

# Pears

Information compiled by California Pear Advisory Board

**How Produced** – Rich soil, plenty of water, warm days, and cool nights are the best conditions for pear growth. Pear trees are in production for an average of 50 to 75 years, although some pear trees still produce after 100 years.

In winter, trees are pruned and replacement trees are planted. It takes five to seven years for a tree to produce fruit. Pear trees are unique since they are self-pollinating. They do not need bees for this process.

The California pear harvest begins in mid-July and continues through September. 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. Next, pears are cooled to slow down the ripening process. To initiate ripening, pears need to be brought to room temperature.

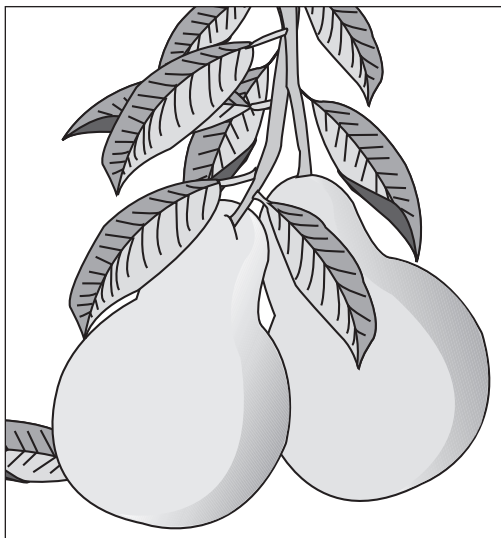
Pears are processed into canned pears, fruit cocktail, juice concentrate, and baby food products, and are often dried. They can be found in such items as fruit juices, baked goods, and snack foods like fruit roll-ups.

**History** – Pears date back to ancient times. In the 8<sup>th</sup> Century BC, pears captured the praise of the Greek poet Homer, who referred to them as a “gift of the gods.” The Romans proceeded to use grafting techniques to develop more than 50 varieties and introduced cultivated pears into other parts of Europe.

The Bartlett pear was developed in England in the 17<sup>th</sup> century by a schoolmaster named John Stair. He sold some cuttings 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 49ers headed for the great California Gold Rush and continue to grow in California today.

Other California-grown varieties, such as the Bosc originated in France in the 1800s and were introduced in the United States in the early 1930s. Comice, similar to Bosc, originated in France and reached America around 1850. The Seckel variety, native to the United States, originated in Pennsylvania in 1760.

**Varieties** – The pear, scientifically known as *Pyrus communis*, is a member of the rose family. The Bartlett comprises 75 percent of California’s pear acreage and 90 percent of its tonnage. The Bartlett has a teardrop shape with thin skin that turns from green to yellow when it ripens.



Other California varieties include Bosc, Seckel, Comice, and Red pears. Each has its own distinct shape, color, and flavor. The Red Sensation variety was discovered as a “bud sport” on a Bartlett tree. A bud sport is a tree limb that naturally transforms and develops a different fruit variety from that of the original.

**Commodity Value** – California ranks number one in Bartlett pear production, generating 50 percent of the nation’s Bartlett crop. It also produces 30 percent of all pears grown in the United States, ranking number two in the nation. California produces over 240,000 tons each year and adds \$70,000,000 to its

economy. California exports approximately 20 percent of its fresh crop. Canada and Mexico receive over 95 percent of California’s exports.

**Top Producing Counties** – Pears are grown in two primary growing regions of Northern California on about 12,000 acres of land. The regions are divided in “early” and “late” districts based on the timing of the harvest. The early district, called “River Pears,” spans the Upper Sacramento Valley of Sutter and Yuba counties and along the Sacramento River Delta in the counties of Sacramento, San Joaquin, Yolo, Solano, and Contra Costa. The early district produces 145,000 tons, about one-half of California’s annual pear crop. The late district, called “Mountain Pears,” spans Mendocino, Lake, and El Dorado counties. This area produces approximately 95,000 tons of pears annually.

