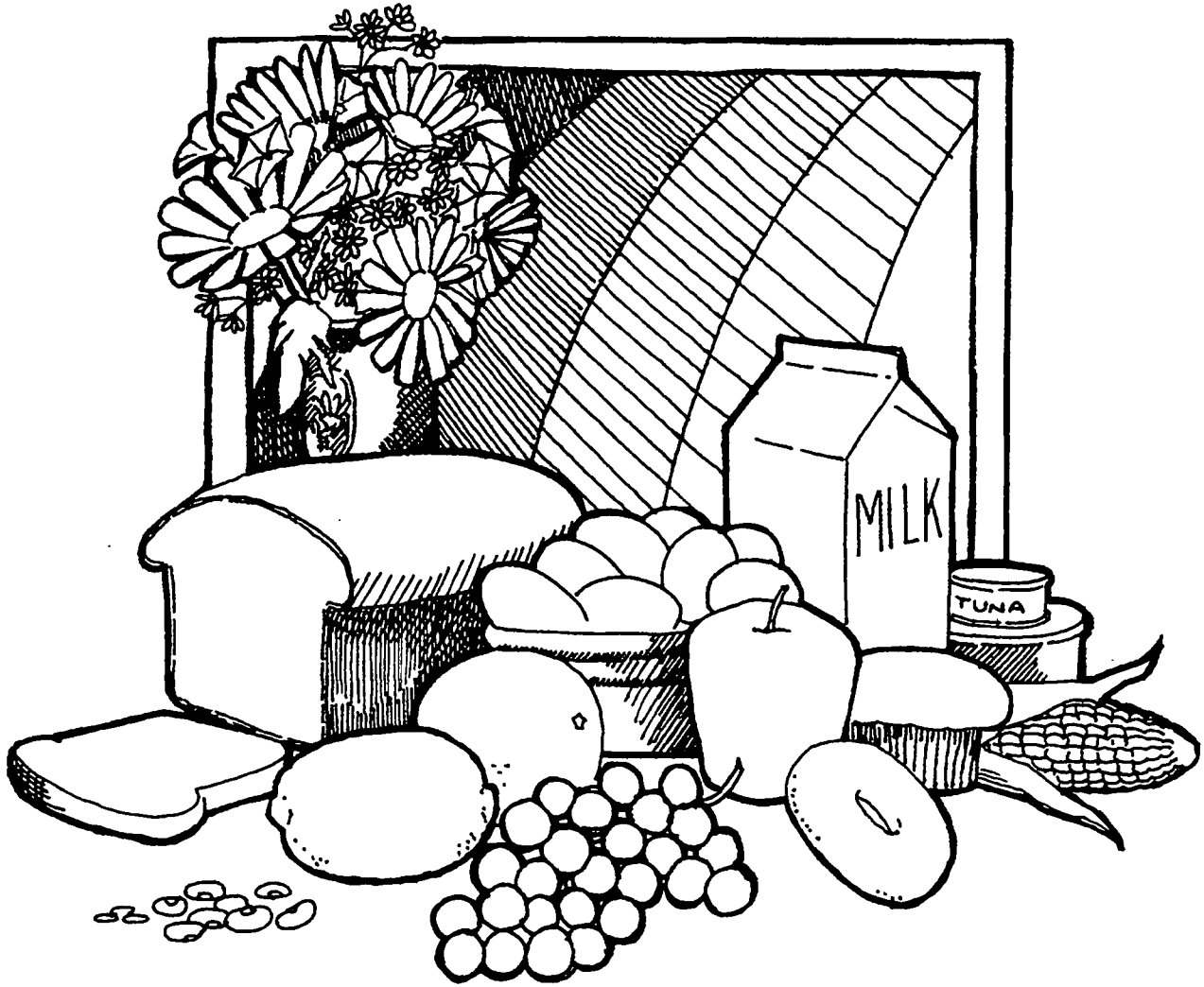


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NUTRI-KIDS CREATE A
Rainbow Garden



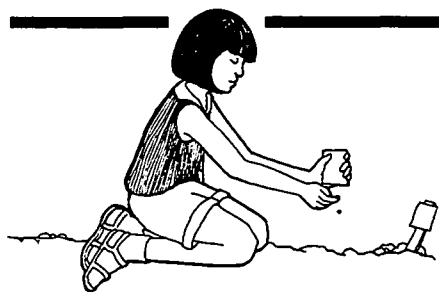
Teacher Guide
Expanded Food and Nutrition Education Program (EFNEP)
PNW 451 • August 1993
Oregon • Washington • Idaho

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INTRODUCTION

Nutri-Kids Create A Rainbow Garden

This is the third publication in the *Nutri-Kids* series by the Expanded Foods and Nutrition Education Program (EFNEP) of Oregon. The federal program, administered by OSU Extension Services, offers nutrition education to low-income adults and youth.

Nutri-Kids Visit the Zoo (first grade materials) and *Nutri-Kids Visit Goodeater Farm* (kindergarten materials) are available from county OSU Extension offices in Oregon.

In this publication, the *Nutri-Kids* are:

- Marc, who lives with his grandparents;
- Holly, who lives with her mother and an infant brother;
- Barry, who lives with his parents;

- Sabena, who doesn't talk about home much;
- Elizabeth, who lives with her parents and a grandmother; and
- Jacob, who has four brothers and sisters.

They are ethnically mixed—Marc and Sabena are black, Holly is Native American, Barry is Hispanic, Elizabeth is Vietnamese-American, and Jacob is white.

Resources

Gardening references include:

A Child's Garden, 4-H 230L (order from Oregon only)

The National Gardening Association Guide to Kids' Gardening, (Lynn Ocone with Eve Pranis, John Wiley & Sons Inc., 1990)

Vegetable Garden Leaders Guide, PNW 167 (order from Idaho, Oregon, or Washington)

For nutrient information:

Nutritive Value of Foods (order USDA Home and Garden Bulletin No. 72, Idaho; or PNW 357, Oregon and Washington)

Ordering addresses

Idaho: Agricultural Publications, Idaho St., University of Idaho, Moscow, ID 83844-2240; (208) 885-7982.

Oregon: Publications Orders, Agricultural Communications, Oregon State University, AdS 422, Corvallis, OR 97331-2119; (503) 737-2513.

Washington: Bulletin Office, Cooperative Extension, Cooper Publications Bldg., Washington State University, Pullman, WA 99164-5912; (509) 335-2857.

If you use videos or computer programs in your classroom, note that on the Evaluation Form, pages 21-22. Let us know what kind of computer you use.

Visuals you can create

- You may want to create a poster of a community garden. Include flowers, fruit trees, bushes, and vegetables.
- Or make a community poster, including all the businesses or agencies involved with food. Also include advertising sources like the TV, radio, and newspaper. Don't forget the services for people with low incomes, such as food banks, Women, Infant, and Children clinics, and the Human Resources office.

Before you begin, read this...

There are now **five** food groups. The number of servings differs considerably from the past. For children aged 7 to 10, the minimum number of servings is now 6-3-2-2-2 and the range is as follows:

- 6-11 servings of breads, cereals, rice, and pasta
- 3-4 servings of vegetables
- 2-3 servings of fruit
- 2-3 servings of milk, yogurt, and cheese (2-3 for adults)
- 2-2 1/2 servings of meat, poultry, fish, dried beans, eggs, and nuts

Some of you may remember that the number of food groups has varied over the past 50 years. This latest change is intended to focus attention on whole grain foods and vegetables and to decrease the amount of fat consumed in the U.S. diet. High-fat diets have been linked with obesity and certain kinds of cancer. Emphasize whole grain breads and cereals, nutrient-dense foods, and low-fat foods. Variety is the key; aim for a balance over a week's worth of meals.

