we eat eight or more servings a day, we are a third (30%) less likely to get these diseases than people who eat 1–2 servings a day. The *Dietary Guidelines* recommends 4–5 servings (2–2.5 cups) of fruit and 5–8 servings (2.5–4 cups) of vegetables per day, depending on our calorie needs. Go to <http://mypyramid.gov/> to calculate your personal fruit and vegetable intake recommendations.

All fruits and vegetables are not created equal. Each type contains different vitamins, minerals, phytochemicals, and other nutrients. Eating a variety of fruits and vegetables every day can help us stay healthy. Color can be a good guide to nutrient content. For example, orange fruits and vegetables, such as squash, sweet potatoes, carrots, and cantaloupe, contain high amounts of Vitamin A. Eating a variety of colors helps ensure that our bodies get all the nutrients they need.

What are calories?

A calorie is a unit of energy that comes from food. When we eat food, calories become fuel for our bodies, giving us the energy to grow, play, and work. Eating enough calories also helps our bodies fight off illnesses. Without calories, our bodies would shut down. The number of calories we need in a day depends on our age, height, gender, activity level, and other factors.

Balancing the number of calories we consume with the number we burn, called energy balance, is a key component of a healthy diet and lifestyle. Calories consumed in excess of calories burned are stored as fat. High levels of fat stores in the body are associated with elevated risks of certain diseases. Regular exercise is an important part of maintaining energy balance. Even activities that don't seem like exercise, like gardening, dancing, and playing at a park with your family can burn off calories and are also lots of fun!

Exhibit Descriptions

Each of the ***Eat Well, Play Well*** exhibits is designed to be fun, interactive, and educational. The descriptions below outline the activities and key messages for each exhibit component.

Balancing Act

Step right up and test out your balancing skills. Visitors step onto a circular balance board and a timer shows how long they can stay balanced. Visitors can challenge themselves and others to balance competitions and try to improve their time. They will learn that good balance is important for people of all ages because it enables them to perform daily activities such as walking, picking up objects, and even standing!

Sizing Up Servings

A serving is a measurement of food. Each type of food, such as fruits, vegetables, and meat, has a particular serving size. Nutrition experts recommend that each person consume a certain number of servings of a food each day, e.g., five to nine servings of fruits and vegetables. However, many people find it difficult to remember how large servings should be.

This simple exhibit makes remembering serving sizes much easier. Visitors take puzzle pieces with photos of different foods and match each to an object that represents that food's serving size. For instance, a deck of cards is the proper size of a serving of meat, while a pair of dice represents a cheese serving. If the visitor's card is correctly placed next to its match, green lights above the puzzle piece will light up.

Key messages: A serving is the recommended amount of a food, while a portion is the amount that is actually served. Understanding how much of a food we should eat at one meal can help us to eat in a healthy way.

Be Flexible

Is stretching that important? The answer is YES! Visitors can take the classic sit and reach test to determine their flexibility level and compare it to a graph of other average scores to see where they rank. Information and examples will be given about how to develop better flexibility and why it is important.

Calories In, Calories Out

This interactive consists of a hand-turned cycle and buttons that allow a visitor to choose from a variety of snacks. The visitor chooses a snack by pressing a button and starts to pedal the cycle. A screen in front of them gives information about the number of calories the visitor has burned while pedaling and the number of minutes left to burn off the snack. Visitors may choose an alternate snack at any time during the activity by pushing a button. The display then changes to correspond to that snack.

The exhibit provides a unique way to compare the amount of time it takes to burn off healthy snacks, such as fruits and vegetables, and unhealthy snacks, like candy bars. Visitors learn that food gives them energy in the form of calories and that some foods contain more calories than others. They also discover that they need to burn off extra calories if they eat more than they need to fuel their body.

Key messages: In order to maintain a healthy weight, calories in and out have to be balanced. Junk foods often have more calories than healthy foods. I will need to exercise for a significant amount of time to burn off high-calorie foods. We need calories to give our bodies energy.

Eat a Rainbow

This simple interactive for young children consists of an extra large rainbow puzzle. Children can place puzzle pieces shaped like fruits and vegetables in the proper color section of the rainbow while learning that these healthy foods come in many colors and variety is essential. An extra feature of this component is revealed when children take the pieces out; inside they will find a photo of the cross-section of the fruit or vegetable.

This exhibit also helps introduce children to fruits and vegetables they may not have seen before. Information for parents in the exhibit gives helpful tips for introducing children to new foods. Eating a variety of foods is important for maximal nutritional benefit as each food contains different vitamins, minerals, and antioxidants that are important for preventing disease and maintaining health.

Key messages: People should eat a variety of fruits and vegetables to be healthy. Fruits and vegetables of a similar color help our bodies in the same ways. Fruits and vegetables of different colors help our bodies in unique ways.

Animal Motion

At this interactive, children are encouraged to get out on the dance floor and hop like a bunny, walk like an elephant, run like a cheetah, or just dance around to the fun music. A variety of different animal costumes, including tails and ears, are provided for children to dress up and move like their favorite animal.

Dinner Theatre

The Dinner Theatre features a dining table with instructional placemats, food puppets, human puppets, and chairs. The exhibit encourages young visitors to engage in open-ended play with other visitors. Young children and their caregivers can use the puppets to create stories revolving around eating fruits and vegetables. Copy on the placemats tells visitors how each color of fruits and vegetables helps their bodies in a specific way, prompting constructive interactions.

