

Taste and Teach

August - Peaches



Five **Fun Facts** About Peaches!

- There are 2 main types of peaches, clingstone and freestone. In clingstone peaches, the flesh “clings” to the pit, making it harder to separate.
- It takes 5 years for a cling peach tree to reach full production.
- Peaches are grown in 41 states but California accounts for nearly 100% of the commercial production of cling peaches.
- Peaches contain high levels of Vitamin A and C.
- By-products from peach processing are used in animal feed and compost.

Four **Fun Teaching Ideas!**

- Watch this video on peaches from California Bountiful: <https://www.youtube.com/watch?v=V0hPZBwqaUM>
- Research the characteristics of cling and freestone peaches. Have students create a Venn Diagram to illustrate their findings.
- Compare the nutrition labels of canned and fresh peaches. What are the similarities and differences. Have students create a report outlining their findings.
- Have students create a recipe using peaches.

Explore all the great peach resources in this section!

Cling Peaches

Information compiled by the California Cling Peach Board

How Produced – Cling peach trees are grown by nurseries and sold to growers for planting during dormancy in the winter months. To encourage early fruit production, trees are planted with a minimum density of 121 trees per acre. The first peaches are seen when the trees are one year old, in “second leaf.” At five years, they are in full production, yielding an average of 18 tons of fruit per acre. The orchards require the constant attention and care of the growers. Pruning is generally done during the winter months. Thinning is done in the spring to achieve optimum sized fruit at harvest.

Harvest begins at the end of June in the southern San Joaquin Valley, and concludes soon after Labor Day in the northern Sacramento Valley. Cling peaches are picked when fully ripe. An average picker harvests three tons of peaches each day. Quality peaches at optimum maturity are placed in bins that hold 1,000 pounds of fruit. The fruit is then delivered to canneries that operate seven days a week during peak season.

At the processing plant, peaches are unloaded on a conveyor belt where they are sized and sent into the appropriate pitting machine. Following pitting, cling peaches are peeled and sliced. All peaches are packed in natural syrup to preserve quality and taste. Finally, the cans are sealed, cooked, and cooled. The fresh fruit is generally processed into one of its many products within 24 hours. Quick processing allows the fruit to maintain its nutritional value and quality.

History – Chinese writings more than 3,000 years old give reference to peaches. In California, Spanish padres found that cling peaches thrived along the mission trail. In the late 1700s, President George Washington enjoyed the peaches he grew in his garden at Mount Vernon. The fruit became well established during California’s gold rush when settlers began growing and preserving them for commercial sale to miners. During World War I peach pits were gathered, ground, and used as filters in gas masks.

Varieties – The 16 most common California peach varieties, which account for 92% of all acreage, are separated into four main groups identified by harvest time—from extra early (late June) to extra late (September). The term “cling peaches” was given to these varieties because the flesh of the fruit “clings” to the pit. Today, by-products from peach processing are used in animal feed and compost.

Commodity Value – Cling peaches have a value of \$123 million at harvest and increase to more than \$450 million after processing. Cling peaches are primarily processed into two major products: canned cling peaches which are diced, sliced or halved, or diced as an ingredient in fruit cocktail. Other products include frozen cling peaches, baby food, and peach concentrates.



Top Producing Counties – Cling peaches are grown on approximately 16,000 acres in the San Joaquin and Sacramento Valleys by more than 400 growers. Five companies are responsible for processing the harvest, around 250,000 tons per year.

Although peaches are grown in 41 states, California accounts for nearly 100% of the commercial production of cling peaches in the United States. Butte, Fresno, Kings, Madera, Merced, San Joaquin, Stanislaus, Sutter, Tulare, and Yuba counties produce most of the state’s cling peaches. These areas are ideal because the dormant season provides sufficient “chilling hours” to set the following year’s crop. Later in the season, warm summer days combined with rich soil, and adequate water provide strong fruit growth.

Nutritional Value – California cling peaches are picked at the optimum nutrient level and the canning process locks in nutrients until you open the can and take a bite. Cling peaches are naturally fat-free and contain high levels of vitamin A and vitamin C. They also contain carotene and lycopene, antioxidants that improve skin condition and strengthen eyesight. In 2008, scientists discovered that carotene and lycopene increase during the canning process, supporting the claim that cling peaches are a great source of these nutrients.

For additional information:
California Cling Peach Board

(916) 441-3865
Fax: (916) 446-1063
Website: www.calclingpeach.com



Cling Peach Activity Sheet



◀ #1

Small bareroot peach trees are planted in the winter. Growers extend the harvest season by planting varieties that mature at various times.



◀ #2

Winter and spring pruning is done by hand.



◀ #3

Pickers use both hands to pick several peaches at a time. Their day begins at dawn.

