



Food Math

Lesson Highlights

Objective

Students will:

- Add and subtract fractions as they calculate how much of various food groups they need to meet the *MyPyramid for Kids* recommendations.
- Create a daily menu based on the *MyPyramid for Kids* recommendations.
- Discuss the importance of eating fruits and vegetables.

Curriculum Connections:

Math, Language arts, Music

Student Skills Developed:

- Math skills – adding and subtracting fractions
- Creative writing
- Song development

Materials Needed:

- *Food Math* worksheet for each student
- Paper and pencils to use in creating their day's menu
- (Optional) Glass measuring cup, cut raw fruits or vegetables to fill measuring cup to 1-cup line
- (Optional) Paper plate for the fruits or vegetables.

Getting Started:

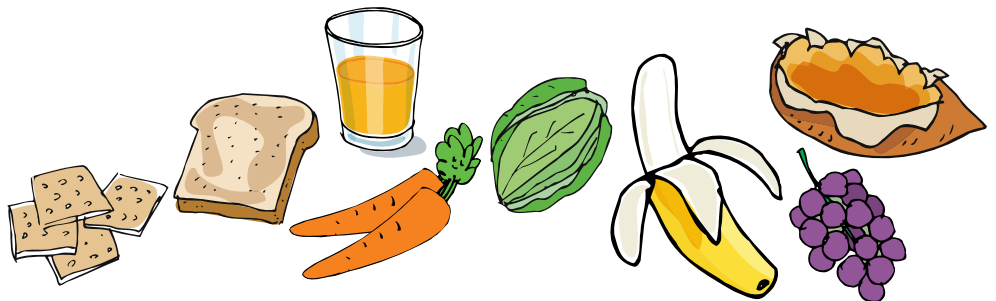
Have students look at the *MyPyramid for Kids* poster. Point out that *MyPyramid for Kids* tells how much of each food group to eat; *MyPyramid for Kids* gives the amounts for each day in ounces and cups. Grains and meats are weighed in ounces. For example, a piece of bread is 1 ounce, so is a cup of ready-to-eat breakfast cereal or one small tortilla. A small chicken breast half is 3 ounces. Vegetable, fruit, and milk amounts are given in cups. For example, one small apple, about 12 baby carrots, and an 8-ounce glass of milk count as 1 cup equivalent.

You may want to help students understand what 1 cup of vegetables or fruit looks like. Put food in a measuring cup, then pour out onto a paper plate. Or, mention that a baseball is about the size of 1 cup and a small computer mouse is $\frac{1}{2}$ cup.

Ask students to estimate how many fruits and vegetables they eat in a typical day. Point out that most students their age should eat more foods from these food groups. They are high in nutrients.

Activity: Food Math

- **Have students work in pairs. Hand out the *Food Math* worksheet.** Tell students they are going to choose foods they think would make a healthy menu for a day for Jason. Their menu should include breakfast, lunch, dinner, and a snack.
- **The menu they create must include the right amount of food from all the food groups.** For one day, that would be: 6 ounces of grains, $2\frac{1}{2}$ cups of vegetables, $1\frac{1}{2}$ cups of fruit, 3 cups of milk, and 5 ounces of meat or beans. (This amount of food is based on 1,800 calories, the estimated energy requirement for a moderately active 9- to 10-year-old.) Before students begin work, review each of the food groups and the amounts needed.



- **Have them write their menu on a sheet of paper** including the amount of food for each entry and the totals for each group along the bottom of the sheet.
- **Discuss students' choices and have them check their math.** Also have students check to see whether half their choices from the grain group are whole grains. Did they choose any dark green or orange vegetables?

(Note to teacher: Food Math will help prepare students to play the MyPyramid Blast-Off game on the enclosed CD ROM.)

Group Activity: Be Hip-Hop Healthy

Divide students into groups. Have each group write a rap (at least eight lines long) about the importance of eating from all the food groups. Have the group come up with movements that go along with their rap. Groups should perform their raps for the entire class. Then post a written copy of the rap on your bulletin board. (To help the students get started, you can use the Power Panther™ songs on the enclosed CD ROM that have a "hip-hop" beat.)



Lunchroom Link:

Invite a staff member from your school foodservice program to talk about how they create balanced menus and determine the amount of each food to serve. (Have the students work with the lunchroom staff to plan a menu and then announce over the PA system when the menu is served, recognizing the students' efforts.)



Food Math

Use teacher-created *Food Math* worksheet available on the electronic blueprint in place of this sheet.

