



# Section 1

## **Nutrition and Physical Activity Classroom Lessons and Promotions**



# Part I



## Classroom Lessons for Fourth Graders

The classroom lessons on nutrition and physical activity are the cornerstone of *Eat Well & Keep Moving*. Using a multidisciplinary teaching approach, the lessons contained in part I equip students with the knowledge and skills they need to choose a nutritious diet and be physically active both now and throughout their lives. Although effective on their own, these classroom lessons also serve as a springboard for all the other activities of *Eat Well & Keep Moving*—the promotions (part III); the physical education lessons (part IV); the FitCheck guide (part V) and FitCheck physical education microunits (part VI); the additional physical education microunits (part VII); and the cafeteria, school environment, and parent involvement components described in the web resource.

Part I includes the fourth-grade lessons, in which students learn to do the following:

- Make the switch from sugary drinks to water.
- Choose colorful fruits and vegetables instead of junk food.
- Choose whole-grain foods and limit foods with added sugar.
- Choose foods with healthy fat, limit foods high in saturated fat, and avoid foods with trans fat.
- Eat a nutritious breakfast every morning.
- Be physically active every day for at least an hour.
- Limit television and other recreational screen time to two hours or less per day.
- Get enough sleep to give the brain and body the rest they need.

Using subject areas ranging from language arts to mathematics, these lessons address overall health, the five food groups, smart snacking, and safe physical workouts.



# LESSON 1



# Healthy Living

## Background

Healthy living involves making lifestyle choices that maximize our physical and mental well-being. Healthy living encompasses more than just eating a nutritious and balanced diet. It also involves getting the exercise and rest our bodies need to stay healthy, as well as engaging in activities that we enjoy and that enhance our mental well-being.

It is important to recognize that our physical health and our mental health are interrelated. For example, exercising and eating a nutritious and balanced diet can help maintain physical health, boost mental health by increasing energy levels, and improve the ability to cope with stress. Spending time with friends can provide support for the many challenges we face in life as well as provide companions for physical activity. The key to healthy living is a balance of all aspects of life—physical, intellectual, social, and emotional.

Eating a nutritious and balanced diet and getting regular physical activity are the cornerstones of a healthy lifestyle. Eating the right foods provides the energy and nutrients our bodies need to stay healthy and helps fight and prevent many infections and diseases. Similarly, regular physical activity helps prevent heart disease, obesity, diabetes, cancer, osteoporosis, and a host of other diseases. What we eat and how much activity we get affect not only how our bodies perform and feel today but also our health for the next 10, 20, and 30 years and beyond.

## Building a Healthy Foundation

The following guidelines can help you eat well and keep moving toward a lifetime of healthy living.

### Principles of Healthy Living



- **Make the switch from sugary drinks to water.** Water is essential to human survival, optimal functioning, and health, which is why it should be the go-to choice when deciding what to drink. Sugary beverages such as soda, sports drinks, energy drinks, and fruit drinks are filled with empty calories, meaning that they provide many calories but almost none of the nutrients the body needs to stay healthy and grow strong. Research shows that children who have too much sugar are at risk for unhealthy weight gain and type 2 diabetes. For more on the benefits of choosing water over sugary drinks, refer to lessons 7 and 8.



- **Choose colorful fruits and vegetables instead of junk food.** Fruits and vegetables are packed with vitamins, minerals, antioxidants, and fiber, and they also provide healthy carbohydrate that gives us energy. A good goal is eating five servings each day—and more is always better—so fill half your plate with fruits and vegetables at every meal, and eat them as snacks instead of junk food such as chips, candy, and other sweets. Choose fruits and vegetables in a rainbow of colors (especially dark-green and orange vegetables). For more on fruits and vegetables, refer to lessons 11 and 12 and to the schoolwide promotion, Get 3 At School and 5+ A Day (lesson 30).