Key messages: Healthy foods contain nutrients that help our bodies. Each healthy food contains different nutrients. Healthy foods include fruits and vegetables.

Screen Time

Did you know that TV watching burns fewer calories than resting? Visitors are asked to add up the number of hours they spend each day playing video games, watching TV and movies, and using a computer for fun. They turn a wheel that reveals how daily screen time adds up on a yearly basis, along with an interesting factoid or statistic relating to the amount of time spent.

Supermarket Nutrition

Visitors can enact a visit to the supermarket in this unique activity. Visitors choose among a variety of foods to make a meal. As they make their choices, they scan the bar codes of the foods into the “cash register.” When they are finished, they “total” their “purchase.” Instead of revealing how much they owe, the computer gives feedback about the choices they made and how they might create a healthier, more balanced meal the next time. Feedback includes information about the different food groups and how important it is to eat a variety of foods at each meal. Visitors also learn which nutrients to limit and why they should increase their consumption of certain foods.

Key Messages: There are a variety of food choices at the grocery store and I can use my nutrition knowledge to make healthy choices. Eating nutritious foods will help me to be healthy. Eating some junk food is okay as long as the majority of your food is healthy.

Planning Your Field Trip

Educational research has identified the following recommendations for helping your students get the most out of their field trip.

Student knowledge of the field trip setting and agenda is important.

Studies suggest that children in a novel environment (such as a museum or science center) initially focus their attention on learning about the setting rather than the instructional material. Prior information about the trip agenda (how we will get there, where we will park, what we will see, what we can buy, where we will eat, etc.) will enhance your students' educational experience. In one study, providing advance information about the setting enhanced learning more than prior information about the subject of the exhibit! Of course, providing both types of information ahead of time is valuable.

Prepare students with pre-trip activities.

Students will be better prepared to learn about the topic if it has already been introduced to them before the trip. This exposure can be brief! For ideas for activities to use before visiting ***Eat Well, Play Well***, see the *Activities for Before and After Your Visit* section of this Teachers' Guide. Pre-visit activities can also include vocabulary words, reading and writing assignments, classroom projects, and related activities found in existing textbooks and recommended resources.

Follow up on the field trip with post-trip activities.

Post-field trip activities help to connect the museum experience to the classroom. Exhibits at the museum may spark curiosity or interest, which can serve as the basis for further learning in the classroom.

Help us evaluate your museum experiences.

Your feedback is vital for the evaluation and improvement of our exhibits and other educational offerings. Please share your comments with us during your visit.

Active Learning Logs

The ***Eat Well, Play Well*** “Active Learning Log” is designed to further engage students and maximize their learning while they are in the exhibit. More than a scavenger hunt, the Learning Log encourages students to connect their own lives with the exhibit content by asking them to think about actual experiences in the context of exhibit-based questions.

Blank English and Spanish versions of the Learning Log are provided below, as well as a teacher answer key in each language.

Name:	Class:
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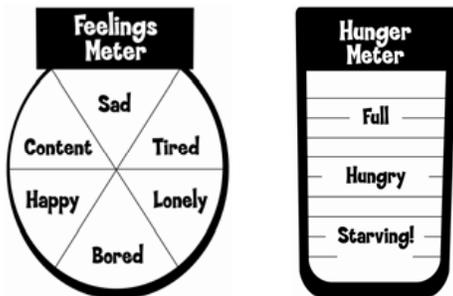
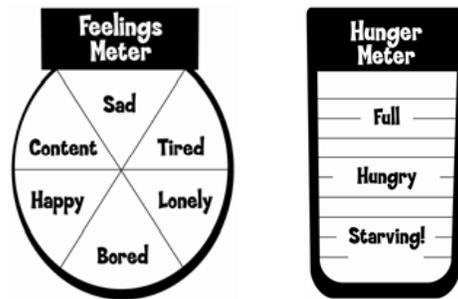
Answer the questions below while you explore the exhibit. Have fun!

Moving to a Healthier Life

In the game, what change did you choose to make during screen time? Why did you make this choice?

Hunger Signals

Describe a time in the game when it was a good idea to have a snack. Fill in the hunger and feelings meters.



Describe a time from your life when you felt good about having a snack. Fill in your hunger and feelings meters.

Balancing Act

How do you think you could improve your time on the balance board?

Extra Credit
 Write your own question about something you learned in *Eat Well, Play Well*. Don't forget to write the answer, too. Then see if your family or friends can answer your question.

Your question:

The answer:

Learning Log KEY

Name:	Class:
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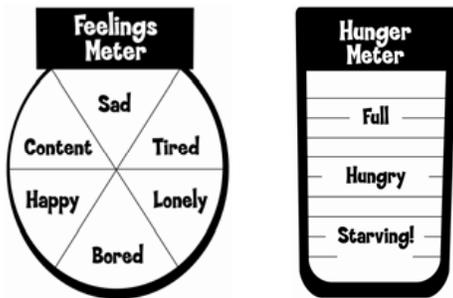
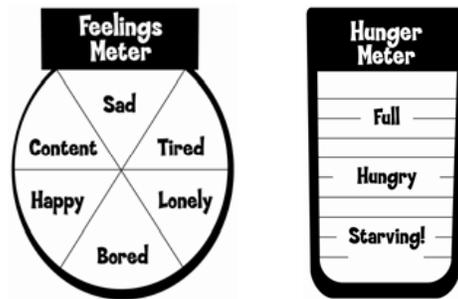
Answer the questions below while you explore the exhibit. Have fun!