- You could create a third poster by tracing a student's silhouette. Sketch in a bone, heart, brain, eyes, teeth, portion of skin, stomach, and a couple of injuries such as a cut or bruise; use these to show where the major nutrients are at work in the body. (This is an option in Lesson Six. See page 19 for the necessary information.) Around the figure, place the five food group categories. Use yarn and pins to make lines from the food groups to the primary nutrients they supply.

Objectives

The main objectives of this publication are:

- To support the Oregon Department of Education Health Education Curriculum, revised March 1988.
- To help children choose a healthy diet as recommended by the 1990 U.S. Department of Agriculture Dietary Guide lines (see box).

Pre- and post-tests are included for evaluation purposes and to allow student and teacher input.

The lessons are divided into units of knowledge rather than units of time. Length of lessons will depend on the activities you choose.

The lessons are offered as story narratives with supporting activities in three categories. The narratives provide the information the students will need to be successful in the activities. If you prefer not to read the stories, scan the margin for nutrition concepts, safety concepts and consumer concepts the lesson story addresses.

Choose the optional activities that best fit your classroom's needs. You are not expected to do every option; a chart to help you choose is on page 6.

Food preparation in the classroom is a challenge. But food preparation activities give children skills they need in today's busy households. That is particularly important for children who are often on their own. Setting up a "kitchen box" with frequently used equipment can help. Small appliances and camp coolers can make the impossible possible.

If food handling activities no longer are allowed in your district, consider out-of-the-classroom options. Field trips to a senior citizen nutrition site, nursing home kitchen, hospital kitchen, cannery, caterer, restaurant, bakery, dairy, grocery meat counter, or any food manufacturer support the learning activities. Another possibility is a field trip to the school kitchen or a home economics classroom.

Parent involvement in nutrition education is as invaluable as it is difficult to obtain. Children cannot eat well if parents are not buying nutritious foods. A sample letter to solicit parents' involvement is on page 20.

Lesson Summaries

Lesson One introduces the five food groups. The activities have the children differentiate between foods high or low in nutritional value and visualize the importance of water as a nutrient. An activity on kitchen measurements helps students estimate food consumption.

We recommend you repeat the "What did we eat" activity with each lesson. It helps make the students more aware of what they eat. It also give you a glimpse into the families' eating patterns and areas you might need to stress.

Lesson Two introduces the nutrients in each food group. An activity lets them create their own celebration from healthy alternatives.

USDA Dietary Guidelines for Americans (1990)

- Eat a variety of foods
- Maintain a healthy weight
- Choose a diet low in fat, saturated fat, and cholesterol
- Use sugars only in moderation
- Use salt and sodium only in moderation
- If you drink alcoholic beverages, do so in moderation

Lesson Three explores food labels as a source of nutrition information.

Lesson Four introduces food safety—handwashing and proper food storage. Activities let students visualize germs and observe the decay of foods.

Lesson Five explores advertising. Activities include class discussion of advertising's influence on students, ways and reasons local businesses advertise, a closer look at ads aimed at children, and an activity to create ads for healthy foods or activities.

Lesson Six links exercise, health, and food consumption; introduces the consequences of a poor diet; and reviews nutrients' uses in the body. Activities include an exercise exploration project, a body/nutrient map, a summary writing exercise, and a survey of nutrition information children have available to them.

Nutri-Kids Create a Rainbow Garden is about a group of children who want to have a garden. Growing things, even a few potted flowers, can be a springboard to introduce children to a wide variety of concepts in science, math, nutrition, physical education, and the environment. You can find resources for detailed youth gardening activities on the previous page.

Teacher Planning Guide

Major Oregon Dept. of Education nutrition strand education recommendations for second grade addressed in this guide. (ELS = Essential Learning Skill)

	Experience food variety (ELS 3.1)	Label foods as high or low in nutritional value (ELS 6.1)	Tell how to live a healthful life (ELS 7.4)	Describe the consequences of poor nutrition (ELS 6.4)	Identify the influence of advertisements (ELS 4.1)	Locate nutrition information sources (ELS 7.2)	Chart food intake (Health Ed Common Knowledge and Skills)
Lesson One (Food groups)							
What did we eat?							X
Taste-test	X						
Everybody needs water				X			
Nutri-Kids' neighborhood		X					
Support: Food is fuel, How much is a cup? Plant a garden, and field trip							
Two (Nutrients)							
What did we eat?							X
Fast foods	X						
Plan a celebration			X				
What's a healthy food?		X					
This is good for me		X					
Composting							
Three (Labels)							
What did we eat?							X
Dry foods	X						
Reading labels		X					
Favorite meals			X				
Four (Food Safety)							
What did we eat?							X
Tortillas con queso	X						
Get these germs off my hands			X				
I am a germ			X				
Mold grows on food			X				
Germs in my lunchbox			X				
Field trip (will vary)							
Five (Advertising)							
What did we eat?							X
My pick salad	X						
Food in many forms	X						
My community advertises					X		
Advertising touches me					X		
Advertising for health			X				
Letter to Barry/Sabena			X				
Six (Exercise)							
What did we eat?							X
Five food group salad	X						
Sabena feels great/lousy				X			
Letter/story			X				
Muscles in motion			X				
Will this help me?						X	
Future thought			X				
Body maps (review)							

Nutrition Concepts

Fruits and vegetables

Vegetables (3-4 servings at this age) are good sources of Vitamins A and C, fiber, and carbohydrates.

Fruits (2-3 servings for this age) also are good sources of vitamins A and C.

Cantaloupe, carrots, pumpkin, sweet potatoes, and other yellow-orange fruits and vegetables help eyes see at night. (Vitamin A).

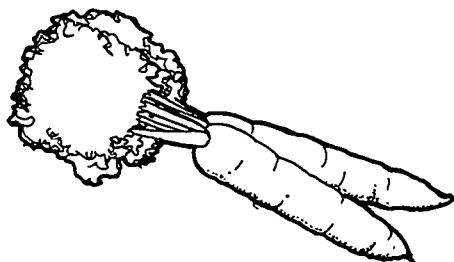
Dark green vegetables like collard greens, kale, broccoli, and dark green lettuce contain Vitamin A, calcium (builds teeth and bones), and B vitamins that help the body use energy. (B vitamins also help the nerves carry messages around in the body, a more visual but slightly advanced concept for second-graders.)

Oranges, berries, tomatoes, and peppers yield Vitamin C to help fix cuts and build bones and teeth.

Breads and cereals

Breads and cereals are fuel foods. Six to nine servings are now recommended to ensure 7- to 10-year-olds obtain the bulk of calories from carbohydrates, not fats.

Whole grains and foods such as whole-grain breads are good sources of B vitamins, minerals, and fiber. Wheat, oats, rice, rye, and corn help keep our brains healthy and help our bodies use calories from other foods.



Dairy products

Children this age need two to three servings of dairy products to get enough calcium. Bones—living structures that are always rebuilding in young bodies—need a steady calcium supply. Calcium also helps the heart beat properly and helps stop bleeding.

