

# Harvest of the Month



Network for a Healthy California



## Nutrition Facts

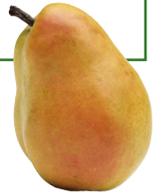
Serving Size: ½ cup pears, sliced (70g)  
Calories 41      Calories from Fat 0

	% Daily Value
Total Fat 0g	0%
Saturated Fat 0g	0%
Trans Fat 0g	
Cholesterol 0mg	0%
Sodium 1mg	0%
Total Carbohydrate 11g	4%
Dietary Fiber 2g	9%
Sugars 7g	
Protein 0g	
Vitamin A 1%	Calcium 1%
Vitamin C 5%	Iron 1%

# PEARS

## Health and Learning Success Go Hand-In-Hand

School-based nutrition education promoting healthful eating and physical activity can improve academic performance. *Harvest of the Month* connects with core curricula to give students the chance to explore, taste, and learn about the importance of eating fruits and vegetables. It links the classroom, cafeteria, home, and community to motivate and support students to make healthy food choices and be physically active every day.



## Exploring California Pears: Taste Testing

### What You Will Need:

- Variety of red, yellow, green, and brown pears, whole and quartered\* (refer to *Home Grown Facts* on page 3 for varieties)
- One pear variety per every four students
- Whiteboard or chalkboard
- Dry erase markers or chalk

\*To reduce browning (oxidation), cut pears immediately before tasting.

### Activity:

- Divide students into four groups (red, yellow, green, and brown pears).
- Make four columns on the whiteboard: red, yellow, green, and brown.
- Each group observes, smells, feels, and tastes their assigned pear.
- Note the different features in the columns on the whiteboard.
- Use descriptive sensory words like sweet, fragrant, yellow, grainy, crunchy, etc.
- Discuss the similarities and differences in the four groups.
- Sample the other colors.



For more ideas, ask your school nutrition staff or ask to borrow:  
*Fruits and Vegetables Galore*, USDA, 2004.

## Cooking in Class: Party Pear Frisbee

Makes 36 tastes at 2 rice cakes with yogurt each

### Ingredients:

- 1 (29-ounce) can pear chunks in light syrup, drained
- 4 (6-ounce) containers lowfat vanilla yogurt
- 3½ ounces mini rice cakes

1. Spoon yogurt into a large bowl.
2. Add pears and gently stir until just blended.
3. Place 1 teaspoon of yogurt and 2 pear chunks on top of each rice cake.
4. Place 2 rice cakes in a paper tray.
5. Serve immediately.

*Nutrition information per serving:*  
Calories 33, Carbohydrate 7 g, Dietary Fiber 0 g, Protein 1 g, Total Fat 0 g, Saturated Fat 0 g, Trans Fat 0 g, Cholesterol 1 mg, Sodium 15 mg

Adapted from: Tasting Trio Team,  
*Network for a Healthy California*, 2010.

For more ideas, reference:  
*Kids Cook Farm-Fresh Food*, CDE, 2002.

## Reasons to Eat Pears

- A ½ cup of sliced pears contains fiber and vitamin C.
- The edible skin\* of pears is an additional source of fiber\*\*.
- Pears offer a natural, quick source of energy, due largely to high amounts of two kinds of monosaccharides (fructose and glucose) and levulose.

\*Always wash fruits and vegetables before serving.  
\*\*Learn more about fiber on page 2.

### Champion Sources of Fiber\*:

- Beans
- Berries
- Dates
- Peas
- Pumpkins
- Whole wheat cereals and breads

\*Champion sources provide a good or excellent source of fiber.

For more information, visit:

[www.fruitsandveggiesmatter.gov/month/pear.html](http://www.fruitsandveggiesmatter.gov/month/pear.html)

[www.nal.usda.gov/fnic/foodcomp/search/](http://www.nal.usda.gov/fnic/foodcomp/search/)  
(NDB No: 09252)

## What is Fiber?

- Fiber is a complex carbohydrate found only in plant foods like fruits, vegetables, grains, nuts, and seeds.
- Fiber contains no calories.
- Fiber comes in two forms: insoluble and soluble.
- Insoluble fiber is known as “roughage” and helps move food through the body to prevent constipation. It also helps control blood sugar levels.
- Soluble fiber helps pull cholesterol out of the body. It also helps control blood sugar levels and keep food in the stomach longer so that you feel full.
- Fiber may help lower the risk of high blood pressure, heart disease, stroke, and some types of cancer.