Moving to a Healthier Life

In the game, what change did you choose to make during screen time? Why did you make this choice? *[Answers will vary.]*

Hunger Signals

Describe a time in the game when it was a good idea to have a snack. Fill in the hunger and feelings meters. *[Hungry after school; hungry after exercising and before dinner.]*



Describe a time from your life when you felt good about having a snack. Fill in your hunger and feelings meters. *[Answers will vary.]*

Balancing Act

How do you think you could improve your time on the balance board? *Possible answers include walking, standing on one foot, doing stretching activities, and other ways of being active and practicing balance.*

Extra Credit
 Write your own question about something you learned in *Eat Well, Play Well*. Don't forget to write the answer, too. Then see if your family or friends can answer your question.
 Your question: *[Questions will vary.]*
 The answer: *[Answers will vary.]*

Nombre:	Clase:
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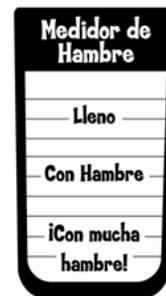
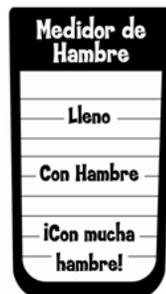
Responde las preguntas que encontrarás a continuación mientras exploras la exhibición. ¡Que te diviertas!

En movimiento hacia una vida más sana

En el juego ¿Qué cambio escogiste hacer durante el tiempo frente a la pantalla?
 ¿Por qué elegiste esa opción?

Señales de Hambre

Describe un momento del juego cuando comer un bocadillo era una buena idea. Anótalo en los medidores de hambre y sentimientos.



Describe un momento de tu vida cuando te sentiste bien comiendo un bocadillo. Anótalo en los medidores de hambre y sentimientos.

Acto de Equilibrio

¿Cómo piensas que puedes mejorar tu tiempo en la tabla de equilibrio?

Crédito adicional

Escribe tu propia pregunta de algo que aprendiste en *Vamos a Movernos*. No olvides escribir la respuesta también. Luego comprueba si tu familia o amigos pueden responder tu pregunta.

Tu pregunta:

La respuesta:

Nombre:	Clase:
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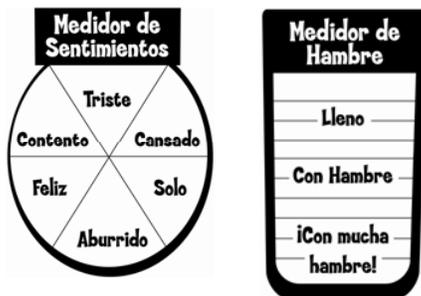
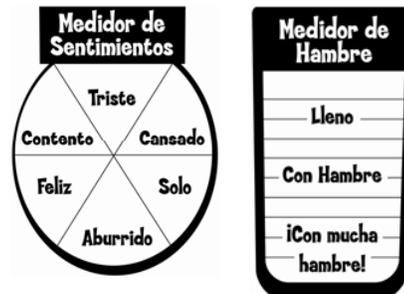
Responde las preguntas que encontrarás a continuación mientras exploras la exhibición. ¡Que te diviertas!

En movimiento hacia una vida más sana

En el juego ¿Qué cambio escogiste hacer durante el tiempo frente a la pantalla? ¿Por qué elegiste esa opción? *[Las respuestas pueden variar.]*

Señales de Hambre

Describe un momento del juego cuando comer un bocadillo era una buena idea. Anótalo en los medidores de hambre y sentimientos. *[Con hambre después de la escuela; con hambre después de hacer ejercicio y antes de la cena.]*



Describe un momento de tu vida cuando te sentiste bien comiendo un bocadillo. Anótalo en los medidores de hambre y sentimientos. *[Las respuestas pueden variar.]*

Acto de Equilibrio

¿Cómo piensas que puedes mejorar tu tiempo en la tabla de equilibrio? *[Algunas respuestas incluyen: caminar, pararse en un pie, hacer actividades de estiramiento y otras formas de mantenerse activo y practicar el equilibrio.]*

Crédito adicional

Escribe tu propia pregunta de algo que aprendiste en *Vamos a Movernos*. No olvides escribir la respuesta también. Luego comprueba si tu familia o amigos pueden responder tu pregunta.

Tu pregunta: *[Las preguntas pueden variar]*

La respuesta: *[Las respuestas pueden variar]*

Activities for Before and After Your Visit

These easy-to-use activities introduce nutrition and fitness concepts from ***Eat Well, Play Well*** and can be used to reinforce healthy behaviors after students visit the exhibit. The activities “Food Gives Me Energy” and “Goal Setting Calendar” are adapted with permission from the book *Nutrition Fun with Brocc and Roll* by Connie Liakos Evers, MS, RD.

Grades K–2 Pre-Trip Activity: Food Gives Me Energy

Grades K–2 Post-Trip Activity: Make a Maraca!

Grades 3–5 Pre-Trip Activity: Burning Calories

Grades 3–5 Post-Trip Activity: Goal-Setting Calendar

See the *Nutrition Background Information* and *Additional Resources* section to learn more about the nutrition science behind these activities.

Food Gives Me Energy

This activity is adapted by permission from *Nutrition Fun with Brocc and Roll* by Connie Liakos Evers, MS, RD.