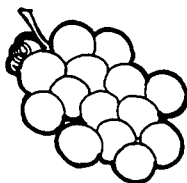
Lactose intolerance is common among several ethnic groups. Encourage children with mild objections to try cheese or yogurt, or to drink smaller glasses of milk with meals. Some ethnic foods, if eaten often, can be good sources of calcium—tahini or sesame seed paste, blackstrap molasses, mustard greens, turnip greens, collard greens, and kale.

Meat and meat alternates

Meats, eggs, and other foods that come from animals are good sources of protein. Many foods have protein in them—dried beans, milk, grains, and cereals like corn.

Protein is the “building block” nutrient. It is used to grow new skin, make longer muscles as you grow, fix cuts, and protect from illness. Vegetarians eat eggs, milk, tofu, nuts, and foods that mix beans and grains. At this age, 2 to 2 1/2 servings are recommended.

Store meat in refrigerators to keep it safe to eat. Keep meat cold!



How many servings?

You may see recommendations for different numbers of servings. That is because calorie and nutrient needs vary during the lifetime. The overall recommendations are:

- 6-11 servings of breads and cereals
- 3-5 servings of vegetables
- 2-4 servings of fruit
- 2-3 servings of milk
- 2-3 servings of meat or meat alternates

The specific recommendations for various age groups fall within these ranges.

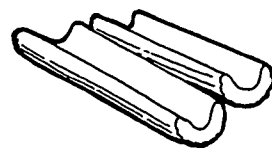
Caution foods

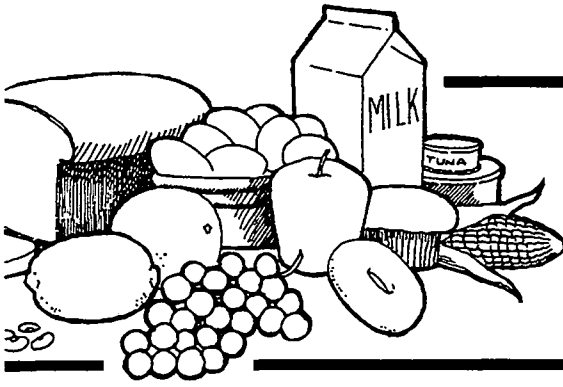
Caution foods aren't healthy foods. They are nutrient-poor. They are high in one or more of the unhealthy three:

Sugar—in pop, cookies, cake, and candy.

Fat—in pie, chips, fried doughnuts, chocolate, candy bars, and some salad dressings; and fried foods like onion rings, french fries, and bacon. Fat is a very important nutrient; there are several “essential fats” that you need—in tiny amounts. Most Americans consume too much fat.

Salt (sodium)—in salted chips and nuts; pickles; many sauces (soy sauce, barbecue sauce, catsup, mustard); process cheese and cheese spreads; and convenience foods like frozen dinners, canned soups, and dried mixes.





LESSON ONE

Food Groups

Lesson One reviews the five food groups and explains why eating a variety of healthy foods is important.

Before the lesson

Give the children the pre-test on page 2 in the student book. (This helps us accurately evaluate the publication.) You may want to review the nutrition concepts on page 7 of this guide for your own information.

After the lesson

Children should be able to name the five food groups; some will be able to categorize foods into groups.

Nutrition Goals

These activities support the following Oregon Department of Education nutrition education goals:

Taste-test the groups. Experience foods from each food group (ELS 3.1)

Everybody needs water. Describe the consequences of poor nutrition (ELS 6.2)

What did we eat? Chart food intake for a day using a dietary guide (Health Education skill)

Nutri-Kids Neighborhood. Label food as high or low in nutritional value (ELS 6.1)

Support. Plant a garden; Food is fuel; How much is a cup? Field trip

Story

Your teaching style may use less reading and more class discussion and involvement. The stories are included for those teachers who prefer a structured lesson. You might choose to tailor a lesson around the information included or substitute class discussion for some or all of the Nutri-Kids' comments. A "•" marks questions for your class.

In Lesson One, the Nutri-Kids decide they would like a garden. Mr. Jones, their teacher, helps them review basic nutrition information.

Options

Food preparation

Taste-test the food groups (student book, page 16). Can the children tell you the food groups and one nutrient they get from each group?

Stress the reasons for clean hands each time the children prepare food. Involve them as much as possible in the preparation and cleanup. Discuss how foods look, smell, and feel. Talk about ways each food changes as it is cooked or preserved by canning, freezing, or drying. Are the children familiar with the foods in different forms? Have the children write a paragraph about the food they liked best and why.

Activities

(1) Group discussion

What did we eat? This is the first step in having the children chart their food intake. Lead a discussion about what the children ate for lunch or in the past 24 hours.

Create a group list; then break the foods into food groups. Emphasize the variety of foods.

Add a little movement to this exercise by posting silhouettes representing each food group. Each time a child names a food and the food group it is from, she/he may place a sticker or make a mark on the correct silhouette.

(2) Hands on

Plant a garden. Plant radish seeds in clean milk cartons, peas in a gallon bucket or a strawberry patch in a window box. Have the children estimate how long it will be before the first leaves appear. Keep daily observation records of growth. Draw pictures of the first leaves and the adult plant. Write a recipe that uses the food you have planted.

(3) Demonstration

Everybody needs water. You will need two white carnations or two stalks of celery, a knife, a clear vase or glass full of water, and food coloring. Tint water with food coloring. Make a fresh cut in the stem end of one carnation and quickly set it in the colored water. Lay the other carnation next to it on the table. (Or do the same with the two stalks of

celery). Ask the kids to watch what happens over the next week.

The carnation in the vase will pick up the colored water, showing that it's "drinking." The other will wilt. Emphasize our need for water—our primary nutrient.

(4) Field trip

Visit a local market garden, community garden, or a willing and patient neighborhood gardener.

(5) Worksheet

Nutri-Kids' neighborhood. See the student workbook, page 3.

Food is fuel. See the student book, page 4. Or substitute class discussion on different body shapes and sizes. Address stereotypes about chubbiness, thinness, and dieting (no child should diet). All growing children need "good fuel."

How much is a cup? See the student book, page 9.

Story

"What am I going to get my Mom for Mother's Day?" asked Holly.

"You could paint her a picture," said Elizabeth. "You said she likes flowers."

"We ought to plant something," Holly said. "Something pretty. Then Mom would always have something pretty to look at. Everybody would."

Elizabeth said, "My mother misses having a vegetable garden."

"What a great idea!" Marc said.

"With flowers in every color of the rainbow!" Barry said.

- *Have you ever had or seen a garden? What did you like about it?*

"What a wonderful idea!" Mr. Jones said when they talked to him the next morning. They all went outside and walked along the fence, talking about what they would plant. "The best thing is that everything we grow will be healthy to eat!" Mr. Jones said.

"How do you know that?" Marc asked.

"Do we know what makes foods healthy?" Mr. Jones asked. He looked around.

Barry looked at Elizabeth and shrugged his shoulders. Not even Marc, who seemed to always have the answers, could tell Mr. Jones what a healthy food was.

- *Can you?*

"Healthy foods are foods that help you grow," Mr. Jones said. "Can you think of any?"

- *What kinds of foods help us grow?*

"Rice," "Beans," "Oranges," "Milk," "Chicken," they answered.

"Excellent! That's one food from each of the food groups—

- *Can you name the food groups?*

"Breads, vegetables, fruits, milk, and meats. We all need to eat foods from each group every day."

"A garden is a lot of work, but it is a lot of fun, too," Mr. Jones said. "And I think a garden is a perfect place to learn all about healthy foods—and about being healthy."