- **Choose whole-grain foods and limit foods with added sugar.** Minimally processed whole grains are a better choice than refined grains. Whole grains contain fiber, vitamins, and minerals, whereas the refining process strips away many of these beneficial nutrients. Even though some refined grains are fortified with vitamins and minerals, fortification does not replace all of the lost nutrients. In addition, refined grains get absorbed by the body very quickly, which can cause blood sugar levels to spike. In response, the body quickly takes up sugar from the blood to bring sugar levels down to normal. Working so quickly may cause the body to overshoot things, however, making blood sugar levels a bit lower than they should be. This can cause feelings of false hunger even after a big meal, as well as tiredness. Choose whole grains (such as steel-cut oats and 100% whole-wheat bread) whenever possible, making sure to check the nutrition facts label and in-

ingredients list for added sugar. For more on whole grains and healthy carbohydrate, refer to lessons 2 and 13.

- **Choose foods with healthy fat, limit foods high in saturated fat, and avoid foods with trans fat.** Plant-based foods, including plant oils (such as olive, canola, soybean, corn, sunflower, and peanut oils), nuts, and seeds, are natural sources of healthy fat, as are fish and shellfish. Healthy fat can help lower the risk of heart disease and stroke. Unhealthy fat—including saturated fat—increases the risk of heart disease and stroke. Most foods that are high in saturated fat come from animals, including dairy fat, the fat in meat, and lard. However, even a few healthy plant-based foods and fish contain small amounts of saturated fat, so we can't completely eliminate it from our diet. As a general rule, keep your intake of saturated fat as low as possible, opting for healthy foods such as salmon, almonds, and avocados instead of hamburgers and cheesy pizza. The worst type of unhealthy fat is trans fat, which raises the risk of heart disease, stroke, and possibly diabetes. Trans fat is formed when healthy vegetable oils are partially hydrogenated (a process that makes the oil solid or semisolid and makes the fat more stable for use in packaged foods). Foods with trans fat and partially hydrogenated oils should be avoided.\* For more on choosing foods with healthy fat, refer to lessons 5 and 6.

*\*At the time of publication, the FDA banned the use of partially hydrogenated oils in food products, giving manufacturers three years to comply with the decision. This edition's messaging on avoiding trans fat from partially hydrogenated oils remains important guidance during the transitional period.*



- **Eat a nutritious breakfast every morning.** Breakfast is a critical meal because it gives the body the energy it needs to perform at school, work, or home. Studies have shown that breakfast can improve learning, and it helps boost overall nutrition. Many common breakfast foods can be rich in whole grains, and it's a great meal in which to incorporate colorful fruits and vegetables. For more on eating breakfast, refer to lesson 13.



- **Be physically active every day for at least an hour.** Regular physical activity not only improves our physical health (by helping to prevent unhealthy weight gain, obesity, and several chronic diseases) but also benefits our emotional well-being. Children should get at least 60 minutes of physical activity every day, which can be broken up into multiple sessions throughout the day. This can include active free play, as well as structured activities that are age appropriate, are enjoyable, and offer variety. Any episode of moderate- or vigorous-intensity physical activity, however brief, counts toward the daily goal. For more on physical activity, refer to lessons 3, 9, and 14 as well as to the physical education lessons and microunits in parts IV through VII.



- **Limit TV and other recreational screen time to two hours or less per day.** The more television you watch, the less time you have to engage in physical activity or other healthy pursuits; the same goes for spending time online on your computer or smartphone for fun, text messaging, and playing video games. Watching more television means seeing more ads for unhealthy foods, and research suggests that this leads to consuming more calories. Such sedentary behavior combined with a poor diet can lead to unhealthy weight gain. Children should limit total recreational screen time to no more than two hours each day, whether it be on a TV, computer, smartphone, or other handheld device—anything with a screen counts. For more on reducing screen time, refer to lesson 10 or to the schoolwide promotion, Freeze My TV (lesson 29).