Description: This basic nutrition activity encourages young students to think about the benefits of healthy eating. Students create lists of activities they like to do, then list their favorite healthy foods that will give them the energy to do these activities.

Learning Objectives: Students will learn that healthy eating gives us the energy to do our favorite activities.

SCIENCE TOPICS

Human health
Importance of healthy foods

GRADE LEVEL

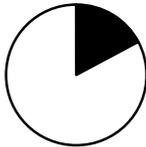
K–2

PROCESS SKILLS

Choosing healthy foods

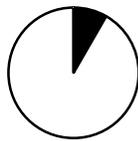
TIME REQUIRED

Advance Preparation



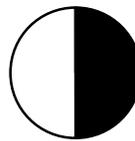
10 minutes

Set Up



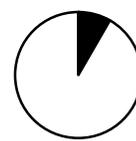
5 min

Activity



30 minutes

Clean Up



5 min

ACTIVITY

- Copies of *Food Gives Me Energy* activity sheet (one per student)
- Pencils or pens (one per student)
- Large sheet of paper or dry erase board
- Markers
- Crayons or colored pencils in several bowls or containers (optional)

ADVANCE

- Make copies of the *Food Gives Me Energy* activity sheet (one per student).
- If students will be coloring their sheets, place crayons or colored pencils in several small containers that can be distributed around the activity stations.

SET UP

- Hang the large sheet of paper up where students will be able to see it while brainstorming as a group.

INTRODUCING THE ACTIVITY

Tailor your presentation to your individual style and to students' ability levels. Sample scripts and example questions are provided in italics.

- Begin the class with a group discussion.
With this activity we are going to learn about nutrition and why it is important to eat healthy foods. Has anyone heard the word nutrition before? Does anyone know what we mean when we talk about nutrition? Nutrition is the science of healthy eating.
- *Why do you think it's important to eat healthy foods?*
- Help students brainstorm as necessary. Record students' answers on a large piece of paper or a white board. Make sure to keep the class focused on positive reasons to eat healthy foods. Possible answers include:
 - Keeping our bodies strong and healthy (muscles, teeth, bones, heart, etc.).
 - Helping us to feel good (happy, energetic, etc.).
 - Giving us the energy to do our favorite activities (sports, play, school, etc.).
 - Keeping our brains working and helping us do well in school (smarter, better grades, pay attention in class, etc.).
- Next, brainstorm examples of healthy foods.
- Record students' answers. Possible answers include: whole grains, fruits and vegetables, lean meats (e.g., turkey, chicken, fish), low fat dairy (cheese, yogurt, milk), beans and nuts, foods low in added sugar, salt, saturated fat, and cholesterol, etc.
- Once the class has finished brainstorming, tell them they are going to do an activity where they list some of their favorite things to do and some of their favorite healthy foods that help them do those things.

PROCEDURE

- Pass around sheets.
- Have students make their lists. If necessary, remind them of some of the examples the class brainstormed together.
- *Now you're making your own list!*
- After making their lists, have students color in their sheets, if desired and as time allows.

DISCUSSION QUESTIONS

Remember, there are no incorrect answers. Let students present their ideas and guide the conversation to the greatest extent possible.

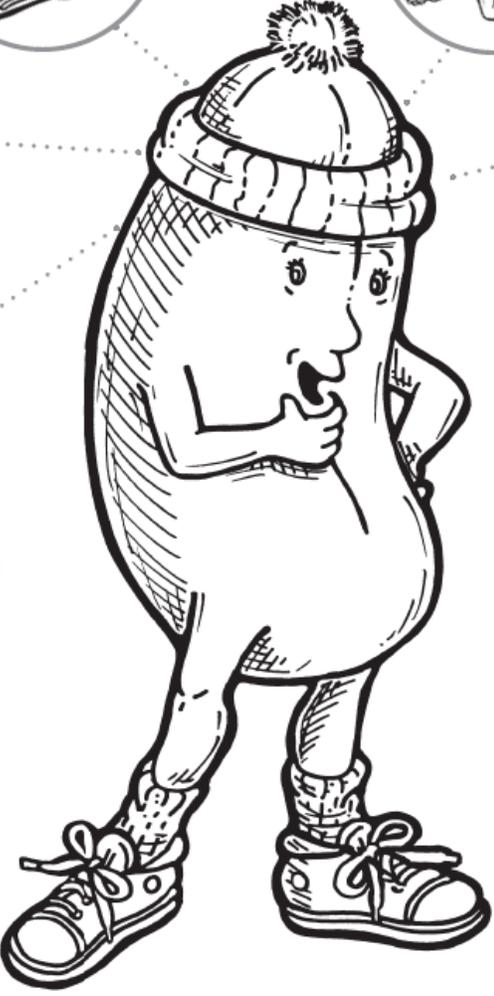
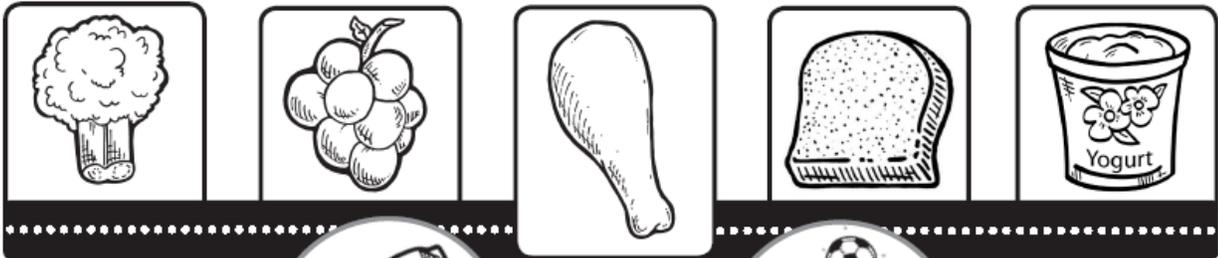
- Ask students to share items from their lists.
- *What is one of your favorite activities to do? What is one of your favorite healthy foods?*
Students will have a variety of items to share.
- *How do you think these foods can help us do our favorite things?*
Possible answers include: they give us vitamins, minerals, nutrients, protein, etc., that our bodies need; they keep us healthy and active; and they give us the energy we need to be active.

