



National Farmers Union *“Growing Good Taste”*

Section 2: Grades 3-5

Contents:

Lesson 1: Great Ingredients from the Farm* ~ 1 hour

Lesson 2: Chew on This ~ 1 hour

Lesson 3: Growing Together ~ 1 hour

Lesson 4: The Balance of Life ~ 1 hour

Optional Activities

** Lesson contains a cooperative education component.*

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Lesson 1: Good Eating Begins on Farms

- Unit Objective:** Students will connect the food they eat to crops grown by family farmers.
- Grades:** 3-5
- Length:** 1 hour: 10 minutes for the introduction and first activity, 15 minutes for the “Wheat Kernel” page and “Food Supply Chain” activity, 10 minutes to remix the bread dough, 10 minutes to make butter, 5 minutes to roll the bread and put it in pans, 10 minutes to slice the bread, spread toppings, and concluding comments.
- Materials Needed:** Tables with adequate work area for each student, an oven (if an oven is not available, you will find an alternative solution below), whiteboard or flipchart, wax paper, tape, wheat kernels in a ziplock bag, at least a dozen one-gallon heavy-duty freezer plastic bags, measuring cups and spoons, small cups for ingredients, salt, sugar, warm water, all-purpose flour, wheat flour, vegetable oil, active or fast-rise yeast, aluminum disposable mini-loaf baking pans (1/2- or 1-pound size), Pam for greasing pans, two pint jars with tight lids (clear, plastic may be best), 1 pint heavy whipping cream, salt, actual wheat heads from harvest (if available), bread knife, butter knife, enough copies of the “Wheat Kernel” page, and one set of the “Food Supply Chain” signs made from the materials of your choice.
- Preparation Needed:** If you plan to do more than one lesson for this age group, consider beginning with this one first as it will allow you overlap the baking time into the next lesson. You will need to use a facility that has enough table space and an oven. Possible locations may include a school cafeteria or home economics room, a grocery store that also has a classroom, or a community center or restaurant that has a meeting room and will let its staff bake bread as part of the project. Be sure to tape down wax paper in front of each student’s work area. Students will work in teams of two. The activity will go quicker if you pre-measure the ingredients needed in Teaching Strategy 3 and have them ready to go in small cups. Refrigerate the jar and the cream before beginning the butter-making activity. NOTE: If you are unable to actually bake bread during this lesson, you have the option of doing this entire activity and sending the dough in bags home with the students, or sending the baked loaves home with them and keeping the dough for yourself or for disposal. To show the students the final results, you may want to bake a loaf of bread at home and bring it to the class. Make individual signs that say, “Farm,” “Grain,” “Elevator,” “Flour Mill,” “Bakery,” “Grocery Store,” “Consumer,” and four signs that say “Truck/Train.”

Background:

For many children, food comes from a grocery store, a refrigerator, or a drive-through window. Even the basics such as bread come out of a bag or a bakery. This activity will allow your students to learn how ingredients from farms are used to produce foods, namely, bread and butter. They also will learn of the **food supply chain** that begins with **family farms** producing **commodities**, and often includes processing before being purchased by **consumers**. This lesson also introduces a basic **cooperative** activity. As this is a true hands-on learning experience, do not expect perfect results. Your children will learn much regardless of whether their bread does, or does not, turn out well. Depending on the type of ingredients and size of pans you use, there may be variables in terms of time to account for as you do this project. Using smaller pans will shorten baking times and will mean making adjustments for the amount of dough put in each pan prior to baking. On a final note, some items in this lesson may be new to third-graders, but may be more familiar to fifth-graders. Adjust your presentation to keep all ages interested and engaged in learning.

Teaching Strategy:

1. Begin by sending the children to the nearest sink to wash their hands, or hand out wipes and ask them to make sure their hands are clean. Ask if any of them have food allergies to bread, gluten, dairy products, or peanuts.
2. Ask the children, *Where does your food come from?* Write down their responses on a whiteboard or flipchart. Expect answers such as the grocery store, the refrigerator, or factories. Use this discussion opportunity to talk about the food supply chain. Tell your students to think backwards from the bread in their homes. Follow this line of questions and pause to see if the students are able to provide the answers. If not, provide the answer for that question and continue. *Where did the bread in your home come from? A grocery store. Where did the grocery store get it? A bakery. What did the bakery need to make bread? Flour. Where does flour come from? Flour is made from wheat by milling or grinding the kernels into a powder.* Pass out the ziplock bag of wheat kernels for the students to study. *Where do flour mills get wheat? Usually from local grain elevators that ship wheat in train cars to the mill. These local elevators buy wheat from area farmers. Farmers grow a lot of crops including soybeans, corn, wheat, and cotton. Some crops such as corn are used to make fuel called ethanol for cars, some crops such as cotton are used to make fabric for clothes, and crops such as soybeans are processed into many food items from salad dressings to sandwich spreads. Although there are just a few types of crops, they are used to make thousands of different kinds of foods. Farmers do feed us.*
3. *Today we are going to focus on wheat. It is one of the oldest food crops in the world. Wheat flour is the main ingredient in breads, muffins, buns, cookies, crackers, cakes, tortillas, spaghetti, macaroni, and many other types of food. In fact, rather than buying bread in a store we are going to make bread from scratch.* NOTE: Adjust the ingredients accordingly for the number of students you have. In teams of two, have one student hold the heavy duty freezer bag open, and invite his or her partner to measure into the bag $\frac{1}{2}$ cup of all-purpose flour, 1 package of active dry yeast or fast-rise yeast, 1 tablespoon of sugar, and $\frac{1}{2}$ cup of warm water. Help the students close the bags (squeeze out excess air) and ask them to use their hands to knead the mix inside the bag until it is completely blended. Let the bag rest 15 minutes, while you continue with the worksheet activity.
4. Explain to your students that, *Other than fruits and vegetables, most of the foods we eat go through many steps between the farms they are grown on to the grocery stores from which we buy them. Crops are sometimes called **commodities**, in that they are similar and sold in bulk. Some varieties of crops have specific characteristics that make them better for making certain types of foods. We are learning about flour today. Flour is made from wheat. As you are discovering, other ingredients are added to flour to make bread. This is called processing. Most foods in grocery stores that have been canned, boxed, or otherwise packaged, are processed foods. While we need these foods, we need to know processed foods often include high levels of salt, sugar, and other ingredients. We need to balance our food choices both in terms of types and portion sizes.*
5. Pass out the “Wheat Kernel” worksheet. *Nearly all crops are processed before we can use them. The food supply chain may involve a few steps, or many steps, from farm field to your home. If possible, draw a large wheat kernel similar to the one on the worksheet on the whiteboard or flipchart. Begin labeling and explaining the parts of the seed. Bran is the outer layer that can be included in flour because it adds additional fiber to breads and cereals. We need fiber in our daily diets. Products containing bran are called “whole wheat” on the label. The next layer is the endosperm. This is the white, inner-part that is ground to make wheat flour. Germ is the sprouting part of a wheat kernel, and it is high in oil. Gluten is a protein in wheat that makes bread dough stretch.* Show the students actual wheat heads collected at harvest as compared to kernels.
6. *Wheat is planted, tended, and harvested by farmers. The crop may be sold to a grain elevator, which in turn sells it to a mill. At the mill, the wheat is run through equipment that separates the bran, endosperm, and germ. The endosperm is ground even finer and run through sifters that result in a very fine powder. Whole wheat flour may include both the bran and germ. Whole wheat flour is less processed and generally healthier for you to eat. Flour is sold and shipped by trucks or trains to bakeries, or bagged to be sold in grocery stores. Bakeries combine the flour with salt, sugar, yeast, water, and other ingredients to make all kinds of bread,*

