

Whole Grains and Food Fun in an After-School Program

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ABSTRACT

Programs in community-based, after-school settings are ideal to teach children about healthy eating. **Objectives:** After completing this Whole Grains & Food Fun lesson, children will be able to: (1) list at least two benefits of eating more whole grains, (2) demonstrate skills involved in child-friendly, basic food preparation, and (3) choose a whole grain food for each meal. **Target Audience:** This teaching idea is appropriate for children, ages 6-11, participating in a community-based, after-school program.

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INTRODUCTION

Childhood obesity has become a critical public health problem with the prevalence of overweight and obese children tripling from the 1960s through 2006.¹ The diet quality of children and adolescents needs improvement. Overall, children's dietary patterns today are low in fruits and vegetables, whole grains, and dairy foods and are high in fat and added sugars.² In many government health documents, the importance of whole grains as a part of a healthy diet is stressed. For example, one objective of *Healthy People 2010* is "to increase the proportion of persons aged 2 and older who consume at least 6 daily servings of grain products, with at least 3 being whole grains."³ Results from studies, however, reveal that children average only 0.9 whole grain servings per day.⁴ In the *2005 Dietary Guidelines for Americans*, the value of whole grains is highlighted, with

suggestions that individuals who consume the recommended amount of whole grains may reduce their risk of heart disease and the likelihood of becoming overweight.⁵ Experts believe that consuming whole grain foods early in life helps build lifelong healthy eating behaviors and will decrease some chronic disease risks later in life.⁶

Without exposure to whole grains, children tend to favor refined grains over whole grains.⁷ Therefore, children need opportunities to learn about whole grain foods and taste a variety of whole grains. Nutrition educators recommend food preparation as an effective method of nutrition education when working with children.⁸ School or community-based, after-school settings are important arenas for nutrition education because large numbers of students participate in these programs.⁹ In after-school nutrition programs, students can be introduced to

nutrition messages. These messages support messages taught in school. As part of these programs, take-home materials should be included for parents and caregivers.




In planning nutrition education for children, educators should use evidence based guidelines, such as the *2005 Dietary Guidelines for Americans* and *MyPyramid*, to provide consistent messages to children. In the *2005 Dietary Guidelines for Americans*, it is recommended that children and adolescents consume at least half of their grains as whole grains, that is, three out of six servings per day.⁵ Whole grains are important sources of several nutrients and dietary fiber. The purpose of this lesson is to educate children

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Figure 1. Example of Key Nutrition Message

“Make half your grains whole grains – Eat a whole grain at every meal.”

Breakfast	Lunch	Dinner
		
Oatmeal with Fresh Fruit	Turkey on Whole Wheat Bread	Chicken, Broccoli & Brown Rice

attending a community-based, after-school program about whole grains by participating in child-friendly activities, simple food preparation and food tasting. The key nutrition message is “Make half your grains whole grains – Eat a whole grain at every meal.”

OBJECTIVES

Students who complete this lesson will be able to:

- List at least two benefits of eating more whole grain foods
- Demonstrate skills involved in child-friendly, basic food preparation
- Choose a whole grain food for each meal

MATERIALS AND RESOURCES

For the Nutrition Message:

- *MyPyramid for Kids* poster available to teachers and child care providers from Team Nutrition at <http://tn.ntis.gov/>.
- Pictures of grains to adhere to *MyPyramid*. The pictures can be taken from magazines or printed from Clip Art.
- A large poster with the message “Make half your grains whole grains – Eat a whole grain at every meal” (see Figure 1).
- Book on grains for 6-8 year olds (Example:

Bread, Bread, Bread by Ann Morris).

- Activity on grains for 9-11 year olds (Create a whole grain word search puzzle at <http://puzzlemaker.discoveryeducation.com/WordSearchSetupForm.asp>).

For the Cooking Activity

- Electric griddle
- Quart sized jar for pancake batter
- Large mixing bowl
- Measuring cups and spoons
- Ingredients for whole grain pancake recipe (see Figure 2)
- Small paper plates and plastic forks

Take Home Materials

- *MyPyramid for Kids* mini posters available from Team Nutrition at <http://tn.ntis.gov/> (Available in English and Spanish).
- *MyPyramid* refrigerator magnets available at http://www.oregondairyCouncil.org/catalog/category/detail/?cat_id=6&catitem_id=256&anchor=12. (Available in English and Spanish).
- Whole grain recipe (Figure 2).
- Whole grain message for parents. (“Make half your grains whole grains – Eat a whole grain at every meal”).

TARGET POPULATION

This lesson is designed for school-aged children ages six through eleven who are participating in a community-based, after-school program. The lesson also can be used in school-based, after-school programs. The nutrition message and “Let’s Cook” (see Procedures) components can be adapted for middle school audiences using age appropriate nutrition activities.