**Nutritional Value** – One medium pear provides 16 percent (four grams) of the daily requirement for dietary fiber, 10 percent of the daily requirement of Vitamin C, and a healthful source of potassium. Pears have about 100 calories and contain no cholesterol, sodium, or saturated fat.

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CALIFORNIA  
PEARS

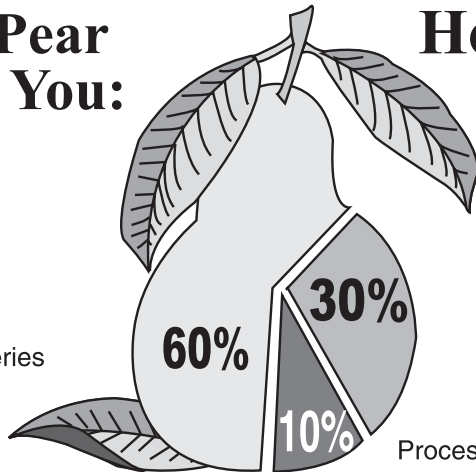


# Pear Activity Sheet

## From Pear Tree to You:



Canneries



## How Are Pears Consumed?

Fresh market



Processed into dried fruit, baby food, and juice products.



### Lesson Ideas

- Slice a pear in half. Find the stem, core, shoulder, flesh, seeds, skin, and calyx.
- On a map of California, identify the River and Mountain districts.
- Dehydrate pears and calculate the percent water loss.
- Compare the color, taste, and texture of various pear varieties. Graph or chart your results.
- Examine pear fruit cells under a microscope. Observe the sclerenchyma cells, which give pears their unique texture.
- Dip the tips of your thumb and little finger on an inkpad and make pear prints.
- Write a song or poem about pears highlighting their unique characteristics.
- Cut a firm pear in half, dip in paint, and use it to make prints.
- Create a collage of food products that contain pears.

### Pear Fun Facts

1. How long does it take for a new pear tree to produce fruit?
  2. *True or False?* Pears are picked fully grown, but still green.
  3. What is a bud sport?
  4. What flower is closely related to the pear?
  5. What is the most common pear variety grown in California?
  6. Name one California county which grows lots of pears.
  7. *True or False?* The Bartlett pear is sometimes called the Williams pear because a man by the name of Williams actually propagated it.
  8. Pears are high in which of the following — potassium, cholesterol, fiber, Vitamin C, Vitamin D.
- 1) Five to seven years 2) True 3. A tree limb that naturally transforms and develops fruit different from the other fruit on the tree 4) The rose 5) Bartlett 6) Contra Costa, Lake, El Dorado, Mendocino, Sacramento, San Joaquin, Solano, Sutter, Yolo, and Yuba 7) True 8) Potassium, fiber, and Vitamin C.

### Lesson Plan: Ripe for the Taking

**Introduction:** Since pears do not ripen properly on trees, growers pick pears while they are still green, but mature. Seventy percent of consumers want to buy Bartletts that are just starting to “break color” from green to yellow, yet only 47 percent of grocery chains ripen Bartletts in the backroom. A considerable amount of time and money has gone into informing grocers how to properly ripen pears as well as increase their shelf life. This activity allows students to compare the ripening rates of pears under various conditions. Pears are considered ripe when they are slightly soft when gently pressed on the stem end of the fruit.

**Materials:** Unripe pears for each variety you are testing; thermometers; resealable plastic bags; supplies determined by students.

#### Procedure:

1. Explain to the students that pears ripen best after they have been picked. Have the students think of variables that may affect the ripening rate of pears and brainstorm a list of

variables that can be explored in a classroom setting.

2. Have the students create and perform an experiment that will test one aspect of fruit ripening. One such experiment is described below.

Make two sets of three pears each in a resealable plastic bag. Place one bag in the refrigerator and one on a countertop. Record temperatures. Over the next few days, record temperatures, color changes, and changes in firmness. Compare the ripeness of the two sets of fruit.

3. Have the students discuss the results of each of the performed experiments.
4. Individually or as a class, have the students write a memo or cardboard box cover that explains to the grocer how to store and ripen pears. Or, have students design an ad that explains to consumers how to ripen pears at home.

