

# PICTURE PERFECT

## PYRAMID

1

**SUBJECTS:** Visual Arts, Science

**STUDENT SKILL:** The student will analyze and demonstrate uses of the visual arts in today's world, including the popular media of advertising, television and film.

**OBJECTIVE:** Students will create a model of the USDA's Food Pyramid Guide, using shoe boxes.

### **BACKGROUND**

Your body needs more than 40 different nutrients to stay healthy. No single food can supply all nutrients in the amounts you need. For example, milk supplies calcium but little iron; meat supplies iron but little calcium. To have a nutritious diet, you must eat a variety of foods. Any food that supplies calories and nutrients can be part of a nutritious diet.

Many foods are good sources of several nutrients. Vegetables and fruits supply vitamins A and C, folic acid, minerals, and fiber. Breads and cereals supply B vitamins, iron, and protein and are good sources of fiber when eaten as whole grain. Milk provides protein, B vitamins, vitamins A and D, calcium, and phosphorus. Meat, poultry, and fish provide protein, B vitamins, iron, and zinc.

One way to make sure you get all the nutrients you need is to choose foods each day from five major food groups—vegetables, fruits, grain products, milk and milk products, and meats and meat alternatives. To help the public understand and remember what foods make up a healthy diet, the US Department of Agriculture designed the Food Guide Pyramid. Every day, most people should have at least the lower number of servings suggested from each food group. Some people may need more, depending on body size and activity level.

Many of the foods you need are made from crops grown on Oklahoma farms. Oklahoma is one of the top producers in the nation of hard red winter wheat—the kind of wheat used for making bread. Watermelon and peaches are important Oklahoma crops that provide food for the fruit group, along with

### **MATERIALS**

24 empty cereal,  
shoe or other  
boxes

bulletin board or  
butcher paper

wrapping paper  
in three  
different  
colors—red,  
green, purple



VOCABULARYFood Guide  
Pyramid

nutrients

fruit

vegetable

calorie

calcium

iron

variety

diet

vitamins

fiber

phosphorus

protein

strawberries, blueberries, blackberries, plums, pears, nectarines, grapes, cherries, apricots, apples, and cantaloupe. Oklahoma farmers also produce a variety of vegetables, including potatoes, sweet potatoes, asparagus, lima beans, snap beans, broccoli, cabbage, cucumbers, eggplant, mustard greens, onions, okra, peppers, pumpkin, spinach, squash, sweet corn, tomatoes, and turnips.

For the meat group, Oklahoma farmers produce beef, pork, poultry and eggs. Peanuts, pecans and dried peas provide important meat alternatives. Oklahoma dairies produce milk and milk products.

ACTIVITY

1. Have students bring cereal boxes from home. You will need 11 boxes for the bottom “bread group” level of the pyramid, five boxes for the “vegetable group,” four boxes for the “fruit group,” three boxes for the “milk group,” and one box for the peak of the pyramid.
2. Hand out copies of the “Food Guide Pyramid,” and share background material.
3. Have students wrap boxes for the bread group in white, the vegetable group in green, the meat group in red, the milk group in yellow and the fruit group in purple.
4. Divide your class into six groups, and assign one food group to each group of students. Instruct the groups to design illustrations or collect pictures from periodicals to represent their assigned food groups. Have each group label the end of one box with the name of the food group and the recommended daily servings.
5. Have group members place illustrations of their food group on the ends of the boxes that remain. After each group is finished, have students stack all the boxes in pyramid form.
6. Hand out the student worksheets. Instruct students to keep track of all the food and drink they consume in one 24-hour period. At the end of the 24-hour period, ask for volunteers to read their food diaries to the class. As students share data from their diaries, take out boxes from the class pyramid to represent recommended servings not consumed and put in boxes representing excess servings. After each volunteer shares his or her diary, have class members make suggestions for improving the diet.

Oklahoma Ag in the Classroom is a program of the Oklahoma Cooperative Extension Service, 4-H Youth Development, in cooperation with the Oklahoma Department of Agriculture, Food and Forestry, and the Oklahoma State Department of Education.