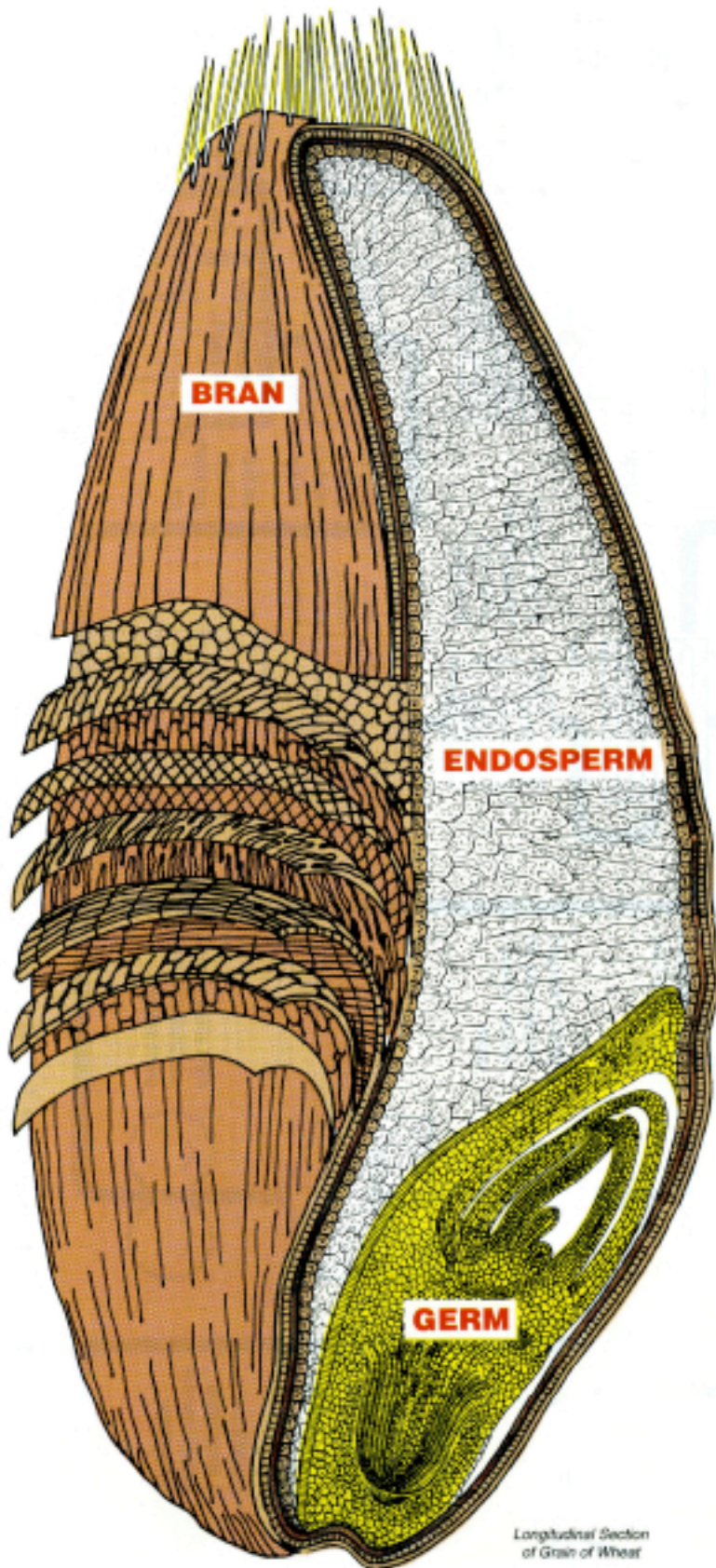
buns, cookies, and other food items. These products are sold and shipped to grocery stores, where they are sold to consumers. A **consumer** is a **customer**: someone who buys food for their own use at home. As you can see, there are many steps to this food supply chain. Farmers not only feed us, they provide the crops - commodities - that create jobs for people who work at grain elevators, flour mills, bakeries, grocery stores, truck and railroad companies, and many more industries.

7. Remind the students that in the "old days" most Americans lived on farms. They made their own flour and baked their own bread. Today most people live in cities and rather than raise their own wheat, they prefer to buy bread already made at the grocery store. The students will now make their own simplified **food supply chain**. A food supply chain is how we link farms to consumers. Each step is necessary, yet nothing can occur until the first step begins: farmers need to plant and harvest their crops. Provide five students with signs that say, "Farm," "Grain Elevator," "Flour Mill," "Bakery," "Grocery Store," and "Consumer." If you have additional students, hand out "Truck/Train" signs that can go between all of these except the last two. Mix up the students and then see if they can figure out the correct order by themselves.
8. Once 15 minutes are up, ask the students to open their bags and add 1 tablespoon of sugar, 2 cups of whole wheat flour, 1 tablespoon of vegetable oil, 2 teaspoons salt, 1 cup all-purpose flour, and $\frac{3}{4}$ cup of warm water. Have the students mix well until the dough pulls away from the side of the bags. This should take about five minutes.
9. If you believe it is necessary, have the children clean their hands a second time. While they are doing this, lightly flour their work areas. Ask them to dump the dough from the bag onto the floured area and show them how to knead in just enough flour to make the dough soft. Too much flour will make the dough dry and sticky. Divide the dough into thirds, cover it with a plastic bag and let it sit 10 minutes.
10. *What goes well with bread? Butter. We are making our own bread and now we will make our own butter. Some farmers grow wheat. Other farmers take care of dairy cows that produce milk. Milk from cows is another type of commodity. It is used as a basic ingredient to make cheese, milk, cream, yogurt, butter, ice cream, and other food products. We are going to use milk to make butter and all of us will have to work together to make this happen. Working together is called **cooperation**. Many businesses including rural electrics, credit unions, and dairies where milk is processed are cooperatives. Many cooperatives are owned by the farmers who are involved in the cooperative business. By working together, farmers can get things done they could not do by themselves.*
11. *We will form a dairy cooperative, which means we all will share the work and we all will share the benefits.* Tell the students butter is made by removing fat from milk. Heavy cream has more butterfat. Pour cream into the jar until it is about two-thirds full. If you have enough students, use the second jar. Ask one student to begin shaking the jar(s), preferably in a rocking motion. This will become tiresome and boring for students, so as a cooperative you will share the work. Have the first "shaker" pass the jar to the next student at regular intervals. The shaking does not have to be hard, just consistent. You may play fast-paced music during this event. Another option is to have the children form a circle and pass the jar around chanting, "Come, butter, come. Churn, butter, churn. Come butter come, now it's (name of student)'s turn." Once the butter forms, drain off the buttermilk, lightly rinse the butter with water and put it in a dish. You may want to stir a small amount of salt in the butter, which will not be as yellow as butter in the grocery store.
12. Explain to the children that you have replicated much of the food supply chain. Although dairies and flour mills and bakeries **process** the food more by adding additional ingredients. Some of these ingredients are good, including vitamins and minerals, others such as salt and sugar are added to give the foods different tastes. Preservatives allow food products to have a longer shelf life. Natural foods continue to be the best sources of good nutrients, carbohydrates, proteins, vitamins, minerals, and fibers that our bodies need to be strong and healthy. Put the butter in a refrigerator until you need it.
13. After 10 minutes, have the students press the dough flat into rectangles about 4 by 6 inches. Beginning at the narrow (4-inch) end, have the students roll up the dough like a sleeping bag.