- *What do you think Mr. Jones meant?*

A garden is a perfect place to learn all about healthy foods—and about being healthy.



LESSON TWO

Nutrients

This lesson will familiarize children with the nutrients they need to grow strong and healthy.

After the lesson

Children should be able to name foods they eat that give them nutrients.

Lesson story

Mr. Jones tells the Nutri-Kids about the nutrients that plants and children need to grow and be healthy.

Options

Food preparation

Fast foods. You'll need a knife and cutting board, a cooler and ice, an apple, tomato, tortilla or muffin, two hard-cooked eggs,

and a piece of hard cheese large enough for five to six children to each have a bite. Divide the class into five groups. Wash hands, including yours. Place the cutting board in the center of one group. Cut the food, giving each group member one sample. Have the children time you. As you work around the room, have a discussion about fast foods. Are these fast foods? Are they healthy foods? What other kinds of fast foods can they think of? Are those foods healthy? Why or why not?

Activities

(1) Group discussion/action

What did we eat? Discuss what the children remember eating in the last 24 hours. Then have them categorize those foods into food groups.

Plan a celebration. Let the children plan the next class party—with the guideline that they must choose healthy foods. They also could come up with healthy food rewards or healthy non-food rewards for good behavior. See if they would be interested in exercise—a structured game, jumping rope, or a short extra recess—as a celebration.

This is good for me. On a poster-sized circle, have the children draw, paste cutouts, or write the name of healthy foods they eat every day.

What's a healthy food? Teacher guide, page 11. Students will need paper and pencil.

(2) Hands on

Composting. You'll need a three-pound coffee can with lid, about a pound of sandy or loamy soil (anything but heavy clay), a knife, access to water, and patience. This teaches children about the deterioration of plant matter. Save trimmings from food preparation activities and have the children save what they don't eat for lunch—fruit peels, vegetable ends, bread crusts. (No meat unless you like maggots.)

Let the kids put the food into the can, layering with a little soil. Keep the material damp, not soggy. Shake daily. Leave in a sunny spot. You should end up with some rich soil in a month or so.

Talk about what would happen if food didn't spoil. Leftover lima beans from their grandmothers' day still would be around—just like plastics. How would new plants sprout if seed houses like apples and cherries didn't break down?

Story

"We want our flowers and vegetables to be healthy," Mr. Jones said. "What do plants need to be healthy?"

• *What do you think?*

"Sunshine!" "Water!" "Dirt!" the Nutri-Kids answered.

"All those are important," Mr. Jones said. "But it is the dirt, or soil, that is the most important. If the soil doesn't have enough nutrients in it, plants won't grow right. That's kind of like eating soda pop and chips for breakfast."

Nutrition Goals

Fast foods. Experience foods from each food group (ELS 3.1)

Plan a celebration. Tell how to live a healthful life with good nutrition, fitness, safe living and stressor/risk-taking management (ELS 7.4)

What's a healthy food? and

This is good for me. Label foods as high or low in nutritional value (ELS 6.1)

What did we eat? Chart food intake for a day using a dietary guide (skill)

Support activity. Composting

"What does that mean?" Holly asked. She ate potato chips for breakfast sometimes. What was wrong with that?

- *What do you think?*

"Well, soda pop and chips are caution foods—empty calories. They don't have the nutrients in them you need to grow. Could we grow carrots in the parking lot?"

- *What do you think?*

"All that hard-packed gravel and asphalt wouldn't give a seed much to grow on, would it? Eating junk foods is like eating gravel. It doesn't give you what you need to be healthy.

"Plants 'eat' with their roots," Mr. Jones said. "In order to grow right, they need to 'eat' certain things, called nutrients. They need minerals and they need water. You need water. You need the minerals iron and calcium. Your teeth and bones are made of calcium. Your blood uses iron every second you are alive. What foods give you iron and calcium?"

- *Where do you get iron and calcium? (Iron—meats, spinach; calcium—dairy products and dark green leafy vegetables.)*

"The foods you eat give you every nutrient you need to be healthy. Minerals are only one group of nutrients. Vitamins are another. The vegetables we grow in our garden will make vitamin A and vitamin C. When we eat carrots, we get lots of vitamin A to strengthen our eyes. When we eat tomatoes, we get lots of vitamin C to help heal cuts."

- *What foods do you eat that give you vitamins?*

"Plants need nitrogen to grow. We will add compost and manure to our soil to give our plants nitrogen. We need nitrogen, too, but in a much different form, thank goodness! We need protein to grow. We get protein from meat, fish, eggs, chicken, and mixtures of beans and grains.

- *What do you eat that gives you protein?*

"Compost and leaves add fiber to the soil. Plants need that because it helps water and nutrients get to their tiny roots. We need fiber, too. Fiber helps your body work right. It helps you get rid of the part of foods you can't use. Whole-wheat breads and grains, and fruits and vegetables are good foods that have lots of fiber."

- *What do you eat that gives you fiber?*

Just then, Holly's mother and Barry's father showed up at the door with shovels. "There's something else important that you get from a garden," Holly's mother said. "Exercise! Who wants to help get the garden ready to plant?"

What is a healthy food and what is not?

Marc says if you can fit a food into the basic five food groups, it's a healthy food.

- *Is he right?*

Oranges are a healthy food. Mustard greens are a healthy food. Tortillas are a healthy food.

But what about stew?

Stew is a healthy food, too. It has foods from two food groups—vegetables and meat. Stews and soups are important foods for people all over the world.

- *What other mixture foods can you think of that are good for you?*

Holly says some foods aren't good for you but seem like they ought to be. Like apple pastry. An apple is a fruit. Pie or pastry crust is made of flour from the bread group.

But there is a lot of sugar in pie filling. There is a lot of fat (shortening or oil) in the crust. Too much sugar and fat are not healthy. Caution foods like pie and candy have a lot of sugar and fat in them. They are things you should eat only after a healthy meal.

The Nutri-Kids say a food is healthy if:

- it belongs in one or more of the food groups, and
- it's low in fat and sugar.

Elizabeth found out that chocolate is made from a seed. It contains a lot of oil, or fat. It tastes good, but it doesn't help you grow. Fruit is a better choice.

Fried foods are especially high in fat. We fry foods by heating oil, then cooking the food in it. French fries are a good example. Barry has an idea for you. Next time you have french fries, take one and press it gently between two napkins. Look at all the grease the napkins absorb. That's fat, and eating a lot of it is hard on your body.

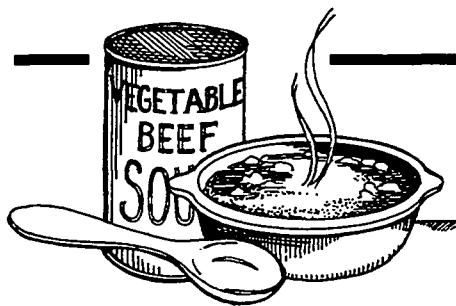
Caution foods are high in fat, sugar, or salt. They sometimes don't even fit into the food groups. Eat small amounts of caution foods only AFTER you have eaten healthy foods.

Try to eat caution foods that have nutrients in them, like oatmeal cookies or sweet potato pie.

- *What could you eat tomorrow that would help your body grow?*

Activities

- Have the children create a healthy foods poster. Use a body tracing or silhouette as a background. Draw or place cutouts of healthy foods on the silhouette. Try to place the cutouts at areas of the body the foods' nutrients would aid.
- Have the children work as teams to come up with lists of caution foods they like. For each food they think of, have them write a healthy food they could eat instead. Talk as a group about what makes each choice a healthy food or a caution food.



