



Making Sense of Portions

Grade: High School

Subject: Health

Time: 30 minutes

***Standards:** Students will...



Health Standard 6: Understand essential concepts about nutrition and diet.

Benchmark # 1: Understand how nutrient and energy needs vary in relation to gender, activity level, and stage of life cycle.

Objectives: Students will be able to...

- Relate serving sizes to concrete objects.
- Understand how nutrient needs vary in relation activity level.
- Understand how nutrient needs vary in relation to particular stages of the life cycle.

Materials:

- Index cards
- Permanent marker
- *Serving Sizes for Ages 9-12*
- *Daily Recommendations Chart*

One set for each team:

- Brown bags or bucket
- Decks of cards
- Baseball
- Cupcake wrapper
- Poker chip
- Four dice

Overview:

"Eat every color every day." The USDA recommends that foods from every food group be eaten each day to maintain a healthy diet. The USDA Food Pyramid is divided into six colored stripes each representing one of the food groups. The wider the stripes the greater amount of that food should be consumed daily. Here is a quick explanation of the stripes (moving from left to right) and the groups they represent. For more details see the Food Pyramid Basics PDF below or visit online the [USDA Food Pyramid](#).

- The Grain Group: Orange Section on the USDA Food Pyramid. Each day you should eat 6 servings or 6 ounces total from the Grain Group. In the grain group are any foods made from wheat, rice, oats, cornmeal, barley or another cereal grain is a grain product.
- The Vegetable Group:Green Section on the USDA Food Pyramid. Each day you should eat 4 servings or 2 cups total from the Vegetable Group. In the vegetable group are any vegetables or 100% vegetable juice . Vegetables may be raw or cooked; fresh, frozen, canned, or dried/dehydrated; and may be whole, cut-up, or mashed.
- The Fruit Group: Red Section on the USDA Food Pyramid. Each day you should eat 3 servings or 1 ½



cups total from the Fruit Group. Any fruit or 100% fruit juice counts as part of the fruit group. Fruits may be fresh, canned, frozen, or dried, and may be whole, cut-up, or pureed.

- The Oils Group: Yellow Section on the USDA Food Pyramid. A person's allowance for oils depends on age, sex, and level of physical activity. The daily allowance for children ages four to eight years old is four teaspoons. Oils are fats that are liquid at room temperature, like the vegetable oils used in cooking. Some oils are used mainly as flavorings, such as walnut oil and sesame oil.

- The Milk Group: Blue Section on the USDA Food Pyramid. Each day you should eat 3 servings or 3 cups total from the Milk Group. All fluid milk products and many foods made from milk are considered part of this food group. Foods made from milk that retain their calcium content are part of the group, while foods made from milk that have little to no calcium, such as cream cheese, cream, and butter, are not. Most milk group choices should be fat-free or low-fat.

- The Meats and Beans Group: Purple Section on the USDA Food Pyramid. Each day you should eat 2 servings or 4 ounces total from the Meats and Beans Group. All foods made from meat, poultry, fish, dry beans or peas, eggs, nuts, and seeds are considered part of this group.

Kid's Speak: "Eat every color every day." The USDA recommends that foods from every food group be eaten each day to maintain a healthy diet. The USDA Food Pyramid is divided into six colored stripes each representing one of the food groups. The wider the stripes the greater amount of that food should be consumed daily. The six groups include: the Grain Group (orange stripe), the Vegetable Group (green stripe), the Fruit Group (red stripe), the Oils Group (yellow group), the Milk Group (blue stripe), and the Meats and Beans Group (purple stripe).

Eco-Fact: Food portion sizes today are far bigger than they were in the past, which means we're taking in far more calories than we realize.

Procedures:

Preparation

1. Prepare the index cards by writing one food group and serving size on each card: 2 ounces of meat, $\frac{1}{2}$ cup each of fruit and vegetables, $\frac{1}{2}$ grain, 2 ounces of cheese, 1 tablespoon of fat or oils. There should be one set of 5 cards for each team of two to four kids
2. Place one deck of cards, one baseball, one cupcake wrapper, one poker chip, 4 dice, and one set of index cards in each brown bag.

Portion Comparison Game

1. Discuss the recommended amounts of each food group, and serving sizes. Talk about how big they think each portion is, such as $\frac{1}{2}$ cup of vegetables.
2. Divide group into teams of two to four kids and provide each team with a prepared brown bag.
3. You may wish to have kids recreate chart below in their Garden Journal. Each item in the *Equal to...* column represents portion sizes of certain food groups. The goal is to be able to match up the object with the food group serving size it represents. For example, four dice is equal to one portion of cheese. Other examples are listed below:



Food Group	Serving Size	Equal to..
Meat	2 ounces	1 Deck of Cards
Fruit and Vegetables	1/2 cup each	1 Baseball
Grain	1/2 cup	1 Cupcake Wrapper
Dairy, Cheese	2 ounces	4 Dice
Fats or Oils	1 tablespoon	1 Poker Chip

4. Each team will sort and match index cards and items in the bag.
5. Check each team when they think they have all the items correctly matched. The first team to match all comparison items and serving sizes correctly wins.
6. Conduct a discussion about the portion size comparison after the activity has been completed.

Wrap up/Discussion:

- Which items were the easiest to match? Which items were the hardest?
- Were the portion sizes larger or smaller than you expected?
- How can we use the objects to help us eat the right serving sizes?
- Why is it important to know the approximate serving size of each food group?
- What is a result of continually eating larger portions than is recommended in dietary guidelines?

Adaptations:

- Since kids won't always have these objects with them, ask the group to use their hands to create a system. Compare the size of the objects to i.e. the size of their fists, length of fingers, fingertips, etc.

Extensions:

- Visit other nutrition lessons on this site.

GEF Community: Join the GEF Community online. It only takes a minute. Students can share pictures with the GEF Community and join the Green Thumb Challenge.

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