- The children will use their fingers in a pinching action to form a seam at the edge. Then have them fold over the two ends and pinch again. Place the dough with the “seam” down in the greased mini bread pans. Cover with a bag and allow the dough to rise (double in size), which will take from 40 to 60 minutes. Be sure to preheat the oven at the appropriate time.
14. POSSIBLE BREAK: Until the bread dough is ready to bake, you may want to put this lesson “on hold” and begin another lesson. At an appropriate time in the next lesson you may call a short break to put the bread in the oven, and then resume that lesson. Complete the balance of this lesson when the bread has cooled and the timing is appropriate.
 15. Preheat the oven to 400 degrees. When the dough is ready to bake, you as the adult will place the pans in the oven: students should stand back at a safe distance. Depending on the type of oven, the mini-loaves will take from about 15 to 30 minutes to bake. If you have an assistant, he or she can keep an eye on the loaves. When ready, remove the pans from the oven and set them on cooling racks. In about ten minutes you will be able to conclude this session.
 16. If you do not have the ability to bake bread in your classroom facility, show the student loaves you baked earlier and brought to this session. Recall that in this lesson they watched how wheat turns into flour which turns into bread. Explain that bread and butter historically are considered among the most essential foods. As students prefer, butter the bread, add peanut butter and/or jelly and hand out the slice for the children to eat. Use thin spreads to reinforce using moderation in applying toppings and make sure they see this.
 17. *Thank you for working in teams or cooperatively as a group. What we did today represents much of the food supply chain between farms and grocery stores. If somebody asks you where your food comes from, you now know it comes from American family farms, dairies, and ranches.* Students may, or may not, appreciate the texture or flavor of this bread. Conclude by letting the students know as they grow up they will discover many different foods they will like if they give them a try. Finally, invite them to help you clean up, and also have them clean their hands one more time. If you have enough plastic bags, you may send the bread loaves home with the students.

Sources: eHow; Suite101; Kansas Wheat Commission, State Government of Montana

WHEAT KERNEL



Bran – The brown outside of the kernel contains about 14% of the weight. The bran is included in whole wheat flour and is also available separately. The bran contains a small amount of protein, large quantities of the three major B vitamins, trace minerals and dietary fiber

Endosperm – The white inside of the kernel contains about 83% of the weight and is the source of white flour. The endosperm contains the greatest share of protein, carbohydrates and iron, as well as the major B-vitamins such as riboflavin, niacin, thiamin and iron. It is also a source of soluble fiber.

Germ – Contains about 2.5% of the kernel weight. The germ is the embryo or sprouting section of the seed, often separated from flour in milling because the fat content (10 percent) limits shelf (storage) life. The germ contains minimal quantities of high quality protein and a greater share of B-complex vitamins and trace minerals. Wheat germ can be purchased separately and is included in whole wheat flour.

Source: State Government of Montana

Lesson 2: Chew On This

- Unit Objective:** Students will develop responsibility for making nutritious choices.
- Grades:** 3-5
- Length:** 1 hour: 15 minutes for the discussion on habits, 30 minutes for the tasting party, 15 minutes to conclude the discussion and fill out the "I Pledge" worksheet.
- Materials Needed:** Pencils, whiteboard or flipchart and markers, enough copies of the "I Pledge" worksheet and "Just for Grown-Ups" handout, an actual orange slice and a candy orange slice, small cups, small, paper plates, low fat ranch dip, peanut butter, salt, pepper, and a selection of at least five fresh fruits and five fresh vegetables (see recommendations below), toothpicks, hand wipes.
- Preparation Needed:** Pre-slice vegetables and place toothpicks in them. Keep them refrigerated.
- Background:**

A school board chose to begin an early morning breakfast program after elementary school teachers noticed students were being dropped off before 8 a.m. by parents on their way to work. Many of these students had "breakfast" in their hands: often a can of Mountain Dew and a donut. These choices were both convenient and had high acceptance (or were simply chosen by children without their parents' knowledge.)

More than two of three adult Americans are overweight or obese. Overweight adolescents have a 70 percent chance of becoming overweight adults. Children need to consciously develop good eating **habits**, otherwise bad habits inevitably will win out. This session will challenge students to take responsibility for healthy eating habits and to raise awareness of the **Five A Day** challenge.

Children need three nutritious meals daily: breakfast, lunch, and dinner. Lunch and dinner menus for children in this age group are usually determined by adults. Hot lunch programs at school and meals at home impose a measure of structure for children. However, children this age may have significant control over breakfast and snack choices. This discussion-based lesson is designed to encourage children to embrace healthy options in their breakfast and snack choices, and to be more aware of the source of their food.

NOTE: This course is designed to either stand on its own or "pair" with the previous lesson given the natural breaks that occur during the activities.