CLEAN UP

- Ask students to gather crayons and pencils and place them back in containers.

POSITIVE

Children may easily lose interest in nutrition activities if too much emphasis is placed on how proper nutrition prevents disease. Instead, emphasize positive nutrition messages. Remind children that healthful food promotes achievement. In school or on the playing field, kids who eat well perform better and achieve higher levels of mastery. A nutritious diet fuels the body for learning, growth, sports, and play.



My favorite things to do

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

My favorite healthful foods to eat

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____

Food gives me energy
 So I can do...MY FAVORITE THINGS! How about you?

Make a Maraca!

Description: Students make their own maracas, then try them out in a fun dance.

Learning Objectives: Dancing and making music are fun ways to be physically active.

SCIENCE TOPICS

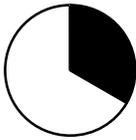
Health and the human body
Benefits of physical activity

PROCESS SKILLS

Making healthy choices

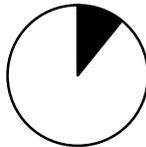
TIME REQUIRED

Advance Preparation



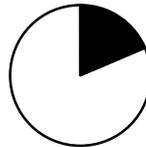
20 minutes

Set Up



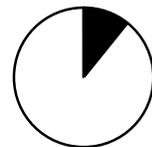
5 minutes

Activity



10 minutes

Clean Up



5 minutes

ACTIVITY MATERIALS

- Cardboard tubes from toilet paper, or paper towel tubes cut into 4-5 inch sections (one per student)
- Stapler with staples
- Dried pinto beans, peas, rice, or other shaker material
- Heavy duty rubber bands (these should fit tightly over a toilet paper tube)
- Construction paper
- Assorted art supplies - crayons, glue, colored construction or tissue paper, scissors, glitter, etc.
- Fun dancing music

For Castanets:

- Cardboard pieces, about 2 inches x 5 inches
- Plastic bottle caps
- Strong adhesive, such as crazy glue or a hot glue gun, or heavy duty double-sided tape

ADVANCE PREPARATION

- Staple one end of the toilet paper tubes tightly shut.
- Cut construction paper into squares measuring about 4 inches by 4 inches.
- If making castanets, glue or attach bottle caps to each end of the cardboard pieces as illustrated below. Allow time for the glue to dry before the activity.



SET UP

- Place all activity materials out where students can easily access them. You may want to arrange art supplies in an activity area where students can decorate their creations.

INTRODUCING THE ACTIVITY

Tailor your presentation and the level of detail to your students and individual style. Sample scripts and example questions are provided in italics.

- *What do you think of when you think of exercise?*
- *We are active when we play outside at recess and do lots of our favorite activities. How many people like to make music? Dance?*
- *Today we are going to make some musical instruments. When we are done we can use these to do some physical activities- making music and dancing. The instruments we will make are called maracas (and castanets).*

PROCEDURE

- Each student should take an empty paper towel or toilet paper tube.
- Students should partially fill the tube with the dried beans, peas, or rice, etc. Encourage students to experiment with different amounts and with different materials (or combinations of materials) to create different sounds.
- Students will cover the open end with a square of construction paper and fasten the square to the tube with a rubber band. They now have their maraca.
- Students should decorate their maracas in whatever manner they like with the materials provided. One option is to wrap the entire tube with construction paper or white drawing paper, gluing it to the tube so that it's secure. Students can then draw or decorate on this surface. Ensure that students have supplies that let them decorate their instruments to be fun and colorful.

- If making castanets, have each student take one of the cardboard rectangles that you have prepared in advance. Students should fold it in half, then decorate it along with their maraca.
- Place the maracas and castanets aside to allow decorations to dry. You may wish to allow them to dry overnight.
- When your class is ready, have them get out their instruments and put on the music. Encourage students to jump and dance around to the beat, make up a dance, or try shaking their maracas all at the same time.

DISCUSSION QUESTIONS

Remember, there are no incorrect answers. Let students present their ideas and guide the conversation to the greatest extent possible.

- *Did you enjoy this activity?*
- *Do you think that dancing around is a physical activity that helps our bodies be healthy?*
- *Did dancing and making music feel like exercise to you? Why?*

Students might mention that dancing around make them feel out of breath, that they could feel their hearts working, or that they got tired after a while. All of these are indicators that their bodies were engaged in a physical activity. Dancing and shaking maracas is one way to get exercise and be active.

Maracas were originally developed in the Caribbean and South America, and were made from hollowed gourds filled with dried seeds.

Burning Calories

Description: Students will learn more about calorie balance and the benefits of walking for physical fitness.

Learning Objectives: Everyday activities such as walking are a great way to be active and help maintain a healthy weight.