LESSON THREE

Food Labels

The purpose of this lesson is to introduce labels as a source of nutrition information, and to explain that nutritious foods can be cooked in different ways.

After the lesson

Children should be able to name labels as a source of nutrition information. They should be able to differentiate between basic nutritious and caution foods.

Before the lesson

Depending on the activity you choose, you may want to build a collection of various types of labels.

Story

The Nutri-Kids compare the kinds of foods they eat at home and how their relatives cook

them. They decide what to plant in their rainbow garden.

Options

Food preparation

Dry food, see the student book, page 17.

Foods other than those listed may require pre-drying preparation. Check with the OSU Extension office in your county for preparation directions.

Activities

(1) Group discussion

What did we eat? Talk as a group about what the children ate in the last 24 hours. Break it into food groups from the beginning—"What breads did you have for breakfast? For lunch?" (If they have mastered categorizing, have them tell you how many times they ate breads at a certain meal.) You may want to use the worksheet on page 6 of the student book.

Reading labels. Choose from the activities on page 13 or use page 11 in the student book.

(2) Language arts/art

Favorite meals. Have the children write or draw what they would like to have for dinner and breakfast every day for the next week. Talk to them about their choices. On the whole, is it a healthy week of meals?

Post the drawings for comparison. Do the students have different or similar tastes in foods? Elizabeth eats soup for breakfast and Barry has tortillas nearly every night. Why do

families have different food traditions? (Ethnic food traditions can be healthier than the typical American diet, but children may be embarrassed by being "different." Learn about the foods they eat that are unfamiliar to you and support healthy choices.)

Story

"The soil is ready. We have loosened it so water and nutrients can reach young roots. We have added compost and manure to feed young roots. Now we are ready to plant!" Mr. Jones said.

"We need to make labels so we remember what we planted and where. Labels tell us things we might not know. When we bury a seed, we can't see it and we might step on it. Raw vegetables and fruits don't need labels—we know what they are. But how would you know what was in a can if the label was torn off?

- *Do you look at labels? How would you know what to buy in the store if all the labels were gone?*

"Today we decide what to plant in our garden," Mr. Jones said. "We want to plant foods that we like to eat. What kinds of foods do your families buy?"

- *What foods do you eat at home?*

The Nutri-Kids found that most of them ate rice, beans, milk, cheese, chicken, hamburger, corn, tomatoes, and green vegetables. But the meals they made from those foods tasted different.

Nutrition Goals

Dry food. Experience foods from each food group (ELS 3.1)

Reading labels. Label foods as high or low in nutritional value (ELS 6.1)

Favorite meals. Tell how to live a healthful life with good nutrition, fitness, safe living and stressor/risk-taking management (ELS 7.4)

What did we eat? Chart food intake for a day using a dietary guide (skill)

"Family traditions play a big part in what we eat," Mr. Jones said. "We get protein from chicken whether it is in fajitas or soup or a sandwich. We get vitamin C from tomatoes in salsa, soups, and salads. Healthy foods come in many forms."

- *Do you have special foods you eat for celebrations?*

Each of the Nutri-Kids made a list of the foods they liked. They each picked five vegetables they wanted to plant.

"Now," Mr. Jones said, "What do you want to plant in our Rainbow Garden?"

"Corn! Peas! Bok choy! Tomatoes! Peppers! Flowers! Carrots! Pumpkins!" the Nutri-Kids called out.

- *What would you plant?*

Activities

Review

Review student book, page 11, with your students.

Collect labels

Collect labels from snack foods and talk about the information that is and isn't there.

- *What are they made of? What nutrients do they give you? What do they NOT give you?*
- *Which ones are the healthiest? Which ones do you eat most? Could you replace them with healthier foods? What?*
- *What other snacks do you eat that do not have labels? Are they nutritious? How do you know?*

Make a label. Next time you make a recipe in class, bring a scale. (If you don't have one available, estimate weights.) Have the students weigh each ingredient. Then have them create an ingredient label for the food they are making.

Or have them create labels for their favorite foods from scratch.

Bring a label. Have the children bring to class a label from their favorite healthy food. Put

them up on a board. Let the children share experiences with different foods. What food groups do they represent? What are the nutrients in each food? Discuss how the foods are preserved or processed. Talk about the contents of various foods that come without nutrition information.

Have labels available the children can sort into food groups for extra practice. Use them to make sample "meals" that include poor choices; ask the children to make the meal healthier by taking some foods away and adding others.

Your students may run into many words they do not know. For your reference: Sucrose, dextrose, maltose, fructose, lactose, and corn sweetener are all sugars. Lard and any oils (tropical, hydrogenated) are fats. BHT and calcium propionate are two examples of preservatives. There are too many to list them all here. Food additives are ingredients added to foods to give them color, add or preserve flavor, or make them easier to store.

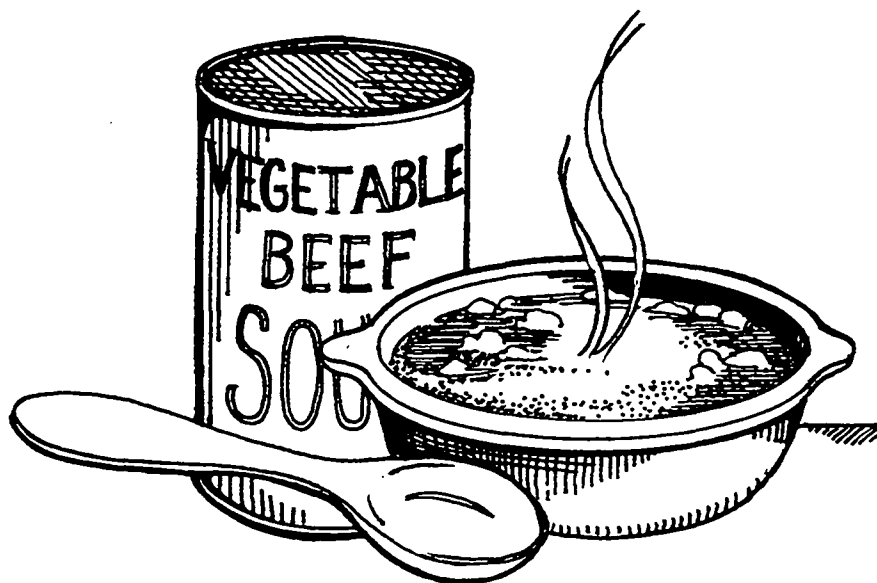
Nutrition Tip

The less fat or sugar a food has and the more nutrients it has, the better it is for you.

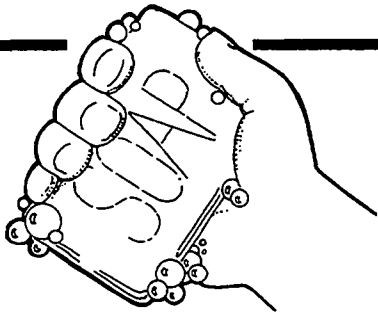
For your information: Many labels show the percentage of the U.S. Recommended Daily Allowances (U.S. RDAs) for protein; Vitamins A and C; the B vitamins thiamine, riboflavin, and niacin; and the minerals calcium, iron, phosphorus, and magnesium. Those percentages are simply a guideline.