Oklahoma Ag in the Classroom  
Oklahoma 4-H Programs  
205 4-H Youth Development  
Oklahoma State University  
Stillwater, OK 74078  
405-744-8889  
<http://www.agclassroom.org/ok>



### ADDITIONAL ACTIVITIES

1. As a class, have students write a script explaining the purpose of the Food Guide Pyramid and use the shoe box pyramid as a visual for presentations to other classes. The students may research to find the necessary information and incorporate the background materials found in this lesson. Plan the presentations for National Snack Month in September or Good Nutrition Month in November. Have students adjust the pyramid according to their audience. For example if the presentation is given to a kindergarten class the information and the pyramid should reflect recommendations for “children, teen girls, active women and most men.” If the school board is the audience, and most of the board consists of middle-aged men, use recommendations for “teen boys and active men.”
2. Offer to set up the pyramid as a library display and locate books in the school library that have food as the subject. Include these books in the display, and encourage students to read them.
3. List agricultural products grown in Oklahoma on the chalkboard (see background material) and have each group use the end of one of the boxes to list the products that belong in their group.

### EXTRA READING

Patent, Dorothy Hinshaw, *Nutrition: What's in the Food We Eat?*  
Holiday House, 1992.

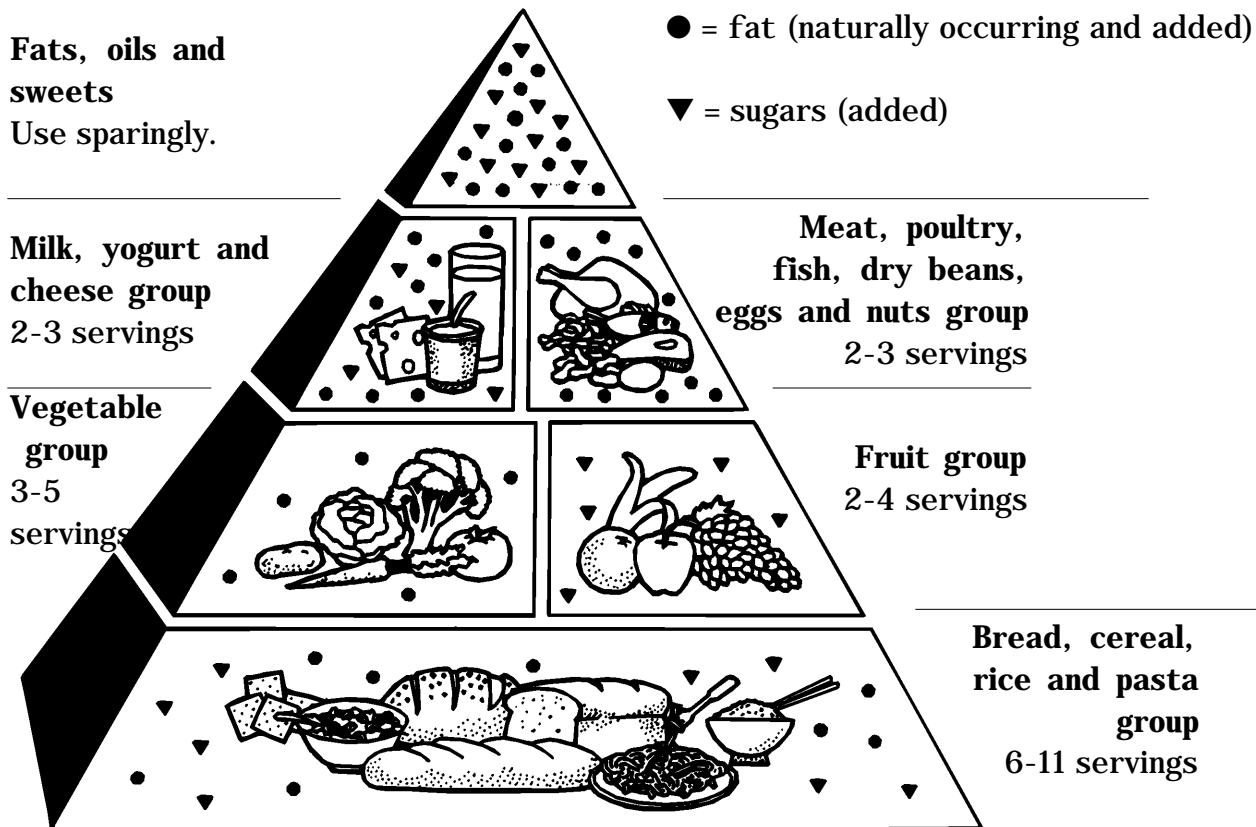
Regan, Dian Curtis, *Liver Cookies*, Scholastic, 1991.