SCIENCE TOPICS

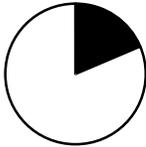
Health and the human body
Benefits of physical activity
Calories and energy balance

PROCESS SKILLS

Making healthy choices

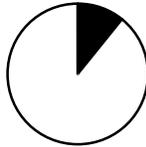
TIME REQUIRED

Advance Preparation



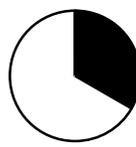
10 minutes

Set Up



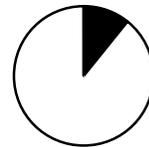
5 minutes

Activity



20 minutes

Clean Up



5 minutes

ACTIVITY MATERIALS

Space for students to walk, preferably without too many obstacles. A gym or playground space are ideal.

- One chalkboard, dry erase board, or flip pad and writing instruments. This needs to be located in or near the space where students will walk.

ADVANCE PREPARATION

- None

SET UP

- Place flip pad or dry erase board in activity space, if necessary.

INTRODUCING THE ACTIVITY

Tailor your presentation and the level of detail to your students and individual style. Sample scripts and example questions are provided in italics.

- Tell students that they're going to be doing some exercise that burns calories. It may be helpful to review the concept of a calorie as a class. Calories are units that measure the energy we get from the food we eat.
- *Can anyone name a food that contains lots of calories?*
- *We know that calories mean energy for our bodies. Has anyone ever heard of something called "energy balance?"*
- Explain the concept of energy balance to students. The key element of this idea is that we eat food that gives us enough energy, or calories, but not too much. For instance, if we eat food that adds up to 2,000 calories in one day, to be our healthiest we should be burning off about 2,000 calories with our activities that day. Over a long period of time, if we consume more calories than we burn, our bodies will store the extra calories as fat.
- Ask students for guesses as to what today's class physical activity could be.
- After they have taken a few guesses, tell them that the activity is walking.
- *Did you know that studies have shown that walking can provide many of the same health benefits as other types of exercise?*
- *How many of you walk for exercise? How many people walk for fun? How many of you just walk to get places? How many of you knew you were burning calories when you did this?*

PROCEDURE

- Write the names of the four foods in the chart below on the chalk board, or dry erase board, etc.
- Ask students to raise hands and guess for each food how many calories it contains. Guide them for each until they have guessed correctly for each of the four foods.
- Now ask students to guess how many steps it takes to burn 3 calories, the number in one M&M candy.

- Once students have correctly guessed this, fill in the rest of the chart for the walking steps required to use the amount of energy provided by each food.
- Have each student choose one food that they will imagine they've eaten. Tell them that while carefully counting their steps, they'll now attempt to walk the number of steps needed to burn those calories. Students who choose the lower calorie foods can walk off more than one of these items.
- Give the class about five minutes to walk in the space designated, reminding them to carefully count their steps while walking. Remind students that there should be no running.
- Gather students together again to discuss how the activity went.

How Many Calories, How Many Steps?

1 M&M Candy =	1 Carrot stick =	One 12. oz can of soda or one average donut =	Double cheeseburger =
About 3 calories =	About 5 calories =	About 150 calories =	About 500 calories =
About 90 steps	About 150 steps	About 4,000 steps	About 10,000 steps or about 5 miles

DISCUSSION QUESTIONS

Remember, there are no incorrect answers. Let students present their ideas and guide the conversation to the greatest extent possible.

How many steps did you take?

How many people burned all of the calories they ate in their imaginary snack?

Did you feel like it took a lot of walking to burn off those calories?

While the number of calories burned (and number of steps of walking required) varies for each person, five minutes is not enough time to take the number of steps required to burn off high-calorie foods. On average, if they spent one hour playing outside or walking, most students could probably burn about 300 calories, or walk around three miles by taking around 6,000 steps. This would be a significant chunk of physical activity for the day.

EXPLANATION

Though it varies for each individual, on average, walking one mile burns 100 calories.

Again, though it varies depending on your stride length, on average it takes about 2,000 steps to walk a mile (a mile is 5,280 feet). An average stride is between 2 and 3 feet in length.

To measure your stride, mark a distance of 50 feet. Now walk this distance and count your steps. Divide 50 by the number of steps and you have your stride length. If you divide 5280 by your stride length you'll have a better measure of the average steps it will take you to walk a mile.

If students can cut one hour of screen time per day and play outside or walk instead, they could probably walk 3 miles/6,000 steps in that same hour.

A pedometer is an inexpensive device that can accurately measure how many steps a person takes. Many experts agree that if a person can take 10,000 steps per day, they can increase their fitness level and overall health.

Goal-Setting Calendar

This activity is adapted by permission from *Nutrition Fun with Brocc and Roll* by Connie Liakos Evers, MS, RD.

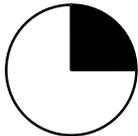
Description: Students build on what they've learned by setting and tracking goals for healthy eating.

Learning Objectives: Students will practice analyzing their own habits and putting into practice the nutrition information they have learned.