Teaching Strategy:

1. Begin by holding up an orange candy slice and asking, *Is this an orange?* Then hold up an actual orange slice and repeat the question. Ask the children which is more important, to eat five servings of candy or five servings of fruit. Most children know they are supposed to have more fruit and limit their intake of candy. Yet given free choice, children often choose unhealthy foods. Three candy orange slices equals one serving that has 130 calories, yet is offers no protein or vitamins. A fresh orange has 45 calories and includes protein, calcium, potassium, and fiber. Ask them why they might prefer orange candy over actual orange slices. Write down their answers. Offer the following observations as discussion points. Is it because all they have to do is open a box or bag? Is it because they like the flavor? Is it because they have developed a **habit**. Explain that a habit is a pattern of action so automatic that it can be difficult to break. Allow them to consider that statement. *Both good habits and bad habits can stay with us throughout our life. What are a few good habits?* Listen to their answers. *What are a few bad habits?* Again, listen to their answers. *We want you to develop good habits when it comes to eating.*
2. Ask your students to raise their hands if they like Mountain Dew and jelly-filled donuts. Expect many to say yes. On the whiteboard or flip chart, let them know that a jelly-filled donut can be 480 calories and a 12-ounce Mountain Dew is 170 calories. Together, that is 650 calories. This snack has little nutritional value but is packed with a lot of calories, fat grams, sugar, and caffeine. For comparison, there are 100 calories in a peanut butter and

chocolate chip granola bar and 130 calories in a serving of 2% milk. The granola bar provides protein, carbohydrates, and iron. The milk provides Vitamins A, C, and D, plus calcium. These two items have a total calorie count of 230. Write that down compared to the 650 calories of the Mountain Dew and donut. The latter snack has 420 more calories. Ask the students what is best for their teeth: Mountain Dew or Milk? They should know milk has calcium that strengthens bones and teeth, while Mountain Dew has sugar that causes teeth to decay. If they every day have one soda pop and donut, they would eat 12,600 more calories in one month than if they chose the healthier snack. Compared to other choices, donuts and soda pop should be enjoyed in moderation: it should not be the daily standard. Ask the children if they have ever had two jelly-filled donuts at one time. Is it easy to do? Yes. Is it smart? No.

3. Continue this discussion by asking, *Why do you like some foods and not others?* Answers might include texture, taste, appearance, color, shape, and questionable combinations. Children (and adults) have widely different preferences. Some will like fresh vegetables but dislike cooked vegetables. Some children may like fruits, providing they are skinned and seedless. Some may like vegetables on the side, others prefer them mixed in soups and casseroles. (Think about this: even adults will argue whether cottage cheese belongs in lasagna, or how much garlic is too much.) Write down their answers. Now ask the students to name foods they know they should eat but don't want to, and ask them to tell you why they won't. Write down the answers. Ask the students, *What might we do to make these foods worth trying?* Children who turn their nose at baked potatoes or green beans may find that melted cheese makes either one worth sampling. You may find they do not like some foods for how they are prepared. Adults may like a well-marbled steak, yet children will turn their nose up at the sight of fat. *As you grow older, you may find many foods you do not like today will become your favorites tomorrow. You are developing your own tastes in foods. It is important to develop a sense of balance so you continue to eat foods that are healthy for you. These foods include grains, vegetables, fruits, milk, and meats and beans. Too few children your age are eating enough vegetables and fruits.*
4. *Does anyone recommend we eat five servings of candy a day? No. Yet nutritionists who study how the right foods keep us healthy recommend we have five or more servings of fruits and vegetables every day. How many of you do that now?* Wait for a show of hands. You may not see any. On the clean whiteboard or flipchart, write the side-by-side headings of "Fruits" and "Vegetables." Have the students share their favorites and write them down. Then ask the students how their favorites are prepared. *Are they fresh from a garden? Are they mixed into a salad or sandwich? Are they cooked? Are they baked into dessert bars or pies?* Listen to the answers and let this guide you on discussing what kind of vegetables and fruits are most popular. Also, use this as a gauge to see how often (or little) your students eat fruits and vegetables on a daily basis and work this into the conversation. *What is healthier for you to eat: an apple or an apple pie?* The answer is an apple has more direct nutritional value. An apple pie is loaded with additional ingredients including sugars and fats.
5. *Today I would like all of you to promise me you will try something new. We are going to try different vegetables and fruits at our tasting party. If you already have tasted all of these, great. You are adventurous.* Make sure your students take time right now to clean their hands. While they are doing this, set up two "Tasting Bars," one for fruits and one for vegetables. To make this easy and convenient for children, pre-slice the items as appropriate in advance and place toothpicks in each sample. Let the children line up and choose different items. All of these fruits and vegetables are in their natural state, rather than being processed into other food items that contain all kinds of additives. For Fruits, offer a selection of at least five items commonly available in your area. Recommendations include apples, bananas, pears, peaches, oranges, kiwi, pineapple, grapes, mangos, watermelon, tomatoes, strawberries, and cantaloupe. For vegetables, recommendations include: sugar snap or snow peas in the pods, sliced potatoes, celery, baby carrots, cucumbers, lettuce, red and green peppers, and cauliflower. Try to find at least a few items that will be new to your children. Keep an eye open to see if anyone

- might have a food allergy to the choices you provide.
6. Ask them for their reactions. *Which items did you like best?* Write down their answers. In general, expect them to choose obvious favorites. *What was new to you?* Go around the table so each student has a chance to answer. Write down the responses you hear.
 7. *How many of you typically eat raw (not processed or cooked) vegetables? How many of you eat raw or natural fruits? Fruits usually are ready to eat right off the trees or vines right after we pick them, although it is good to rinse them first. Vegetables typically are cooked as a side dish or mixed in with other foods. Does orange juice count as a serving of fruit? Yes, although a small glass, as juice has more calories and sugar and less fiber than an actual orange. Does a raspberry-filled jelly donut qualify as a serving of fruit? No.* The basic logic of these two examples should help your students comprehend the difference between a fruit flavor and an actual fruit serving, as first demonstrated by you with the orange slices at the beginning of this lesson. It is recommended that children and adults eat **Five a Day**, meaning five servings of fruits and vegetables. *This is a good habit that keeps us well and reduces our chances of getting sick.*
 8. Begin with a new flipchart or clean whiteboard. *How do we get many of our vegetables?* Wait for answers. Depending on the answers, continue this discussion by explaining many of our vegetables are cooked as side dishes, mixed in with other ingredients, or processed into other foods. Potatoes can become potato chips or mashed potatoes or tater tots. Carrots and sweet potatoes may be cooked and served with brown sugar or butter. Corn can be boiled on the cob, creamed, or mixed into stew. Onions, pickles, lettuce and tomatoes may be found in salads or on sandwiches including hamburgers. Melted cheese is another way to spice up a vegetable dish. Give the children time to consider these comments, and to share comments of their own. Ask them if they know pizzas can contain all kinds of vegetables. See if they can name some.
 9. *A few minutes ago we had a tasting party to try new fruits and vegetables. Now we will try the same items in dips to see if it makes them tastier.* Repeat the tasting party, this time providing each student with small cups of low-fat ranch dressing and peanut butter. You may try other dips that are convenient such as salsa and melted cheese. Explain that people sometimes dip carrots, celery, and other vegetables in dressings and sauces. Others enjoy putting peanut butter on celery, bananas, and apples. And, some people like to shake salt on sliced potatoes and pepper on cucumbers. Let them sample among these new choices.
 10. Ask the children what's on the door of their refrigerator at home. Answers may include photos, school papers, coupons, and a calendar. Tell them you are going to pass out a worksheet for them to fill out. Ask them to ask their parents if they can put it on the refrigerator door at home. It will be their homework to record how many fruits and vegetables they are including in their daily diet. Now pass out the "I Pledge" worksheet and encourage them to fill it out. Read through each item and give the students time to write in their answers. You may have to assist the youngest students in "finding" the answers. For example, "Not Nutritious" snacks may include potato chips, candy bars, and soda pop. The most important challenge is asking the children to fill in the Five-A-Day list for one week to see if they can develop a good habit of eating more fruits and vegetables.
 11. Encourage the children to take this sheet home and review it with their parents. Also provide the parents with the "Just for Grown-Ups" memo. Tell the parents that their children learned about healthy choices when it comes to breakfast and snacks, and ask them to do their best to accommodate their children's interest in vegetables, fruits, and other healthy snack and breakfast choices.