- **Get enough sleep to give the brain and body the rest they need.** It takes a lot of energy to work hard in school, eat well, and stay active, which is why it's important to get enough rest to recharge for the next day. Children who don't get enough sleep have a harder time paying attention in school, and lack of sleep is linked to unhealthy weight gain. Children ages 6 to 12 should be getting at least 10 hours of sleep each day, so it's important to set up a regular bedtime routine and provide a bedroom without a TV and with smartphones and other screens turned off. For more on sleep, refer to lesson 10.



## Food Groups and the Kid's Healthy Eating Plate at a Glance

Eating a variety of foods keeps our meals interesting and flavorful. It's also the key to a healthy and balanced diet because each food has a unique mix of nutrients—both macronutrients (carbohydrate, protein, and fat) and micronutrients (vitamins and minerals). Vegetables, fruits, grains, protein, and dairy make up the five basic food groups, but not all options within these groups are equally beneficial or healthy, and some foods—especially those from plants—are needed in greater proportion than others (see table 1.1). The Kid's Healthy Eating Plate (see figure 1.1) provides a blueprint to help us build a balanced meal with the *best choices from each group*.

Along with filling half of our plate with colorful *vegetables* and *fruits*, split the other half between *whole grains* and *healthy protein*. Minimally processed whole grains make better choices than refined grains, especially when we look out for added sugars. Healthy protein includes mostly plant-based options such as nuts, seeds, and beans, but poultry and fish are also excellent choices. Foods from the *dairy* group are needed in lower proportions than foods from the other groups, but milk and other dairy foods are common sources of calcium and vitamin D, so choose unflavored milk, plain yogurt, or other unsweetened dairy foods.

### DAIRY RESEARCH

Milk and dairy foods are a convenient source of calcium, vitamin D, and other nutrients for many people, but the optimal intake of dairy products has yet to be determined and the research is still developing. To review the most up-to-date evidence on dairy consumption, visit the Kid's Healthy Eating Plate web page on The Nutrition Source: [www.hsph.harvard.edu/nutritionsource/kids-healthy-eating-plate](http://www.hsph.harvard.edu/nutritionsource/kids-healthy-eating-plate).

The Kid's Healthy Eating Plate also includes elements that are not part of the five food groups but are additional important reminders for maintaining a healthy diet and lifestyle.

- *Healthy oils* (plant-based oils such as olive and canola oil) are a great source of healthy fat and should be used when cooking or as dressing on a salad.
- *Water* should be the drink of choice at every meal and snack, as well as when we are active.
- Note that the Kid's Healthy Eating Plate does not contain sugary drinks, sweets, and other junk foods. These are not everyday foods and should be eaten only rarely, if ever.
- Finally, just like choosing the right foods, incorporating physical activity into our day by *staying active* is part of the recipe for keeping healthy.