For more information, visit:  
[www.eatright.org](http://www.eatright.org)

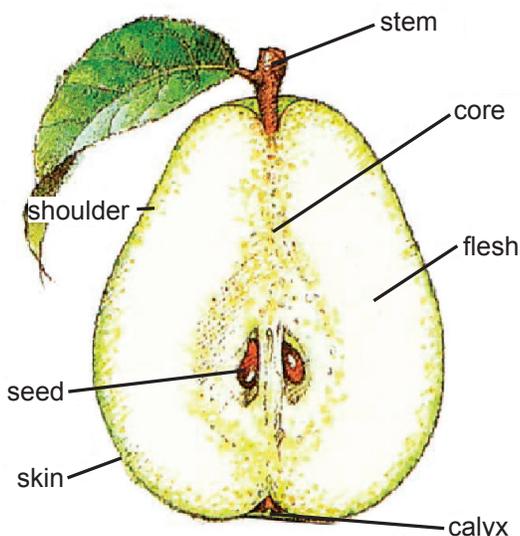
## How Do Pears Grow?

Pears need a location with good air circulation where the ground is slightly elevated and sloping because the trees bloom early and the flowers may be damaged in the spring by frosty air, which settles in low-lying areas. Pears should be grown in heavier soil types and will not survive on ground that is saturated with water.

The pear tree has glossy leaves and white flowers grouped in corymbs, which are pollinated to become the edible fruit. In early spring, bees help the pear trees pollinate from flower to flower on the different pear trees. During the growing season, pear orchards need the ideal warm days and cool nights that are found in California, Oregon, and Washington regions.

Pears do not ripen properly on the tree so growers pick the fruit when it is mature but green. Pears are harvested by hand, placed into bins, and transported to a packing house. The pears are graded for quality, sorted by size, and packed for the fresh market or sent to a processing facility. They are cooled to slow down the ripening process. To initiate ripening, pears need to be brought to room temperature.

For more information, visit:  
[www.calpear.com](http://www.calpear.com)



Source: [www.usapear.com](http://www.usapear.com)

## Botanical Facts

**Pronunciation:** pâr

**Spanish name:** pera

**Family:** Rosaceae

**Genus:** *Pyrus*

**Species:** *P. communis*, *P. pyrifolia*

Pear is the name for the fruit tree of the genus *Malus* and for its fruit,

a pome, which is edible in most species. There are 30 known species of pears, three of which are important for edible fruit production. The common pear, *Pyrus communis* or European Pear, is cultivated mainly in Europe and North America, while *Pyrus pyrifolia* is grown mainly in eastern Asia and is known as the Nashi, Asian, or Apple Pear. The Ya Pear, *Pyrus bretschneideri*, is also cultivated in Asia.

Other pear species are used as rootstocks for European and Asian pear trees and as ornamental trees. For example, the Bradford Pear (*Pyrus calleryana*) and Willow-leaved Pear (*Pyrus salicifolia*) are grown only for decoration and have become widespread in North America.

For more information, visit:  
[www.fruitsandveggiesmatter.gov/month](http://www.fruitsandveggiesmatter.gov/month)

## Just the Facts

- There are more than 3,000 varieties of pears worldwide.
- Ninety-eight percent of all pears grown in the United States are grown in California, Oregon, and Washington.
- The Bartlett pear variety is America’s favorite pear.
- Pears ripen better off the tree and from the inside out.
- Pears are best when eaten with the peel, as that is where most of the fiber and antioxidants are found.
- Pears are processed into canned pears, fruit cocktail, juice concentrate, baby food products, and can be dried.
- The wood of pear trees is one of the preferred materials in the manufacture of high quality woodwind instruments.