### EVALUATION

Were students able to gather the needed materials and create the food pyramid? Did the students become more aware of the recommended daily servings that are listed in the food pyramid?

# The USDA Food Guide Pyramid

How many servings do you need daily?	Bread Group	Vegetable Group	Fruit Group	Milk Group	Meat Group	Total Calories
Women and some older adults	6	3	2	2-3	2, for a total of 5 ounces	about 1,600
Children, teen girls, active women, most men	9	4	3	2-3	2, for a total of 6 ounces	about 2,200
Teen boys and active men	11	5	4	2-3	3, for a total of 7 ounces	about 2,800



## What counts as a serving?

### Meat, poultry, fish, dry beans, eggs and nuts

2 1/2 to 3 ounces of cooked lean meat, poultry or fish  
Count 1/2 cup of cooked beans or 1 egg or 2 tablespoons of peanut butter as 1 ounce of lean meat (about 1/3 serving).

### Milk, yogurt and cheese

1 cup of milk or yogurt  
1 1/2 to 2 ounces of cheese

### Breads, cereals, rice and pasta

1 slice of bread  
1/2 cup of cooked rice or pasta  
1/2 cup of cooked cereal  
1 ounce of ready-to-eat cereal

### Fruit

1 piece of fruit or melon wedge  
3/4 cup of juice  
1/2 cup of canned fruit  
1/4 cup of dried fruit

### Vegetables

1/2 cup of chopped raw or cooked vegetables  
1 cup of leafy raw vegetables





Name \_\_\_\_\_

# Picture Perfect Pyramid

---

## VOCABULARY

**Food Guide Pyramid-** A model developed by the US Food and Drug Administration to help consumers understand daily nutritional requirements.

**nutrients-** Substances necessary for life and growth.

**fruit-** An edible, usually sweet and fleshy, form of a plant.

**vegetable-** A plant cultivated for its edible parts.

**calorie-** The heat necessary to raise the temperature of 1 gram of water from 14.5 degrees to 15.5 degrees Celsius.

**calcium**—A metallic element which is one of the basic components of bone, shells and leaves.

**iron**— A metallic element essential to healthy blood and available to humans through consumption of such foods as red meat, spinach, beets, whole wheat and raisins.

**variety**—A number or collection of varied things, especially of a particular group; an assortment.

**diet**—The usual food and drink of a person or animal.

**vitamin**—Natural substances that plants and animals need to grow.

**fiber**—A natural or synthetic filament, as of cotton, wool or nylon, capable of being spun into yarn.

**phosphorus**—A chemical element found in mineral forms in meats, poultry, fish, cheese, egg yolks, dried peas and beans, milk and milk products, soft drinks, nuts and almost all foods which helps strengthen teeth and aids in bone growth and energy metabolism.

**protein**—Any of a group of complex organic macromolecules that contain carbon, hydrogen, oxygen, nitrogen, and usually sulfur and are composed of one or more chains of amino acids. Proteins are fundamental components of all living cells and include many substances, such as enzymes, hormones, and antibodies, that are necessary for the proper functioning of an organism. They are essential in the diet of animals for the growth and repair of tissue and can be obtained from foods such as meat, fish, eggs, milk, and legumes.