Jason is 9 years old. He's physically active sometimes. Each day, he needs to eat:

Grains
6 ounces

Vegetables
2½ cups

Fruit
1½ cups

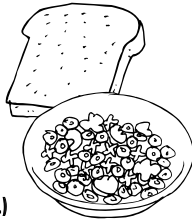
Milk
3 cups

Meat and Beans
5 ounces

Help Jason decide what to eat today. Plan breakfast, lunch, dinner, and a snack. Be sure he gets all the food he needs from each group. (Food items may be selected more than once.)

Grains 6 ounces

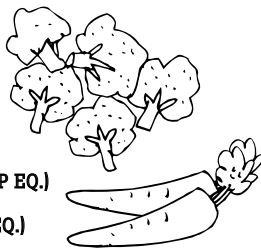
- ___ 1 slice whole-wheat toast* (1 OZ EQ.)
- ___ 5 whole-wheat crackers* (1 OZ EQ.)
- ___ 1 slice white bread (1 OZ EQ.)
- ___ 1 slice whole-wheat bread* (1 OZ EQ.)
- ___ 1 cup whole-grain ready-to-eat breakfast cereal* (1 OZ EQ.)
- ___ ½ cup cooked brown rice* (1 OZ EQ.)
- ___ 1 cup cooked pasta (2 OZ EQ.)
- ___ 1 hamburger bun (2 OZ EQ.)
- ___ 3 cups lowfat popcorn* (1 OZ EQ.)



Items marked with a * are whole-grain

Vegetables 2½ cups

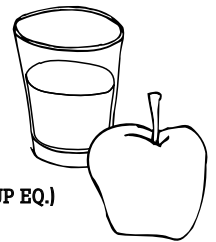
- ___ 6 baby carrots* (½ CUP EQ.)
- ___ 1 large ear of corn (1 CUP EQ.)
- ___ 1 medium baked potato (1 CUP EQ.)
- ___ 1 cup cooked greens* (1 CUP EQ.)
- ___ 1 large baked sweet potato* (1 CUP EQ.)
- ___ 3 spears broccoli* (1 CUP EQ.)
- ___ ½ cup tomato juice (½ CUP EQ.)
- ___ 1 cup chopped lettuce (½ CUP EQ.)



Items marked with a * are dark green or orange vegetables

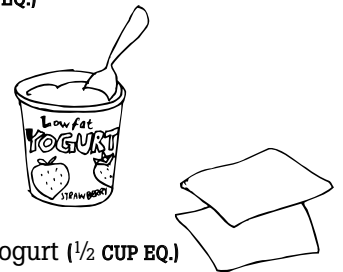
Fruits 1½ cups

- ___ 1 small apple or ½ large apple (1 CUP EQ.)
- ___ 1 large orange (1 CUP EQ.)
- ___ 1 snack-sized container of peaches (½ CUP EQ.)
- ___ 1 large plum (½ CUP EQ.)
- ___ 1 small box raisins (½ CUP EQ.)
- ___ 1 cup 100% orange juice (1 CUP EQ.)
- ___ 1 medium wedge cantaloupe (½ CUP EQ.)
- ___ 1 small wedge watermelon (1 CUP EQ.)



Milk 3 cups

- ___ ½ cup lowfat or fat-free cottage cheese (¼ CUP EQ.)
- ___ 1 cup fat-free milk (1 CUP EQ.)
- ___ 1 snack-sized lowfat or fat-free yogurt (½ CUP EQ.)
- ___ 1 half-pint container 1% or 2% milk (1 CUP EQ.)
- ___ 2 ounces of lowfat or fat-free American cheese (1 CUP EQ.)
- ___ 1½ ounces of lowfat or fat-free cheddar cheese (1 CUP EQ.)
- ___ 1½ cups light ice cream (1 CUP EQ.)



Meat and Beans 5 ounces

- ___ 1 ounce of nuts (2 OZ EQ.)
- ___ 1 cup split pea soup (2 OZ EQ.)
- ___ 1 small chicken breast half (3 OZ EQ.)
- ___ 1 small lean hamburger (3 OZ EQ.)
- ___ 1 hard-boiled egg (1 OZ EQ.)
- ___ 1 tablespoon peanut butter (1 OZ EQ.)
- ___ ¼ cup of pinto beans (1 OZ EQ.)
- ___ 1 slice of turkey (1 OZ EQ.)



Key: (1 OZ EQ.) means (equals 1 ounce equivalent)