## How Much Do I Need?

A ½ cup of sliced pears is about one cupped handful. This is about half of one medium-sized pear. The amount of fruits and vegetables each person needs depends on age, gender, and physical activity level.

Visit [www.mypyramid.gov](http://www.mypyramid.gov) and have students determine how many cups each of fruits and vegetables they need to eat every day. Have students write down their goals and make a daily log for tracking how many fruits and vegetables they eat each day.

## Recommended Daily Amount of Fruits and Vegetables\*

	Kids, Ages 5-12	Teens and Adults, Ages 13 and up
Males	2½ - 5 cups per day	4½ - 6½ cups per day
Females	2½ - 5 cups per day	3½ - 5 cups per day

\*If you are active, eat the higher number of cups per day. Visit [www.mypyramid.gov](http://www.mypyramid.gov) to learn more.



## Student Sleuths

- 1 Define the following terms and describe what they do in the body: monosaccharides, fructose, glucose, and levulose.
- 2 Which fruits are eaten with the peel? Which fruits are typically eaten after being peeled? How much fiber is added by eating the peel of fruits like pears, peaches, and apples?
- 3 Make a list of the snacks you eat regularly. Analyze the sugar and nutrient content of your snacks. How healthy are your snacks? Make a list of snacks that you can eat that are healthier (more nutrients and low in sugar).
- 4 Research and describe the technique called grafting that is used to grow and cultivate pears. What other fruits use the grafting technique?
- 5 Label the parts of the pear.
- 6 Map the various geographical regions in California where pears are grown. What are the top three pear-producing counties in California?

### For information, visit:

[www.calpear.com](http://www.calpear.com)  
[www.fruitsandveggiesmatter.gov/month/asian\\_pear.html](http://www.fruitsandveggiesmatter.gov/month/asian_pear.html)  
[www.cfaitc.org/factsheets/pdf/Pears.pdf](http://www.cfaitc.org/factsheets/pdf/Pears.pdf)  
[www.usapears.com](http://www.usapears.com)

## Cafeteria Connections

- Set aside a time each day to discuss the menu with students. Ask which meals they would like to try. How many times is the featured produce included on the menu? Does each meal include a fruit and a vegetable?
- Team up with the school nutrition staff to celebrate National School Lunch Week (NSLW) during the second week of October. NSLW encourages hunger awareness and community involvement, and opens the doors for further nutrition learning and discussions. Take this opportunity to involve your classroom in a particular NSLW activity.
- Visit [www.schoolnutrition.org](http://www.schoolnutrition.org) or contact your school nutrition staff for more NSLW information.

### For more ideas, reference:

*School Foodservice Guide – Successful Implementation Models for Increased Fruit and Vegetable Consumption*, Produce for Better Health Foundation, 2005, pp. 39-42.



## School Garden: Composting

Autumn is an excellent time to make a compost pile in your school garden by recycling waste from the garden and cafeteria. Composting is a simple way to add nutrients to depleted soil. Common items used in compost piles include dead bugs, twigs, leaves, hay, fruit and vegetable scraps, and coffee grounds.

### Discussion:

Nutrient-rich soil helps plants grow optimally. People also need nutrient-rich foods to grow and stay healthy. Discuss with students nutrient-rich foods that grow in the garden and why it is important to eat these foods every day.

### For more information on composting, visit:

[www.lifelab.org](http://www.lifelab.org)  
[www.foodlandpeople.org](http://www.foodlandpeople.org)  
[www.compostingcouncil.org](http://www.compostingcouncil.org)

## Student Advocates

- Have students work with school nutrition staff to design posters with pear drawings and facts to hang throughout the school and cafeteria. Partner with a local grocery store to hang students' posters at the checkout stands.
- Help students organize a composting crew with your school nutrition staff to help reduce waste from the cafeteria. See the *School Garden* activity for details.