The U.S. RDAs are a simplified way food manufacturers can use to tell us how nutritious a food is. The U.S. RDAs are based on humans' (usually adolescents') maximum nutritional needs. The nutritional needs of 7- to 10-year-olds generally are less.

Food labeling requirements recently have been revised. New labels should be in use by 1994.



Ingredients: Potatoes, water, carrots, beef, tomatoes, green beans, peas, rice, celery, salt, garlic . . . yeast extract, monosodium glutamate, natural flavoring, citric acid, paprika oleoresin, clam extract, garlic powder, tannic acid.



LESSON FOUR

Food Safety

Lesson Four explains how businesses keep food safe to eat. Food safety and hygiene will be covered.

After the lesson

Children should be able to say why washing is important and know that refrigeration can protect them from food poisoning.

Story

The Nutri-Kids visit a bakery. They learn how a baker keeps foods safe to eat and equipment clean.

Options

Food preparation

Tortillas con queso. Student book, page 20.

Nutrition Goals

Tortillas con queso. Experience foods from each food group (ELS 3.1)

Get these germs off my hands, I'm a germ, germs in my lunch box, mold grows on food. Tell how to live a healthful life with good nutrition, fitness, safe living, and stressor/risk-taking management (ELS 7.4)

What did we eat? Chart food intake for a day using a dietary guide (skill)

Activities

(1) Group discussion

What did we eat? Have the students tell you what foods they ate in the last 24 hours. Compare what they are eating with the 6-3-2-2-2 serving recommendations. (See reference chart on page 4 and in the student book on page 14.) Are they eating enough of the foods they need to grow?

(2) Hands on

Get these germs off my hands! You will need shortening, plenty of pepper, a sink and soap, and paper towels. This is a way to "magnify" germs and show children how stubborn they can be. Smear children's hands with a thin film of shortening, then sprinkle on pepper. While they rub their hands together, working the pepper into the shortening, have them tell you all the places and ways they can get germs on their hands. Have a few students with "clean" hands shake hands with peppered hands—what happens? Then have everyone scrub with soap until all the shortening and all the pepper is gone. Do they usually scrub their hands that hard? Do they think they have really been getting their hands clean? What other things that touch food do they need to keep clean?

I'm a germ. This is a variation of "hot potato." You will need a thermos and an ice bag or lunchbox ice container. Have the children pretend they are germs on a sandwich next to the ice.

Can they stay there long? As they pass it around quickly, they can chant "Too cold, too cold, too cold!" Repeat with the thermos, having them pretend they are inside—can they grow in all that heat? "Too hot, too hot, too hot!"

Ask them to explain how these objects help them stay healthy. What foods are kept in a thermos? What foods need an ice bag?

Mold grows on food. This is a mold-growing experiment. You will need a loaf of bread without preservatives, plastic bags and rubber bands or twist-ties to seal them with, and dabs of various foods (try refried beans, a vegetable, cream cheese, and lunch meat). You might include foods the children think will or won't spoil.

Explain the experiment—to see how different foods spoil. Pass around one slice of bread so everyone handles it. Seal it in a plastic bag. Put another slice in a bag, handling it as little as possible. Mark the first "touched" and the second "untouched." Give each student a slice of bread and let them either wipe a surface with it—the floor, a door-knob or their desk—or let them spread on one of the dabs of food. Mark each bag with its contaminant. Leave the bags in a warm place and check daily.

Which food spoiled the fastest? How long did it take? What did they smell like? What did they look like? How are they going bad? What could they do to keep these changes from happening to food?

(3) Worksheet:

Germs in my lunch box, student book, page 10.

(4) Field Trip

Visit a restaurant, bakery, or other food business to discuss food handling and safety.

Story

"Before we cook anything from our garden, let's visit a business that works with food," Mr. Jones said. "It is always a good idea to talk to someone who has been successful at what you want to do. When you're making food, it is especially important. That's because of things we call germs. They can make people very sick.

So today we're going to find out how to stop germs."

The children could smell something delicious before they walked inside. There was fresh-baked bread cooling on racks.

"Oh, boy, a bakery!" said Sabena.

"I own this bakery," said Ms. Andrews. "I start at 5 a.m. every morning. I like being my own boss. I like making people happy with the things I cook."

"That could change if my food made my customers sick. They might not trust me. They would stop buying from me. I might not be able to support my family."

"So I am very careful. I do several things to keep my customers safe," Ms. Andrews said.

- *What do you think she does?*

"First, I keep things clean. We wash everything that touches food. All my bowls. All my spoons and baking pans. We wash the counters. We wash off stuck-on food where germs could grow. My dishwasher uses very hot water to kill germs and wash them away. I also use a germ-killer (sanitizer or disinfectant) in my dishwasher."

"I wash my hands with lots of soap and lots of water. My employees and I **always** wash our hands after we use the bathroom. There is a bad disease called hepatitis. It spreads when people don't wash their hands after they visit the bathroom.

"We always cover our mouth and nose when we sneeze or cough so germs don't get on the food. Then we wash our hands."

- *How do you keep germs off food at home?*

"The second thing we do to keep our customers safe is keep foods cold," Ms. Andrews said. "We keep eggs cold. We keep our milk cold. We keep custards cold.

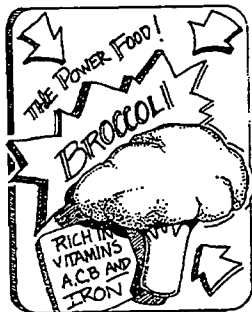
"Germs don't like very cold food. They can't grow. Germs don't like very hot food. They can't grow."

"Foods that are good for us are also great food for germs. These tiny critters can grow in these foods fast to make you sick.

"It is easy to be healthy and safe when you cook. One, wash your hands before you touch food. Use hot water and lots of soap. Two, cool it! Put cooked foods and meat in the refrigerator.

- *Why do you think Mr. Jones wanted the Nutri-Kids to know this?*





LESSON FIVE

Advertising

This lesson will give children insight into their own decision-making skills. It will help them identify influences in their lives that sway their decisions.

After the lesson

Children should be able to explain what an advertisement is. They should be able to identify factors that influence their decisions.

Story

Jacob decides he can get his nutrition from a pill; Sabena

thinks she can do the same with a bowl of cereal. This story is heavy on class discussion about advertising messages. Tailor the options to fit your classroom comprehension level.

Options

Food preparation

My pick salad. Student book, page 18.

Food in many forms. Student book, page 19. Choose either apple or milk products.

Activities

(1) Group discussion

What did we eat? Start with one food group. If your children can categorize what they have eaten easily, have them use page 6 or 7 in the student book to record individually what they ate. If you prefer, use a class group chart.

Advertise for health. Have the children create advertisements for healthy foods, exercise, or healthy habits. Posters take the least amount of time, but scripting and acting a TV/radio commercial can be a good learning and organizing project for the children—even if you do not have access to a video camera or tape recorder.

Advertising touches me. You will need tape or glue and poster paper. Have the children bring newspaper or magazine advertisements for caution foods aimed at kids—particularly foods they would like someone to buy for them. They could also, with

parents' help, write down a television or radio ad they heard. Post the ads for class discussion.

Ask the students to talk about the following questions: Are the products healthy? What does the ad say or try to say? Is it true? What does the ad NOT say? Would they buy that food? Why? Should they eat that food? Why or why not? Is this a food we need? What wishes or dreams does this ad promise to fulfill? Can it really do that?

My community advertises. Have students look in the local newspaper and see how businesses advertise food items. Look for ads from grocery stores, bakeries, restaurants, convenience stores. Put ads from the same kind of business together.