Sources: U.S. Surgeon General, USDA's Food and Nutrition Service, Center for Disease Control and Prevention

JUST FOR GROWN-UPS:

You are the most important influence on your child. There are many things parents and guardians can do to help children develop healthy eating habits for life. Offering a variety of foods helps children get the nutrients they need from every food group. They will also be more likely to try and to like new foods. As an organization of family farmers and ranchers, Farmers Union supports healthy nutrition for all Americans, and especially children.

Some children may not like certain foods because of taste, texture, color, appearance, or combinations of flavors. The points below are suggestions for encouraging acceptance of healthy foods for children.

Lead by example: When your child sees you eating fruits, vegetables, and whole grains with meals or as snacks, they are more likely to try these foods themselves.

Go food shopping together: Grocery shopping can teach your child about food and nutrition. Discuss where fruits, vegetables, grains, milk, and meats come from. Encourage your children to make healthy choices.

Get creative in the kitchen: Cut food into fun shapes with cookie cutters. Name a food your child helps make; for example, serve “Janie’s Salad” for lunch. Encourage your child to invent new snacks.

Make your own snacks: For example, combine dry whole-grain, low-sugar cereal and dried fruit for a nutritious trail mix.

Offer the same foods for everyone: Avoid being a “short-order cook” by making different dishes to please children. It’s easier to plan family meals when everyone eats the same foods.

Reward with attention, not food: Comfort and show your love with hugs, kisses and talks. Choose not to offer sweets as rewards. It lets your child think sweets or dessert foods are better than other foods. When meals are not eaten, kids do not need “extras”—such as candy or cookies—as replacement foods.

Listen to your child: If your child says he or she is hungry, offer a small, healthy snack—even if it is not a scheduled time to eat.

Offer choices: Try asking, “Which would you like for dinner: broccoli or cauliflower?” instead of “Do you want broccoli for dinner?”

Limit screen time: Encourage physical activity. Limit time in front of video games, television, or the computer to two hours a day. Make physical activity fun for the whole family. Involve your children in the planning.

Keep trying: At this age, your children may not like onions, or the skins or seeds of some fruits. Keep trying to offer these foods in different ways. While they may not like “mushy cooked peas,” they may love peas right out of the pod. Offer one new food at a time. Serve something your child likes along with the new food. Offer new foods at the beginning of a meal, when your child is most hungry. Avoid lecturing or forcing your child to eat. Expect their tastes to mature as they grow up.

Adapted from the Center for Nutrition Policy and Promotion

I Pledge

☐ To eat a healthy breakfast every day for one week

☐ To choose healthy snacks every day for one week

Five new foods I will try this week

- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____

My Five A Day Diary

Monday: Veggies _____ Fruits _____

Tuesday: Veggies _____ Fruits _____

Wednesday: Veggies _____ Fruits _____

Thursday: Veggies _____ Fruits _____

Friday: Veggies _____ Fruits _____

Saturday: Veggies _____ Fruits _____

Sunday: Veggies _____ Fruits _____

I will cut back on these six snacks that are not nutritious

- ☐ _____ ☐ _____
- ☐ _____ ☐ _____
- ☐ _____ ☐ _____

Signed _____

Lesson 3: Growing From the Ground Up

- Unit Objective:** Students will apply the food pyramid to a “cooking” lesson.
- Grades:** 3-5
- Length:** 1 hour: 10 minutes for introduction, 10 minutes for the food game, 15 minutes for the guest speaker, 15 minutes for making tortillas, 10 for the wrap-up discussion.
- Materials Needed:** White board or flipchart and markers, small flour tortillas, spaghetti sauce, shredded cheddar cheese, pepperoni, parmesan cheese, paper plates, enough copies of the “My Pyramid” worksheet, small Dixie-style or foam coffee cups, an oven or microwave, and slips of paper with the food groups written on them. You will need several food items that you may well have at home. These food items do not need to be open: they should be kept in a cooler or other appropriate storage container until you are ready to use them.
- Preparation Needed:** Identify and invite someone in your Farmers Union organization who would be able to speak and answer questions about how food items grown locally or statewide are represented in the five food groups as shown in the “My Pyramid” hand out. Set up a separate table for the food game. Instructions for this game can be found in the teaching strategy below. Make labels of the food groups. Pre-measure the ingredients for the tortilla-making activity: you will need to fill a Dixie-style or foam coffee cup with spaghetti sauce and shredded cheddar cheese, and pass out a small plate with three-to-five pepperoni slices and one or two apple slices for each student.

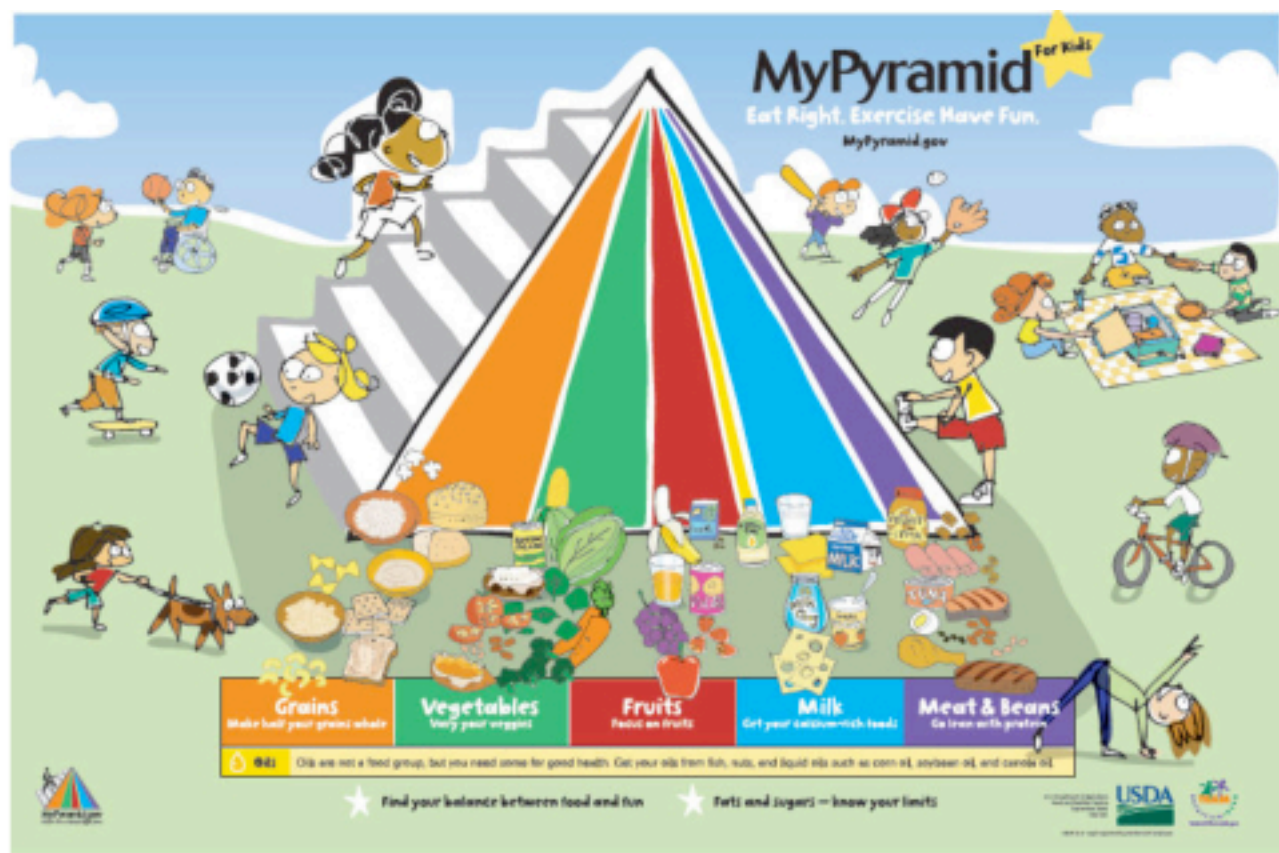
Background:

Children have learned to open packages of **processed foods** while giving little if any thought to where their food comes from or that food products begin with **natural foods** grown by farmers. Many children also are poorly informed on the **five food groups**, the balance they need in their diets and the fact that they can cook for themselves. This lesson will encourage your students to think before they eat.

Teaching Strategy:

1. *Would it be good for you if every day were Monday? Would you like it if you only had one television channel to watch? What if you only had one toy or game to play with, one book to read, and one shirt to wear? We need variety in our lives. That variety includes food. Can any of you name the five food groups?* Listen to their responses. Write down the correct ones on a flipchart or whiteboard. You will be listening for Grains, Vegetables, Fruits, Milk, and Meats and Beans.
2. Pass out the “My Pyramid” page and take time to review it with the children. Ask each one to share a few favorite items from each food group, and then use these examples as discussion points to review the differences between **natural foods** and **processed foods**. *An apple is a natural food. You can eat it just as it is. When you bake a frozen apple pie you bought at a grocery store, the apple is part of a processed food. Grain is a natural food, however, not many of us eat raw grains. Instead, are ground into flour and then combined with other simple food items into products like bread. Bread can be combined with items in other food groups to make delicious sandwiches.*
3. *We are going to play the “Where does my food come from game.” All the items on this table are mixed up. I want you to work as a group to see if you can figure out the order of the food groups on this table, putting the natural food item in front and the products made from in back where it is obvious.* Place slips of paper, in front from left to right, that read Grains, Vegetables, Fruits, Milk, and Meat and Beans. Here are the recommended examples in order: **Grains:** a bag of wheat kernels or heads, flour, bread, tortillas; **Vegetables:** a potato, a box of instant potatoes, frozen French fries; **Fruits:** An apple, apple juice, apple jelly; **Milk:** a carton of milk, cheese, butter; **Meat and Beans:** pepperoni, hamburger, a package of bacon, sliced turkey, and a can of beans. NOTE: Meat is more difficult for children to relate to a commodity as it comes from animals and some

- children may not readily accept or appreciate the processing steps required. Give the children time to discuss the categories and the food items in front of them. Be sure all of the example items are mixed up. Now give the children time to place the items as best they can.
4. After the children have organized the table, go through each food group and let them know if they got the categories correct and in the right order. Tell them many foods are made from relatively few crops.
 5. To further demonstrate this, set down a tomato and let them know some people call it a fruit, others a vegetable. Regardless, behind the tomato place a can of tomato juice, a can of tomato soup, a jar of spaghetti sauce, salsa, and a bottle of ketchup. *Hundreds of items are made from tomatoes. As a natural food, tomatoes can be sliced and put on hamburgers. Tomatoes can be processed into hundreds of different types of food items.*
 6. Invite your guest speaker forward to talk about his or her farm operation. Give this person time to explain the crops they grow, or their dairy or livestock operations. Have this speaker talk about any difficulties of farming, the time involved, and explain how he or she chooses crops to grow and how they are marketed. It is important that your students see farms as the source of the foundation foods that comprise the five basic food groups. Encourage the children to ask questions. If they do not, you should have a few questions yourself, such as, *"How long does it take to harvest a field?"* or *"How do you decide what crops to plant?"*
 7. Immediately following the speaker, send all of your children to the nearest sink or hand out wipes to make sure they clean their hands before the next activity. While they are doing this, preheat an oven if one is available. If you use a microwave, make sure it is located where you, and not your students, will have access to it.
 8. *How many of you have watched or helped your parents cook in the kitchen?* For those who raise their hands, ask them what kind of meals they made. Give them a few moments to talk about their experiences. *Today we are going to become cooks. We are going to make our own snacks that will include all five food groups.* Hold up the tortillas first and ask what food they represent. Not everyone may relate tortillas to grains. This is a good opportunity to explain that grains such as wheat, corn, and oats, can be used to make breads, cereals, cakes, cookies, and pizza crusts. Hand out a tortilla to the students and ask them to place it on the pie plate or paper plate. Next have them spread the spaghetti sauce on the tortilla. Although a fruit, most will consider tomatoes a vegetable. For the purpose of this activity, that belief is okay. Explain that tomato is the main ingredient in spaghetti sauce. *What item represents milk?* Cheese is the answer. Ask them to sprinkle the cheddar cheese across their tortilla. Hold up a pepperoni. *What food group does this represent?* The answer will be meat. Have them place pepperonis on their project. Go around to make sure they have followed directions, and to sprinkle a little parmesan cheese on the top of each tortilla. Broil each one for two minutes in the oven until cheese melts or heat in a microwave until the cheese melts. Return the tortillas to the children, inviting them to roll them up and eat them after tortillas have cooled off and are safe to handle. Students may have apple slices for dessert.
 9. While they are eating, ask them if they could have made their snack with products made only from grains, or milk, or vegetables alone. The answer will be no. Remind them they need balance in their diets by making sure they are eating items from all five food groups.
 10. *Today we learned to be cooks, and we learned about the five food groups.* Have the children refer back to the "My Pyramid" worksheet, and ask them to write in three of their favorite food items below each category.