### For more ideas, visit:

[www.ciwmb.ca.gov/schools](http://www.ciwmb.ca.gov/schools)



## A Slice of Pear History

- Pears date back to ancient times as one of the earliest cultivated fruit trees. The Romans used special grafting techniques to develop more than 50 varieties of pears, which were introduced to other parts of Europe with the rise of the Roman Empire.
- The Bartlett pear was developed in England in the 17th century by a schoolmaster named John Stair. He sold some cuttings from a pear tree (which are used for grafting, a technique for developing new trees and fruit varieties) to a horticulturist named Williams, who further developed the variety and renamed it after himself.
- Early Americans brought pear seedlings across the Atlantic to the Massachusetts Bay Colony. In 1812, nurseryman Enoch Bartlett discovered the pear variety and, unaware of the pear's true name, distributed it as a "Bartlett." However, it is still known as the "Williams" pear around the world. Bartlett cuttings eventually came west when the forty-niners headed for the great California Gold Rush and they continue to grow in California today.

## Adventurous Activities

### Field Trip:

Take students on a pear-picking field trip or to a farmers' market. Or bring the field trip to the school. For information on Farm to School programs, visit [www.cafarmersmarkets.com](http://www.cafarmersmarkets.com).



### Guest Speaker:

Ask a local pear farmer or horticulturist to hold a hands-on grafting demonstration or explain how they harvest pears.

### Problem Solving:

Use pears in math equations, such as addition, subtraction, and fractions, or introduce pie charts and chart the different ways and corresponding percentages that pears are sold.

- **Example:** Sixty-five percent of pears go to canneries, 25 percent are sold fresh, 10 percent go to baby foods, etc.

### Science Investigation:

- **Materials:** Unripe pears of each variety being tested, thermometers, resealable plastic bags, and supplies as determined by students.
- **Activity:**
  - 1 Explain that pears ripen best after they have been picked. Brainstorm variables that may affect the ripening rate.
  - 2 Create and perform experiments that will test each variable. For example, separate pears in plastic bags. Place one bag in the refrigerator and one on a countertop. Over the next few days, record temperatures and changes in color, firmness, etc. Compare the ripeness of the two sets of fruit.
  - 3 Discuss the results of each of the performed experiments.

Adapted from: [www.cfaitc.org/factsheets/pdf/Pears.pdf](http://www.cfaitc.org/factsheets/pdf/Pears.pdf)

### Calendar Connection:

Participate in **Walk to School Week**. Encourage students to walk with a friend or an adult to school every day. Visit [www.cawalktoschool.com](http://www.cawalktoschool.com) for details.

For more ideas, visit:

[www.nass.usda.gov/Education\\_and\\_Outreach/NASS\\_Kids](http://www.nass.usda.gov/Education_and_Outreach/NASS_Kids)  
[www.ars.usda.gov/is/kids](http://www.ars.usda.gov/is/kids)

## Physical Activity Corner

Eating healthy is only one step toward fighting overweight in youth. Children should engage in at least 60 minutes of physical activity every day to stay healthy and fit, both mentally and physically.

### Objective:

Develops strength, locomotor skills, and group cooperation

### Activity:

- Have students pretend that they are their favorite super hero (or cartoon character) and act out a movement of the character for all the students to do together for about 30 seconds.
- As students act out their movements have them call out their favorite fruit or vegetable that gives them energy.
- Repeat until all students have had a turn being a super hero.

### Bring It Home:

Encourage students to talk with family members about their favorite super heroes and the importance of being active every day.

For more ideas, visit:

[www.sparkpe.org](http://www.sparkpe.org)

## Home Grown Facts

- The California pear harvest begins in mid-July and continues through September.
- Seventy-five percent of California's pear acreage is for the Bartlett pear.
- California ranks first in Bartlett pear production, producing 60 percent of the nation's Bartlett crop.
- California ranks second in all pear production, producing 32 percent of all pears grown in the United States.
- Other California varieties include Bosc, Seckel, Comice, and Red Anjou.

## Literature Links

- Ask school librarian to promote books about fruits, like pears, to students. For a list of book ideas, visit [www.harvestofthemonth.com](http://www.harvestofthemonth.com).
- Invite librarian to classroom to read a book about nutrition or the cycles of a fruit tree.

For book lists, visit:

[www.californiahealthykids.org](http://www.californiahealthykids.org)