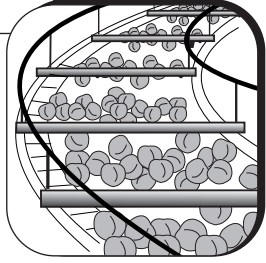
#4 ▶

Peaches are sorted at the orchards and then placed into big bins.



#5 ▶

At the cannery, peaches are sorted on conveyor belts, cut into different sizes, and processed.



#6 ▶

Cling peach products including canned peaches, fruit cups, juice, and baby food are available to consumers worldwide!



Lesson Ideas

- Research the characteristics of cling and freestone peaches. Hypothesize the benefits of each and why both are important to the agriculture industry.
- Analyze the nutritional labels on various canned cling peach products. Which cling peach product would you choose for its nutritional benefits? Defend your choice.
- Research how cling peach growers/farmers increase their production and lower labor costs.
- Using the figures on the fact sheet, calculate the average number of cling peach trees in California.
- On a map of California, identify the major counties where cling peaches are grown. What geographic characteristics do these counties have in common and how do these help with cling peach production?
- Create a recipe that includes cling peaches. Have the students practice their arithmetic by halving, doubling, and tripling their recipes.
- Develop a flow chart showing the innovative and technical processes used to get peaches to homes throughout the county.

Fantastic Facts

1. It takes five years for a cling peach tree to be in full production.
2. The gold miners were the first people to commercially farm cling peaches in California.
3. The average cling peach picker picks four tons, or 8,000 pounds, of peaches daily.
4. Most cling peaches are sold canned.
5. Cling peach trees are pruned twice each year.
6. Cling peaches contain vitamin A and C.
7. California produces nearly 100% of the United States' total cling peach production.
8. During World War I, peach pits were gathered, ground, and used as filters in gas masks.

Lesson Plan: Cling Peaches – A Convenient Fruit

Introduction: Cling peaches are processed in a variety of ways to provide nutritious, convenient fruit to people throughout the world.

Objective: Students will examine a variety of cling peach products and compute the price per ounce. They will consider the benefits and costs of value-added foods.

Materials: A variety of cling peach products including canned peaches in different mediums and cuts, baby food products, flip-top individual servings, juice concentrates, and frozen cling peaches with the cost of each item, paper, markers and pencils.

California Standards: CC ELA: W.3-12.4; CC Math: 7-RP.2, HS.S-ID.1

Procedure:

1. Ask the students why people may eat processed fruit products such as cling peaches rather than fresh fruit. Write the

variety of answers on the board. Answers may include taste, convenience, food safety, and year-round availability

2. Have the students create a table of processed cling peach products and record the price and weight of each item.
3. Divide the students into small groups. In additional columns, have students determine the price per ounce of the food products and then rank the food items from most to least expensive.
4. Have students discuss and then write opinions why some of these products were more expensive than others. Possible answers may include processing requirements, packaging costs, and the popularity of the product. As a class, discuss each group's comments and the term "value added."
5. Have the students taste the cling peach products. Create a line plot that depicts the levels of their popularity.

It's the pits California-Grown Stone Fruit

Introducing California Stone Fruit

In botany, stone fruit are called "drupes." This term describes a fruit in which an outer fleshy part surrounds a pit, or stone.

Peaches: It takes five years for a peach tree to reach full production. The fruit can have yellow or white flesh and the skin feels velvety. Peach tree leaves are **simple**, long (3 to 6 inches), fold inward, and curve downward.

Apricots: Approximately 95 percent of apricots grown in the U.S. come from California. Apricots are smaller than a peach, yellow to orange in color, often tinged red on the side exposed to the most sun. Apricot leaves are nearly round in shape with **palmate venation**.

Cherries: There are two kinds of cherries, sweet and tart. California farmers primarily grow sweet cherries. They may be red, black, or yellow in color. Cherry leaves are oval to oblong, with a **serrate** edge.

Nectarines: Nectarines are similar to the peach in appearance, but have a smooth skin. They have red, yellow, or white flesh. The leaves and buds of nectarine trees look similar to peaches—long, glossy, and bright green in color.

Plums: Plums come in a wide variety of colors and sizes. Some are much firmer-fleshed than others. Plums may have yellow, white, green, or red flesh, with varying skin color. Plum leaves are simple, oval to oblong, and come to a point at the end. The leaf margins are **scalloped**.

Activity

Identify and match each stone fruit to the most appropriate leaf type. Some leaf types may be a match with more than one fruit.

Appearance

Leaf Type



Apricot

Cherry

Nectarine

Plum

Peach



Standards: ELA—Grade 3: Reading Informational Text (RI) 4, 7; Grade 4: RI 4, 7; Grade 5: RI 4, 7; Grade 6: RI 4, 7; Science—Grade 5: 6a

Activity

Using a ruler and the illustrations provided, calculate the exact measurements (in inches) of each fruit in decimal form. Assume that the fruit is a perfect sphere.