Ask students: What is the same about the ads? Why do you think that is? (Example: Prices are in all grocery ads because people like to shop where prices are low.)

What is different? What would you like to know that isn't in the ad?

Do any of the ads try to make you want something? How?

What television commercials for foods have you seen? How are they different from these ads? How are they the same?

(2) Language arts

Letter to Barry or Sabena. Have the children write to Barry or Sabena. What would they tell the Nutri-Kids if they were Mr. Jones? What would they tell Jacob about vitamin pills, Sabena about super cereals, and

Nutrition Goals

Supports the following Oregon Department of Education nutrition education goals:

My Pick Salad, Food in Many Forms. Experience foods from each food group (ELS 3.1)

Lesson Story discussion, My Community Advertises, Advertising Touches Me.

Explain how a commercial or advertisement has influenced them to select a food (ELS 4.1)

Advertise for health, Letter to Barry/Sabena. Tell how to live a healthful life with good nutrition, fitness, safe living and stressor/risk-taking management (ELS 7.4)

What did we eat? Chart food intake for a day using a dietary guide (skill)

both about how to eat to be healthy?

Story

"I don't need to eat vegetables!" Barry said. He sat among the waist-high vegetables in the garden, drinking a pop. "Or milk, either. My mom gives me vitamins that give me everything I need to grow big and strong!"

"I don't need to eat vegetables either!" said Sabena, who was tired of pulling weeds. "I eat this super cereal. It was on TV."

- *Do you think this is true? Why or why not?*

Mr. Jones pulled a carrot and handed it to Barry. "Does this pill have fiber in it like this carrot? Does it have carbohydrates like our sweet corn?"

"I don't know," Jacob said. "I guess not."

"You're right, it doesn't. And that super cereal does have vitamins and minerals, Sabena, but not everything you need. Besides, it's expensive. It's a lot cheaper and healthier to eat vegetables and drink milk."

"Pills aren't as fun to crunch, either," Mr. Jones said. He and Barry both took a bite of carrot. Barry grinned.

- *Do you like the way carrots crunch? Let's pretend we live in a place where food does not exist—only pills. What would you miss about food?*

Mr. Jones pulled a newspaper from the pile the children were using to mulch the garden. "Barry, Sabena, look at this," he said. "What are these?" He pointed to the page.

"Ads," they said.

- *What is an ad?*

"All businesses buy ads—that's short for advertisement, by the way. Ads on radio and TV are called commercials," Mr. Jones said. "Ms. Andrews advertises to let people know what she has to sell and when she is open. Almost everyone who sells something for a living buys ads. Grocery stores, restaurants, even toy stores.

"Many ads you see are for things you don't need, like sugary cereals and games. Sometimes the ad seems to say you will be happier if you buy what it is selling.

"Have you ever bought (or asked someone to buy) a food that you saw in an ad or commercial?" Mr. Jones asked.

Several of the Nutri-Kids nodded their heads.

- *What was it? Was it healthy? Did you need it or want it? Could it make you happy?*

"When you watch TV, you hear news about things that really happen in the world," Mr. Jones said. "You also see cartoons. You see movies. You see commercials. How do you know what is real and what is not real?"

"That's easy!" Barry exclaimed.

"Can you tell me how?" Mr. Jones asked.

"I just know," Barry insisted.

- *How do YOU know what is real and what is not?*

"When somebody says something or does something you know can't happen, like flying," Sabena said.

"That's good!" Mr. Jones said. "You know people can't just spread their arms and fly. Everything you know helps you separate what's real from what's not real."

- *How does knowing what is real help you with advertisements?*

**Sometimes the ad seems to say you will be
happier if you buy what it is selling.**



LESSON SIX

Exercise Plus Review

Lesson Six reviews the information, introduces children to good sources of information and the concept of misinformation, and links food intake/energy with exercise.

After the lesson

Children should be able to name the food groups and tell how they help their bodies. They should be successful with both the post-test and the letter activity.

Administer the post-test, page 22 in the student book.

Complete the teacher evaluation on pages 21 and 22 in this guide.

Nutrition Goals

Five food group salad.

Experience foods from each food group (ELS 3.1)

Sabena feels great/lousy.

Describe the consequences of poor nutrition (ELS 6.4)

Letter/story, muscles in

motion, future thought. Tell how to live a healthful life with good nutrition, fitness, safe living and stressor/risk-taking management (ELS 7.4)

Will this help me? Locate materials which contain nutrition information (ELS 7.2)

What did we eat? Chart food intake for a day using a dietary guide (skill)

Support activity. Body map

Story

Sabena discovers she feels better after eating breakfast every day. The Nutri-Kids review nutrient basics.

Options

Food preparation

Five food group salad, student book, page 21.

Other activities

(1) Exercise

Muscles in motion. Have the children try five different kinds of exercise. How do the movements feel? Do the students like the activity? Introduce coordination as the concept that your muscles learn, too. What could their favorite exercise help them do? Or have them do the worksheet on page 13 in the student workbook.

(2) Group discussion

What did we eat? Group discussion or individual charting exercise. Use pages 6 or 7 in the student book as a guide.

Future thought. Class project: make a healthy plan that includes exercise, diet (diet means what you eat, as opposed to dieting, which can damage children's health), and positive, non-food rewards for successes. Begin with students' dreams or ideas of what they want to grow up to be. Talk about what kind of person would be good at different jobs. What school skills would be especially important for each career? What can they do now to help themselves as adults?

Will this help me? Homework/library assignment. Have children look for three sources of nutrition information—one at home or at the grocery store, one in the library, and one from a textbook. Have them pool their sources on one table.

Divide the sources into two piles. One will be for accurate, good nutrition information, or "good news"; the other for "so-so or bad news"—nutrition misinformation or questionable claims. This could include fad diets, weight-loss plans, and gimmicks to sell vitamins. Can they come up with any guidelines to identify misinformation, or "bad news?" Discuss as a class the sources of good information.

(3) Hands on/art

Body map. Pair up the children and have them trace silhouettes of each other. Then have each person make a poster (as described in the lesson story) showing what nutrients do in the body. Or make one large poster as a class.

Sabena feels great/lousy. Art or acting activity. Have the children either draw or act out how one of the Nutri-Kids would feel after a month of eating poorly, and after a month of eating well. Have the children discuss how Sabena would feel and act in both situations. Is she happy? Is she active? How does she sit in class? What expression would she have on her face? Does she have any energy? Is she fun to be with? How is she doing in school?

(4) Language arts

Letter or story: *Letter.* Have students write letters to Mr. Jones or one of the Nutri-Kids explaining how they plan to take care of themselves and what healthy food habits they have. They may want to offer advice on how the Nutri-Kids could stay healthy.

Story. Have the children write a story about the harvest celebration meal that the Nutri-Kids make for Mr. Jones and their families.

Post-test. We can improve these materials and evaluate their worth if you give the children the post-test after completing the lessons. See the student book, page 22. Summarize the results in your evaluation.

Story

"When can we pick our pumpkins?" asked Holly eagerly.

"Next week, I think," Mr. Jones said. "Right now I have some papers for you."

"Good job, Sabena," Mr. Jones said. "You have been doing a lot better since you started eating breakfast. Is it easier for you to study now?"

"I don't know," Sabena said, raising her shoulders. "School just doesn't seem as hard anymore. I don't get angry so much, either. I guess my stomach hurt and I didn't even know it."