PROCEDURES

This lesson should take about one hour. The two components of the lesson are: (1) the nutrition education message that emphasizes “Make half your grains whole grains – Eat a whole grain at every meal” and (2) “Let’s Cook,” which is used to teach children some basic food preparation skills and encourage them to taste what they cook. A community center building may not have kitchen space available. Therefore, directions are given for the instructor to set up the cooking space in a large room with a table and electrical outlet and a space for the nutrition education component.

Setting up a “kitchen” in a community center:

- Set up work space for the cooking com-



Figure 2. Recipe for Let's Cook

Whole Grain Pancakes

Have all dry ingredients measured and in quart sized mayonnaise jar.

- 1 cup whole wheat flour
- 1 cup white flour
- 2 teaspoons baking powder
- 1 teaspoon cinnamon (optional)
- 1 teaspoon sugar
- 2/3 cup nonfat powdered milk

Ask four children to volunteer. The instructor should help one child put the contents of the jar into a large bowl and have the other volunteers add:

- 1/3 cup canola oil
- 2 eggs or 1/2 cup egg substitute
- 2 cup water

Ask two more children to volunteer, taking turns to mix the pancake batter with a large wooden spoon until just blended.

An adult should preheat the griddle and pour about 1/4 cup of the batter onto griddle to make pancakes.

Cook until pancakes begin to bubble. Under supervision, children can turn the pancakes.

Serve plain or with fresh fruit topping.

ponent. This work space can be accomplished with minimal equipment that can be brought to the site in a large plastic container. You will need a table and an electrical outlet for the griddle.

- Hand-washing facilities should be available for children to wash their hands before food preparation.

- Set up space for the nutrition education message. Design a space for children to sit comfortably. In this area hang the *MyPyramid for Kids* poster.

The nutrition education message:

- Introduction – require children to write their names on name tags and place a sticker of whole grain food on the name tag. Whole grain stickers can be purchased at a teacher supply store or from Nasco online catalog at <http://www.enasco.com/nutrition/>.

- Bring about 20 pictures of foods from magazines or Clip Art with double sided tape or Velcro. Ask each child to take a picture of a food and attach it to the correct part of *MyPyramid*. The emphasis will be on whole grains.

- After children return to their seats, the

instructor will introduce a variety of whole grains in see-through packages (examples – brown rice, whole grain breakfast cereals, whole wheat pasta, whole wheat tortillas). The grains should be culturally appropriate for the audience.

- The instructor should emphasize the key nutrition message on whole grains. Figure 1 is an example of a sign that may be used to emphasize the key message; this sign should be displayed at the community center during and following the lesson. The instructor should provide examples of whole grain foods that can be a part of every meal.

- If an assistant is available, instruct the assistant to read the book *Bread, Bread, Bread* to the 6-8 year old children. The older children, ages 9-11, could be engaged in the whole grain word search puzzle. The instructor will move to the cooking area and make preparations for the children to cook pancakes.

Let's Cook:

- Have all the ingredients for the whole grain pancakes measured. Put the dry ingredients in the quart size jar.

- In small groups, have children participate in making whole grain pancakes using the recipe in figure 2. Instructors must supervise preparation and cooking on the electric griddle.

- Each child tastes one whole grain pancake topped with fresh fruit.

Wrap-up:

- Ask students why whole grains are an important part of healthy eating.

- Ask each child what type of whole grain food s/he will have at lunch tomorrow.

- Distribute parent nutrition message and recipe handouts.

ASSESSMENT

Because the setting for this teaching strategy is in an after-school format, grades are not assigned to students. Nevertheless, to evaluate the lesson in meeting the specified objectives, upon completion of this teaching idea, 9-11 year old children should be asked to write two benefits of eating whole grains. Younger children should be interviewed to obtain their responses on the two



benefits of eating whole grains. Each child's response should be assigned points—from 0 to 2—based on correctly identifying whole grain benefits. A score of 2 will indicate that the child has achieved the first objective of the lesson, which is to identify two benefits of eating whole grains. One point indicates that the child correctly identified one benefit. Through observing the children preparing pancakes during “Let’s Cook,” objective two may be evaluated. Each child receives either a 0 or 1, indicating that s/he participated or not. To evaluate if students met the third objective, the instructor should return to the community center one week following the lesson to ask the children to write what they had for breakfast, lunch and dinner the previous day. From an examination of these food records, 1 point will be given for each whole grain at a meal. A score of 1 for each meal will indicate that the student has achieved the third objective. A total score of greater than or equal to 6 from all three measures demonstrates that the child achieved all three objectives of the lesson. The lesson

should be considered successful if at least 80% of the children receive a score greater than or equal to 6.

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