Grains

- ☐ _____
- ☐ _____
- ☐ _____

Fruits

- ☐ _____
- ☐ _____
- ☐ _____

Meats & Beans

- ☐ _____
- ☐ _____
- ☐ _____

Vegetables

- ☐ _____
- ☐ _____
- ☐ _____

Milk

- ☐ _____
- ☐ _____
- ☐ _____

Lesson 4: The Balance of Life

- Unit Objective:** Students will become cognizant of actual serving sizes and food labels.
- Grades:** 3-5
- Length:** 1 hour: 5 minutes for introduction, 20 minutes for demonstrations on portion sizes, 20 minutes for the guest speaker and Q&A, 15 minutes for the “Your Choice” worksheet and concluding comments.
- Materials Needed:** Whiteboard or flipchart and markers, pencils, enough “Your Choice” worksheets and “My Pyramid” charts for each student, a can and three different-sized bottles (16 & 24 ounces and a 2 liter) of Mountain Dew, a very small and large bag of potato chips, measuring cups, a baseball, CD case, a deck of playing cards, and a small computer mouse.
- Preparation Needed:** In advance of this lesson, call your Extension Service, hospital, high school, or other appropriate area institute to see if they have a nutritionist or dietician on staff who may be available to speak to your students. Explain that you are studying junk foods, serving sizes, and personal responsibility for students in grades 3-5. Determine if they will have a hand-out or will need additional time for any demonstrations or activities they may present. Also, if possible, have the “My Pyramid” poster below blown up to 11 by 17 inches and mount it to tag board so your students can see it better when you refer to it. Make 8.5-by-11-inch copies to hand out to your students.

Background:

Children in the United States get 40 percent of their daily calories from fat and sugar, and mostly from these five food items: soda pop, fruit drinks, desserts, pizzas, and whole milk. The reasons for this are many, including easy access with limited supervision and the convenience of “just opening a package” or buying an already prepared serving that literally may be “too much of a good thing.”

This session will challenge students to rethink portion sizes, to use **self-restraint** to keep their calories in check, and to begin looking at the **nutritional value** of food listed on **labels**.

Teaching Strategy:

1. Open the lesson by asking your students if they know what a serving of food amounts to. Expect them puzzle over this. Restate the question by holding up the smallest snack-size bag of potato chips you can find next to a large bag of potato chips. *Food is measured by servings. If you can have one serving of potato chips, how many chips does that amount to?* Hold up a foam coffee cup and ask, *Is it a cupful?* Now hold up a medium-size bowl and ask, *Is it a bowlful? How about the entire bag?* Show them the **nutrition label** on the large bag of potato chips. *This label tells us how many calories are in each serving, along with other information such as the nutritional value, fat grams, salt, and ingredients.* Point out that a “serving” of potato chips will be about 19 chips. *Does anyone really count out 19 chips? No. Once a bag is open we want to see it as a single serving. We keep eating until it is gone. Would we do this with a bowl of mashed potatoes? No. Why do we do this with potato chips?* Write down the answers students give you on the flipchart. One reason could be that we seldom measure foods to begin with, and often we overeat foods we really like. *Is this healthy? No.*
2. On a clean paper or whiteboard, write down the word “Junk Food.” Ask the students if they have heard of this words. What does it mean? Listen to their answers and write down the responses that come closest to the actual meaning. Do they consider this term to have a good or bad meaning?
3. Now ask them what foods they are most likely to eat without any consideration of what an actual serving should be. Write down the answers. Expect the students to list more junk foods than any other types. Expect chips, soda pop, ice cream, cookies, and candy, to make the list. *Are these kinds of foods recommended as necessary to a healthy diet? No. They are highly*

processed foods that contain significantly higher levels of sugars, salts, and fats to make them tastier, yet they lack **nutritional value** for the amount of calories they contain.

4. For the next example, show them a 12-ounce can, a 16-ounce bottle, a 24-ounce bottle, and a two-liter bottle of Mountain Dew. Ask them, *Which one is a single serving?* They may not be sure. Read off the label of each bottle how many servings it holds inside. *Is it common to drink an entire bottle once you open it?* Most students will nod in agreement. *Is it common to keep eating candy piece by piece once you open the bag?* Again, many students will nod in agreement. Let them consider this observation.
5. *How many of your parents and guardians would not want you to eat a whole bag of potato chips all at once? How many of your parents and guardians would not want you to drink a big bottle of Mountain Dew at once? If an adult is not around to tell you this, who controls your serving size? You do: it is called **self-restraint**. You can be responsible for your own serving sizes.*
6. We use a food pyramid that describes the types of food and in what amounts we need to grow up healthy and strong. Use the large “My Pyramid” chart to show them these food groups are Grains, Vegetables, Fruits, Milk, and Meats and Beans. The actual amounts you need vary depending on your age, whether you are a boy or a girl, and how active you are. This pyramid also has steps on it to remind us we need physical activity every day in order to maintain our health.
7. *Let’s say you need to eat 1,800 calories a day, which might be close to what some of you actually need. That equals six ounces of grains, or six slices of bread about the size of a music CD. Show them the CD case. That grain also could come in the form of 1 cup of dry cereal or ½ cup of pasta, each of which equals a serving. One cup is about the same volume as a baseball, and ½ cup is about the size of a small computer mouse. Show them the measuring cups compared to the baseball and computer mouse. Are these measurements smaller than what you may have imagined? For vegetables, you would need 2 ½ cups, and for fruits you would need two cups. Remember this is for the entire day, including breakfast, lunch, dinner, and snacks. Hold up the measuring cups again. You will need three cups of milk or other dairy products. It is healthier for you if you use dairy products with lower fat content. A serving of vanilla ice cream has 140 calories, 70 of which are from fat. Fruit-flavored yogurt has 170 calories, but only 15 are from fat. Finally, for meat and beans most children would need about 5 to 6 ounces; that is about the size of two decks of cards. Hold up a deck of playing cards.*
8. *We talked a lot about numbers and measurements and servings. We don’t expect you to remember all this right now. What is important is that you pay much more attention to the portions or serving sizes of the foods you eat, and that you eat limited amounts of foods that are high in sugars, salts, and fats. You can begin looking at food labels on candy bars, potato chips, and other kinds of snack foods to get an idea of the total calories, the number of servings in each container, and the amounts of ingredients that have been added.*
9. Introduce your guest speaker on nutrition. Encourage him or her to reinforce personal responsibility and self-restraint when it comes to eating unhealthy foods. Give the students an opportunity to ask any questions.
10. Lead the applause and thank your guest speaker for visiting the students. Hand out the “Your Choice” worksheet. Read through the goals at the left. Ask your students to write down simple answers in the categories. They may not need to fill in each and every box. Have them consider the goals, and write down what they could do more of to accomplish a goal, or if they are doing enough now, or what they could do less of to meet that goal. For example, behind the first goal of making “smarter food and activity choices,” they might write under “More, I can” *eat less junk food*, under “Enough, I can,” they might write, *make sure I remember all five food groups*, and underneath “Less, I can” they may write, *sit on the couch and not be active*.

Sources: Lesson adapted from USDA’s Food and Nutrition Service, The Power of Choice.