**TABLE 1.1 Best-Choice Foods in Each Food Group**

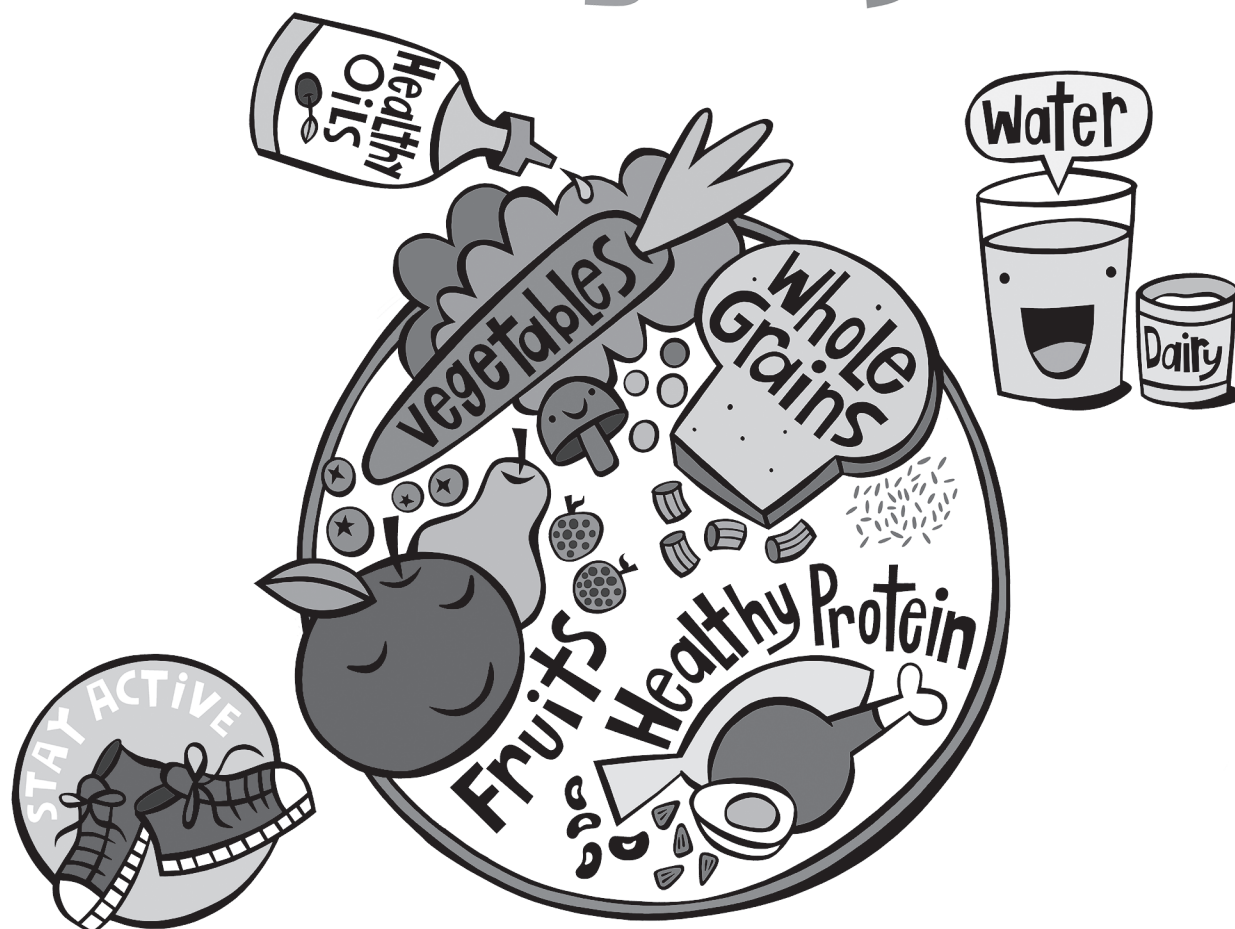
Food group	How to choose	Examples of best-choice* foods
Grains	<ul style="list-style-type: none"> <li>• Whole grains—Choose whole grains or foods made with minimally processed whole grains.</li> <li>• Choose foods that list a whole grain as the first ingredient.</li> <li>• Watch out for added sugar on the nutrition facts label and ingredients list. Remember that there are many names for added sugar, including corn syrup, sucrose, honey, and molasses.</li> </ul>	Whole grains (barley, brown rice, buckwheat, bulgur, millet, quinoa, wheat), breads (100% whole-wheat or -rye bread, 100% whole-grain rolls, stone-ground corn or 100% whole-wheat tortillas, 100% whole-wheat pitas), cereals (steel-cut oatmeal, seven-grain hot cereal, ready-to-eat cereals made with whole oats, whole wheat, or other whole grains), pasta (100% whole-wheat noodles, soba noodles), crackers (100% whole-wheat crackers, whole-rye crispbread), pancakes (100% whole wheat or buck-wheat)
Vegetables	<ul style="list-style-type: none"> <li>• Choose a rainbow of colors, especially dark green and orange.</li> <li>• Potatoes don't count as vegetables.</li> </ul>	Collard greens, mustard greens, spinach, kale, chard, bok choy, green cabbage, red cabbage, winter squash, summer squash, zucchini, sweet potatoes, broccoli, carrots, tomatoes, turnips, string beans, lettuce, onions, okra, beets, cauliflower, brussels sprouts, beans and peas (kidney beans, black beans, soybeans, chickpeas, lentils, black-eyed peas)
Fruits	<ul style="list-style-type: none"> <li>• Choose a rainbow of colors.</li> <li>• Choose whole fruits or sliced fruits (rather than fruit juices; limit fruit juice to no more than 4-6 oz, or 120-170 ml, per day).</li> </ul>	Peaches, nectarines, cantaloupe, watermelon, grapefruit, raisins, apples, pears, oranges, strawberries, tangerines, grapes, pineapple, mangoes, blueberries, cherries, figs, kiwi fruits, avocados
Protein	<ul style="list-style-type: none"> <li>• Choose beans and peas,** nuts, seeds, and other plant-based healthy protein options, as well as fish and poultry.</li> <li>• Limit red meat (beef, pork, lamb) and avoid processed meats (bacon, deli meats, hot dogs, sausages).</li> </ul>	Beans and peas (kidney beans, black beans, soybeans, chickpeas, lentils, black-eyed peas), nuts (almonds, hazelnuts, walnuts), nut butters (peanut butter, almond butter), seeds (sunflower, pumpkin), tofu and other high-protein vegetarian alternatives (tempeh, falafel, veggie burgers), fish (salmon, trout, cod, shrimp, crab, scallops, light tuna, sardines), eggs, poultry (chicken, turkey)
Dairy	<ul style="list-style-type: none"> <li>• Choose unflavored milk, plain yogurt, small amounts of cheese, and other unsweetened dairy foods.***</li> <li>• Dairy foods are needed in lower proportions than foods from the other groups.</li> </ul>	Unflavored milk, plain yogurt, string cheese (mozzarella cheese sticks), cottage cheese, cheddar cheese