"You seem to enjoy being here more," Mr. Jones said. "And I think your friends like the change, too."

Sabena knew that. Holly and Elizabeth had already told her how much more they liked being around her. She felt happier and more like sharing things.

"I never thought eating could make such a big difference," she said.

Mr. Jones laughed. "Well, when you stop and think about it, it's surprising it doesn't make more of a difference," he said. "If we pulled our class plants out of

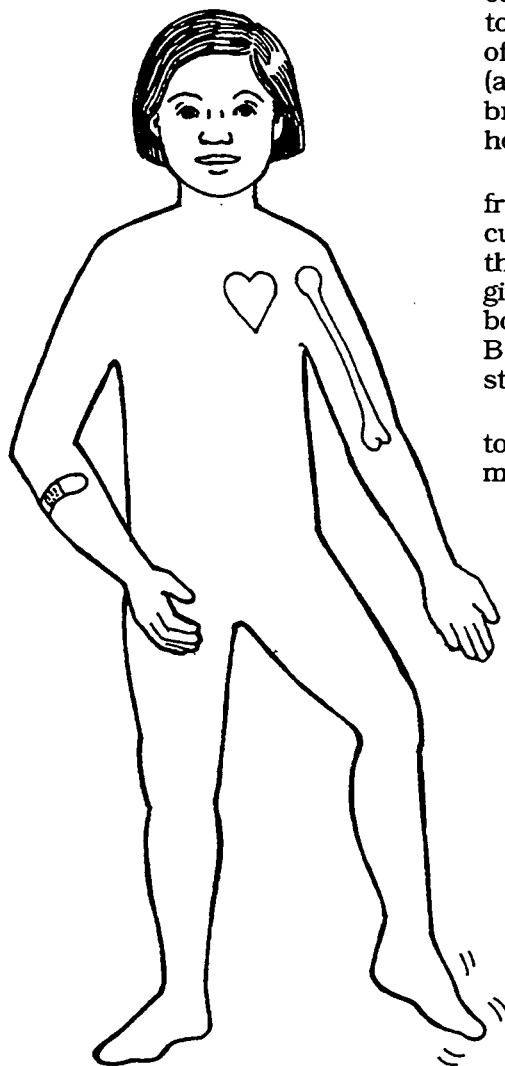
their food, the soil, they would die. For our muscles, nerves, brains, and stomachs to work right, we have to give them the right food."

- *Have you ever felt cranky or sick because you had not eaten?*

Then Mr. Jones showed the children a map. It was a big picture of a young child. It showed where nutrients from the different food groups went to work.

"They all have their jobs to do," said Mr. Jones. "All you have to do is eat them so they can go to work helping you grow!"

- *What (nutrients) do we get from fruits and vegetables?*
What do breads do for your body?



How do meat foods help you?
Why are milk foods important?
What can you do to help yourself grow up healthy?

Body map

The following is provided to help you with the body map. You probably won't need or use all this information.

Calcium (from milk, cheese, and yogurt) builds bones and teeth; stops the bleeding from a small cut; and keeps the heart beating on time.

Protein (from milk, meat, dried beans, and eggs) builds body cells to help you grow. Iron (from chicken, pork, fish, beans, and beef) helps carry oxygen to all parts of the body.

B vitamins (from bread, oatmeal, muffins, rice, and tortillas) helps different parts of the body talk to each other (aids the nerves) and keeps the brain, skin, and stomach healthy.

Other vitamins (A and C from fruits and vegetables) help close cuts and grow new skin to cover them; help the eyes see better; give calcium a hand building bones and teeth; and work with B vitamins to protect the skin, stomach, and heart.

Nearly all the nutrients work together to create energy for the muscles and brain.

Letter to Parents

Dear _____:

We will start a unit on foods and nutrition soon. Your child will learn about the food groups (breads, vegetables, fruits, milk and meat and meat alternates). We will talk about what foods your child needs to eat to be healthy. We will also talk about unhealthy caution foods—foods high in fat, sugar, and salt.

Your child will also learn a few things about food safety. We will talk about keeping meat and cooked foods cold. We will stress how important it is to wash hands before we touch food.

Your child will get much more from the lessons if you can find time to talk about these things at home.

We will also prepare foods in class. We will be making

on (day)_____ (time)_____.

If you would like to help, please send this note back with your child. Thank you for your interest!

My name is:_____

I can help on (day)_____, (time)_____.

Teacher Evaluation for Oregon EFNEP Youth

Nutri-Kids Create A Rainbow Garden

Please complete this evaluation form and return it as soon as possible to the address on the next page. Thank you for your cooperation and input. Feel free to add additional comments.

How many children participated? _____ How many were **not** second graders? _____

Teacher Guide

1. Did the teacher guide provide you with the proper amount of information to be an effective teacher of these lessons? Yes No

Comments:

2a. How easy to use was the publication?	5	4	3	2	1
Everything I needed was in each lesson.	5	4	3	2	1
ELS numbers were helpful to have.	5	4	3	2	1
Margin comments were helpful.	5	4	3	2	1
Story format was useful.	5	4	3	2	1
Story content taught lesson objectives.	5	4	3	2	1

Please elaborate:

- 2b. Was the publication organized in the best possible fashion? Yes No
How would you improve its organization?

3. Did you read the stories or create your own lessons? Read Created my own

Comments:

4. What would you do to improve the teacher guide?

Student Book

1. Rate the materials' age-appropriateness for your students:

1	2	3	4	5
<i>Too easy</i>		<i>Just right</i>		<i>Too advanced</i>

2. Did you include food preparation? Yes No (If no, skip the next 2 questions)
If yes, to what extent did preparing foods reinforce lesson concepts?

5	4	3	2	1
<i>Very useful</i>	<i>slightly</i>	<i>so-so/unsure</i>	<i>slightly</i>	<i>not at all</i>

Was food preparation an effective means of involving parents in nutrition education?

5	4	3	2	1
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If no, please explain why you did not include food preparation. If you found effective alternatives, please describe them on a separate sheet.

Cooking is not allowed in my district No time No money

Other (please elaborate)

(please continue on the next page)

Overall effectiveness in teaching nutrition concepts

Rate the combined teacher/student books. Do they teach students the DOE nutrition concepts?

5 = very effective and 1 = ineffective

Specific concepts	Very effective			Ineffective		Comments
Experience food variety	5	4	3	2	1	
Chart food intake	5	4	3	2	1	
Label food as high or low in nutritional value	5	4	3	2	1	
Tell how to live a healthful life (diet, fitness, and taking care of oneself)	5	4	3	2	1	
Describe consequences of poor nutrition	5	4	3	2	1	
Identify the influence of advertisements	5	4	3	2	1	
Locate nutrition information sources	5	4	3	2	1	
Overall effectiveness	5	4	3	2	1	

Overall

1. Did your students enjoy the lessons? Very much Some Not at all
2. What, if anything, did you observe that would indicate the children's behavior changed as a result of the lessons? (e.g., school lunch choices, lunchbox contents, mention of recipes duplicated at home, less waste of vegetables, better consumer choices...)
3. What are the strengths of these materials?
4. What are the weaknesses of these materials?
5. What specific changes would you like to see? What do you want kept?
6. What other resources do you need?

Feel free to attach any additional comments or suggestions.

Return to: 4-H EFNEP Youth, Milam 161, Oregon State University, Corvallis, OR 97331-5106.

Thank you for your help evaluating and improving these nutrition education materials!



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