"yourCHOICE"

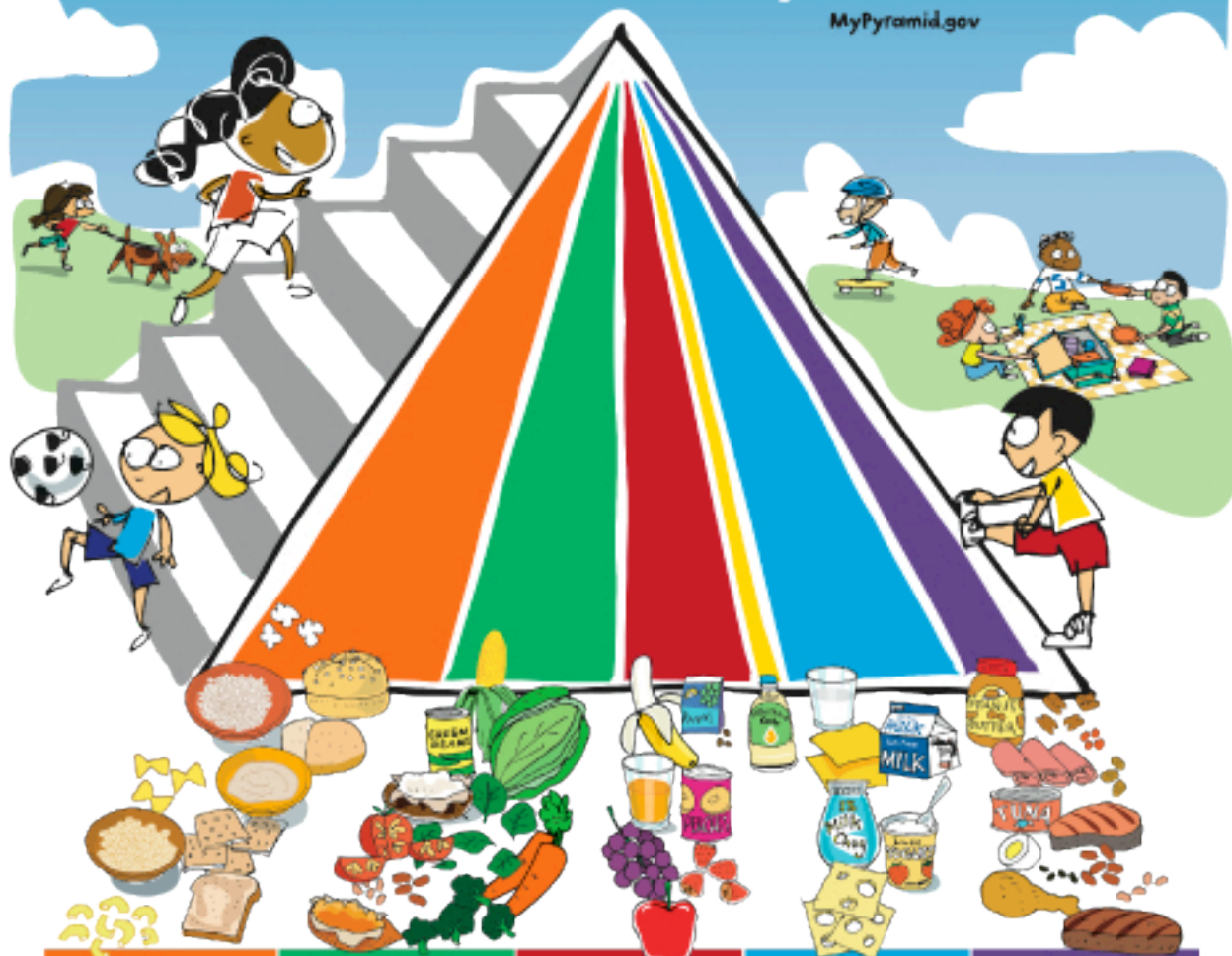
Your name _____

My goals...	More: I can...	Enough: I can...	Less: I can...
To make smarter food and activity choices	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
To move more and sit less	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
To pay attention to how much I eat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
To use food labels	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
To choose foods with less fat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
To make smarter drink choices	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
To make smarter snack choices	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
To make smarter fast-food choices	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
To avoid the urge to eat too much	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
To try new foods	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

MyPyramid For Kids

Eat Right. Exercise. Have Fun.

MyPyramid.gov



Grains

Make half your grains whole

Start smart with breakfast. Look for whole-grain cereals.

Just because bread is brown doesn't mean it's whole-grain. Search the ingredients list to make sure the first word is "whole" (like "whole wheat").

Vegetables

Vary your veggies

Color your plate with all kinds of great-tasting veggies.

What's green and orange and tastes good? Veggies! Go dark green with broccoli and spinach, or try orange ones like carrots and sweet potatoes.



Fruits

Focus on fruits

Fruits are nature's treats – sweet and delicious. Go easy on juice and make sure it's 100%.

Milk

Get your calcium-rich foods

Move to the milk group to get your calcium. Calcium builds strong bones.

Look at the carton or container to make sure your milk, yogurt, or cheese is lowfat or fat-free.



Meat & Beans

Go lean with protein

Eat lean or lowfat meat, chicken, turkey, and fish. Ask for it baked, broiled, or grilled – not fried.

It's nutty, but true. Nuts, seeds, peas, and beans are all great sources of protein, too.

For an 1,000-calorie diet, you need the amounts below from each food group. To find the amounts that are right for you, go to MyPyramid.gov.

Eat 6 oz. every day:
at least half should be whole

Eat 2 1/2 cups every day

Eat 1 1/2 cups every day

Get 3 cups every day:
for kids ages 2 to 5, it's 2 cups

Eat 5 oz. every day

Oils Oils are not a food group, but you need some for good health. Get your oils from fish, nuts, and liquid oils such as corn oil, soybean oil, and canola oil.

Find your balance between food and fun

- Move more. Aim for at least 60 minutes everyday, or most days.
- Walk, dance, bike, rollerblade – it all counts. How great is that?



Fats and sugars – know your limits

- Get your fat facts and sugar smarts from the Nutrition Facts label.
- Limit solid fats as well as foods that contain them.
- Choose food and beverages low in added sugars and other calorie sweeteners.



U.S. Department of Agriculture
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Division of Nutrition
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USDA

TEAM
United States of America

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Optional Activities

The following activities could be incorporated at the end of any lesson to fill extra time.

1. Bring cans of soups such as onion, mushroom, celery, bean, and similar varieties. Cut and tape paper to fit around the can and leave an opening so that only the ingredients show. Have the students guess by reading the labels which vegetable is the main ingredient.
2. Ask students to look at the labels of whole milk, two percent, and skim milk and decide in order the fat content per serving from most to least.
3. Encourage the children to write down times when people may not pay attention to serving sizes (such as dishing ice cream, having slices of two different pies, or ordering the largest fries and soft drink at a fast food restaurant).
4. Teach some Farmers Union songs.