\*Best-choice foods contain the most nutrients and contribute to overall health.

\*\*Beans and peas can be considered part of the vegetable group as well as the healthy protein group.

\*\*\*Plain yogurt and other unsweetened dairy foods can also be a good source of protein. Students who cannot consume dairy can choose lactose-free milk or calcium-fortified nondairy alternatives such as unflavored and unsweetened rice milk or soy milk.

# Kid's Healthy Eating Plate



**Figure 1.1** The Kid's Healthy Eating Plate helps you build a balanced meal with best-choice foods.

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## Estimated Teaching Time and Related Subject Area \_\_\_\_\_

**Estimated teaching time:** 1 hour, 10 minutes

**Related subject area:** social studies

## Objectives \_\_\_\_\_

- Understand the concept of healthy living.
- Learn about the food groups and how eating a variety of foods contributes to a healthy diet.
- Recognize what can be done to lead a healthier life.

- Worksheet 1.1, Eat Well & Keep Moving Fortune Teller
- Worksheet 1.2, Help! You're the Doctor
- Worksheet 1.3, The Doctor Says
- Worksheet 1.2 Solutions
- Worksheet 1.3 Solutions
- Handout 1.1, Best-Choice Foods in Each Food Group
- Overhead 1.1, Principles of Healthy Living
- Overhead 1.2, Kid's Healthy Eating Plate (display and make copies for students)



## Procedure

*You may choose instead to ask the students to consider the lifestyles of other types of workers such as a construction worker, a cafeteria worker, or a retail employee; you may also change the setting from city to suburban or rural.*