Hints: $C = \pi d$ Surface area = $4\pi r^2$ $V = \frac{4}{3}\pi r^3$



Diameter = _____
Circumference = _____
Radius = _____
Surface area = _____
Volume = _____

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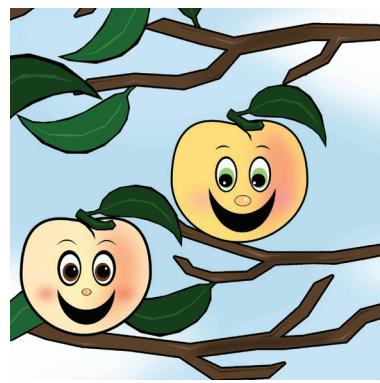
Standards: Math—Grade 6: 6.G.6, 6.EE.2; Grade 7: 7.G.4, 7.G.7

Imagine this...

Have you ever wondered what it would be like to be a peach? In the award-winning story "Just Peachy," sixth-grade author Nick O'Brien introduces readers to a young peach, Sims, and the quirky "neighbors" he shares a tree with. To read more, visit www.LearnAboutAg.org/imaginethis/ 2010.

Sources: Purdue Horticulture and Landscape Architecture (www.hort.purdue.edu), California Citrus Peaches (www.calagppeach.com), California Cherry Marketing and Research Board (www.calcherry.com)

Imagine this...



Just Peachy

By Nick O'Brien

2010 *Imagine this...* Story Writing Contest Winner

6th Grade, St. Stanislaus Catholic School

Judee Sani, Teacher

Sanislaus County

When I was a young peach, my dad was the president of our orchard in Modesto, California. Our orchard was the best in the fruit nation. With the bees flying all over the place shouting and bossing all the bugs around, the orchard was busy and beautiful.

My best friend was another peach five branches up. His name was Johnson and our favorite game was JumpBranch. Jump-Branch is a game when one peach swings the branch back and forth while the other peach leaps over the branch. It is kind of like jump rope with a branch. My name is Sims and my friend Johnson and I were both Clingstones, which makes sense. The two of us were inseparable, very clingy, and did everything together the whole summer.

Our school, California Gold Elementary, was located on the second branch. Mrs. Freestone was our teacher and she had bright red fuzz and a bruise on her rear. I always liked Mrs. Freestone; she was sweet. Even though some of us were not Freestones like her, she still treated all of the peaches equally. Clingstones were not as popular as the Freestones, but she did not care and taught all of us not to judge a peach by its skin. She never bruised our egos.

Our next branch neighbor was this old peach named Ms. Faye Elberta and was she ever mean! She thought she was better than everyone because she was a part of the Freestone family and her brand of peach was popular with the eaters. Ms. Elberta was always peeking through the leaves on the tree at my friends and me while we played. Every time we really started having fun, she would make rustling noises in the leaves and then spray us with peach juice. She had a fit when she saw us swinging on the branches kicking up peach fuzz.

Two trees away there was a very special peach named Redhaven. She had the best sunlight in the whole field perched high on the tree and all of the peaches talked about how sweet and perfect she must be soaking all of that sun up every day. My friends and I all dreamed about Redhaven.

At the end of the California summer, we saw men picking peaches off the branches. After four days of watching the workers picking peaches, they soon were one tree away from our tree. When the men came to our tree, I was hoping that they wouldn't pick anybody I knew.

They picked me and everybody else. No one knew where we were going. The workers placed us all into a box, then into a truck, and finally into a factory. We were instructed to all participate in a runway fashion show where we would all parade down the runway belt and hopefully get chosen for the “big show.”

Worried that no one would want me, I was very happy when a lady came over and picked me. She placed me in a special pile going to the farmers market. Not all of us got to go to the farmers market, some of my family headed to grocery stores and others to a can of cling peaches. I saw mean old Ms. Elberta going down the fruit cocktail chutes. It was sad saying goodbye to everyone and I shed some tears of juice.

My dreams came true the next day. My mom and dad ended up at the farmers market with me. Rolling out of the giant plastic bin with loads of other peaches, I landed right next to Redhaven! Not only was she sweet on the inside, but also on the outside. We chatted for days until a happy little girl picked me and bought me. After shining me up, she took a big bite out of me and was delighted. Enjoying every bite, the girl talked her mom into letting her plant the peach seed in her backyard. Now I am in the ground waiting to grow into a peach tree. See you this spring!

**Learn more about the “Imagine this.. Story Writing Contest”
by visiting LearnAboutAg.org/imaginethis!**