SCIENCE TOPICS	GRADE LEVEL	PROCESS SKILLS
Human health Importance of fruits and vegetables	3–5	Choosing healthy foods Setting goals Data collection Analyzing information

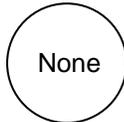
TIME REQUIRED

Advance Preparation



15 minutes

Set Up



None

Introduce Activity

20 minutes

Student Logs

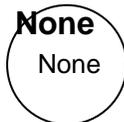


Ongoing

Discussion

15 minutes

Clean Up



ACTIVITY

- Copies of *Goal Setting* activity sheets (one set per student)
- Pencils or pens (one per student)
- Markers
- Transparencies (optional)
- Overhead projector (optional)

ADVANCE

- Make copies of the *Goal Setting* activity sheets (one set per student). The two sheets can be copied onto both sides of a single sheet of paper.
- If desired, make a transparency out of the *Sample Goal-Setting Calendar* master sheet. Alternatively, copies of this page can be made and handed out for students to refer to when the activity is introduced.

INTRODUCING THE ACTIVITY

Tailor your presentation to your individual style and to students' ability levels. Sample scripts and example questions are provided in italics.

- Begin the class with a review of the information from past activities and the *Every Body Eats* exhibit.
Who here remembers some of the reasons why it's important to eat healthy foods?
 - Possible answers include: Keeping our bodies strong and healthy (muscles, teeth, bones, heart, etc.).
 - Helping us to feel good (happy, energetic, etc.).
 - Giving us the energy to do our favorite activities (sports, play, school, etc.).
 - Keeping our brains working and helping us do well in school (smarter, better grades, pay attention in class, etc.).
- *Does anyone remember how many different servings of vegetables or fruits scientists recommend we eat in a day?*
In the past many sources called for five, but nutrition experts now recommend 9–13 servings of vegetables and fruits per day, depending on calorie needs.
- *Can anyone think of a thing we can do to be sure we're eating enough healthy foods and avoiding too much of the unhealthy ones?*
Students' answers will vary. If students have done the *Pocket Tally* activity, ask them if they can think of ways their results from that activity could help them accomplish this.
- *Who knows what it means to set a goal?* Students could also be asked to name a goal they have set for themselves in the past.

- *A goal is like a plan. Just as plans can change, a goal may need to be changed in order to achieve it. You can set goals for your schoolwork, your behavior, your physical fitness, or for nutrition.*
- Tell the class that they are going to do an activity where they will think of goals for their eating habits. They will record these goals by writing them down and then be able to check to see how well they reached them later.

PROCEDURE

- Pass around the *Goal Setting* activity sheets.
- Review with students the S.N.A.C.K. guidelines for goal setting.
- Use the overhead transparency or copies of the *Sample Goal-Setting Calendar* to show students how to fill out the calendar sheets and to provide examples of nutrition goals.
- At this point, the class can also brainstorm as a group some additional examples of good nutritional goals. It may be important to emphasize to students that their goals can be small.
- Help students fill out the dates as a group.
- *Now it's time to make your own list! Remember, your goals don't have to be too big, but they do need to be things you can count.*
- When students have completed their calendars, have them put them aside.
- *We'll be coming back to these at the end of the first week to see how well we did meeting our goals.*
- Students should review their goals for each week at a designated time in class. They can also set new goals for the coming week at the end of these discussions. It may also be valuable to encourage students to make notes on their calendars throughout the week.

DISCUSSION QUESTIONS

Remember, there are no incorrect answers. Let students present their ideas and guide the conversation to the greatest extent possible.

Teacher Note: Discussion for this activity can occur at the end of each week in addition to at the end of four weeks of monitoring or by using whatever structure seems most appropriate.

- Ask students to share some of the goals from their calendars.
- *Which goals were the hardest to reach? Which were the easiest? Did keeping track of goals help you eat a healthier diet than usual? How?*
Students may observe that paying more attention to their diets made it easier to make healthy choices and reach their goals, or that defining goals gave them a motivation to try to reach them.
- *Do you think that this activity helped you make permanent changes? Will you keep trying to reach some of these goals even when you're not writing them down?*

SETTING

Educators and parents seek to provide kids with the opportunity and knowledge to make healthful choices. Sometimes, though, in spite of our best efforts, we observe children who make mostly poor choices.

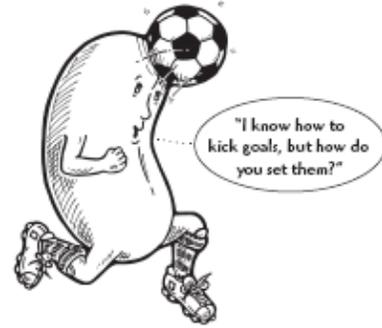
While we can offer nutrition experiences that reinforce good eating habits, provide mostly healthful food choices, and model good eating practices, the decision to put nutrition knowledge into practice ultimately lies with each child.

This activity empowers children by allowing them to set and monitor goals and make their own plans, reinforcing that they have control over their own health and nutrition.

Setting goals is something children can apply to many areas of their life. Parents and teachers can serve as role models by setting good health goals along with children. Following the S.N.A.C.K. system allows children to set effective goals that they are more likely to prove successful in achieving.

GOAL SETTING

Have you sized up your diet yet using the *MyPyramid*, *Pocket Tally* or *Nutrition Abacus*? Have you completed the *Weekly Activity Tally*? If so, you may have noticed a few changes you could make to improve your health habits.



Whenever you want to make a change, the first thing you need to do is to set a goal. A great way to succeed at setting and reaching your goals is to use the S.N.A.C.K. system.

S = Small

Is this goal small enough so I can meet it in a short period of time?

N = Needed

Is this a change that I need to make for better health?

A = Achievable

Can I achieve this goal? Will I need the help of others to meet this goal? Is it a goal that I can really accomplish?