1. Discuss experiences in the everyday life of a person who lives in a city—buses, trains, cars, restaurants, busy streets, supermarkets, high-rise buildings, noise pollution. Ask students how the lifestyle of an office worker in the city can vary (and thus be healthy or unhealthy) depending on that person's choices. Have the students discuss the similarities and differences of these lifestyles. Record their answers on the board. Table 1.2 provides examples of differences between a healthy and an unhealthy lifestyle.
2. Discuss with students how people's lifestyles greatly vary and how lifestyle can affect a person's health. With the help of the students, list on the board all the things we do to stay healthy, such as exercising, resting, sleeping, eating right, bathing, cleaning our living and work environments, visiting the doctor and dentist for checkups, and trying to be safe.
3. Distribute Worksheet 1.1, *Eat Well & Keep Moving Fortune Teller*, to each student for assembly. Use Overhead 1.1 to discuss the healthy living concepts and the key messages for building a foundation of health.
4. Display and distribute Overhead 1.2, *Kid's Healthy Eating Plate*, and remind students that the plate provides a blueprint to help us build a balanced meal with a variety of best choices from each of the five food groups. Discuss some healthy foods that fall within each food group. Notice that the *Kid's Healthy Eating Plate* includes important reminders for maintaining a healthy lifestyle that are also mentioned in their *Fortune Tellers* and in the *Principles of Healthy Living*.
5. Explain that physical activity is a vital component of a healthy lifestyle. Discuss the types of physical activities that the students enjoy, and remind them that all activities (whether a team sport, something done just for fun, or a day-to-day activity such as walking to school or helping around the house) help build their fitness levels and overall health. Remind them that the more time they spend in front of a screen (whether it be on their computers or smartphones, or watching TV), the less time they have to engage in physical activity. Explain the relationship between physical activity, screen time, and sleep by discussing the potential impact of screen time on bedtime and sleep routines and the importance of getting adequate sleep to engage in daily physical activity.
6. Reiterate that healthy living involves a balanced and varied lifestyle. Tell students that it is important to eat a balanced and varied diet and to engage in a variety of activities in all aspects of life—social, intellectual, physical, and emotional. For example, activities such as spending time with friends, reading, talking with family members, walking, dancing, running, playing sports, and even spending some quiet time alone add to personal well-being. Have students illustrate activities they can choose to do that will ensure that their lifestyles are varied and balanced.
7. Distribute Worksheet 1.2, *Help! You're the Doctor*. Have students read about the people with health concerns and answer the questions in the spaces provided on the worksheet. Discuss the answers with the class.
8. Distribute Worksheet 1.3, *The Doctor Says*. Have students consider the *Eat Well & Keep Moving Fortune Teller*, the *Kid's Healthy Eating Plate*, and the recommendation to eat a variety of foods from each food group, and then suggest foods that the people discussed in Worksheet 1.2 should consider including in their diets. (You may assign this activity to small groups who then present their recommendations to the class.) Remind students of the five food groups and the healthy choices in each group (Handout 1.1, *Best-Choice Foods in Each Food Group*). Remind them that the *Eat Well & Keep Moving Fortune Teller* also gives them ideas of good food choices (whole grains, fruits, vegetables, and foods with healthy fat but not sugary drinks and foods with added sugar).

**TABLE 1.2** Healthy and Unhealthy Lifestyle Choices

	Active and healthy	Inactive and unhealthy
Getting to work	Walks to work (at least part of the way) or rides bike to work.	Drives to work.
Taking breaks during work	Goes for a short walk during work breaks.	Sits and spends time online during work breaks.
Eating snacks and lunch	Brings healthy snacks and lunch from home.	Eats fast food at lunch or grabs junk food from vending machine.
Having fun at work	Walks with friends or plays sports during free time.	Watches TV or spends time on a smartphone during free time.
Eating dinner	Cooks healthy meals at home.	Eats out all the time, usually fast food.
Shopping for food	Buys healthy, fresh food.	Buys packaged, processed food.

## Extension Activities

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1. Gather the students into small groups in which they take turns with the Eat Well & Keep Moving Fortune Teller and discuss the healthy living message that is revealed during their turns. Ask them to discuss how they can apply the message to their own lifestyles and to describe the changes they could make.
2. In pairs, have students take a turn with the Eat Well & Keep Moving Fortune Teller and create one poster illustrating the first healthy living message that is revealed. Ask the students to write letters to the cafeteria manager requesting permission to display the posters in the cafeteria.