C = Can I Count it?

Is this goal written in a way that I can count and measure my progress?

K = Know-How

Do I know enough to set this health goal? Where would I find more information on this topic?

You can keep track of your progress in meeting your goals by using the goal-setting calendar on page 24.

Q. Can you think of other ways to check your progress at meeting goals? (Some ideas are listed at the bottom of the page.)

A. Some ideas: bar, line or pie graphs; write a description of how you met your goal; draw a picture of how you met your goal

GOAL-SETTING CALENDAR

	SUN	MON	TUE	WED	THU	FRI	SAT	MY PROGRESS:
Name _____								
Week 1 Dates _____	<input type="checkbox"/> I met my goal!							
My Goal This Week: _____ _____								<input type="checkbox"/> I still need to work on this: _____ _____
Week 2 Dates _____	<input type="checkbox"/> I met my goal!							
My Goal This Week: _____ _____								<input type="checkbox"/> I still need to work on this: _____ _____
Week 3 Dates _____	<input type="checkbox"/> I met my goal!							
My Goal This Week: _____ _____								<input type="checkbox"/> I still need to work on this: _____ _____
Week 4 Dates _____	<input type="checkbox"/> I met my goal!							
My Goal This Week: _____ _____								<input type="checkbox"/> I still need to work on this: _____ _____

REMEMBER TO SET S.N.A.C.K. GOALS:
Small, Needed, Achievable, Can I Count It?, Know-How

SAMPLE GOAL-SETTING CALENDAR

Name Hugh

	SUN	MON	TUE	WED	THU	FRI	SAT	MY PROGRESS:
Week 1 Dates <u>4/5-4/11</u> My Goal This Week: <u>Try at least two new vegetables</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> I met my goal! <input type="checkbox"/> I still need to work on this:
	Tried jicama—YUM!		Mom put pea pods in the stir-fry			At school, we had baby corn on our salad. It was OK.		
Week 2 Dates <u>4/11-4/18</u> My Goal This Week: <u>Ride my bike to my friends' houses at least twice</u>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> I met my goal! <input type="checkbox"/> I still need to work on this:
		Rode bike to Susan's	Rode bike to Matt's (big hill!)			Rode bike to Matt's again!		
Week 3 Dates <u>4/19-4/25</u> My Goal This Week: <u>Eat breakfast every day this week (even if I have early band practice)</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> I met my goal! <input type="checkbox"/> I still need to work on this:
		Band practice - I got up earlier	Slept in, but ate breakfast at school			Band practice - breakfast at school		
Week 4 Dates <u>4/16-5/1</u> My Goal This Week: <u>Cut down on soda pop. I will drink only 3 cans instead of 7</u>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> I met my goal! <input checked="" type="checkbox"/> I still need to work on this: I need to remember to drink water instead
	1 can at Grandma's	NO SODA!	1 can	1 can at Roger's house	NO SODA!	1 can (movies)	1 can	

REMEMBER TO SET S.N.A.C.K. GOALS:
Small, Needed, Achievable, Can I Count it?, Know-how

Additional Resources

The following resources provide information and activities that may be useful to supplement the *Eat Well, Play Well* exhibit and Teachers' Guide.

Websites for Parents and Teachers

<http://www.kidnetic.com/Parents/> (Available in Spanish and English)

Includes a parents' guide to nutrition as well as articles on specific nutrition topics

www.mypyramid.gov (English)

<http://www.mypyramid.gov/sp-index.html> (Spanish)

The U.S. government's guide to healthy eating

<http://www.nutrition.gov/> (English)

The U.S. government nutrition site, with links to many other government health websites

<http://www.smallstep.gov/>

An online activity tracker plus information and games.

<http://www.screentime.org/>

Advocates to help families reduce TV and screen time.

<http://www.hsph.harvard.edu/nutritionsource/> (English)

Nutrition school of public health

<http://www.fruitsandveggiesmatter.gov/> (English)

Great science information and practical healthy eating tips and resources from the Centers for Disease Control and Prevention

<http://www.nutritionforkids.com/> (English)

Includes a nutrition newsletter, handouts and resources for teachers and parents, and more

<http://www.programenergy.org/> (English)

More classroom activities for elementary school students focused on nutrition and healthy eating

www.oms.edu/letsgetactive and www.oms.edu/everybodyeats (Available in English and Spanish)

The OMSI Nutrition and Fitness sites have nutrition information, online games based on the both the *Let's Get Active* and *Everybody Eats* exhibits, and links to other resources.

Websites for Students

<http://www.kp.org/amazingfooddetective> (Available in Spanish and English)
Amazing Food Detective is an online crime solving game that shows kids how to choose healthy foods and how to become more active.

<http://www.kidnetic.com/> (English)
Games, information, and resources

<http://www.bam.gov/> (English)
Information for kids about nutrition, physical activity, and other health and safety issues

<http://nutritionforkids.com/kidactivities.htm> (English)
Activities, recipes, links, and books

http://www.kidshealth.org/kid/centers/nutrition_center.html (English)
Nutrition and fitness information from Nemours Center for Children's Health Media, includes some resources in Spanish

<http://www.cspinet.org/smartmouth/> (English)
Kid nutrition site from the Center for Science in the Public Interest

http://exhibits.pacsci.org/nutrition/nutrition_cafe.html (English)
Nutrition games and information from the Pacific Science Center, Seattle