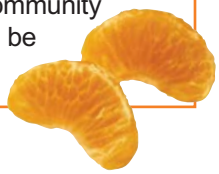
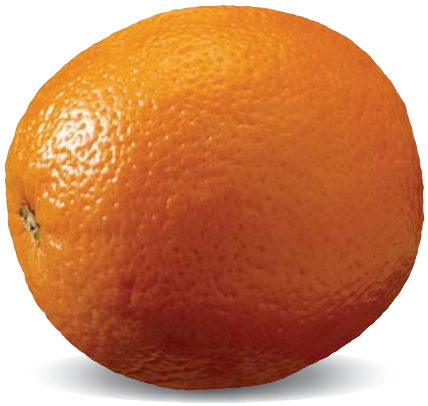
Harvest of the Month

Network for a Healthy California

Health and Learning Success Go Hand-in-Hand

Step into a healthy New Year. Research demonstrates improved short-term auditory memory, mood and overall academic performance when students eat a variety of nutrient-rich foods, including fruits and vegetables, and get regular physical activity. **Harvest of the Month** connects with core curricula to give students the opportunity 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.





Nutrition Facts

Serving Size: 1 medium orange (154g)

Calories 75	Calories from Fat 2
	% Daily Value
Total Fat 0g	0%
Saturated Fat 0g	0%
Trans Fat 0g	
Cholesterol 0mg	0%
Sodium 2mg	0%
Total Carbohydrate 19g	6%
Dietary Fiber 3g	14%
Sugars 13g	
Protein 1g	

Vitamin A 8% Vitamin C 152% Calcium 7% Iron 1%

Source: **www.nutritiondata.com**

Taste Testing with California Oranges

Taste testing activities allow students to experience the featured produce with their senses, engaging them in the learning process and creating increased interest, awareness and support for increasing consumption of fruits and vegetables.

Tools:

- Navel and Valencia oranges, quartered with peels; one each per four students
- Orange juice; ¼ cup per student
- Small paper cups
- Paper, rulers and pencils

Activity:

- Make four columns on a piece of paper with the headings:
  1) characteristics 2) Navel 3) Valencia 4) orange juice
- Write the following words, one per line, in the first column (under characteristics):
  1) taste 2) color — flesh 3) color — peel 4) texture — flesh
  5) texture — peel 6) smell — flesh 7) smell — peel
- Taste a slice of the Navel orange and note their observations in the second column next to the corresponding characteristic
- Repeat exercise with the Valencia orange and orange juice in the third and fourth columns (enter N/A where applicable for the orange juice)
- Have a class discussion on the similarities and differences in characteristics

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.

Cooking in Class: Breakfast Fruit Cup

Ingredients:

Makes 32 tastes at ¼ cup each

- 8 oranges, peeled, seeded and sliced into bite-sized pieces
- 4 bananas, peeled and sliced
- 4 tablespoons raisins
- 2 cups plain or vanilla lowfat yogurt
- ½ teaspoon cinnamon
- Paper bowls or cups; plastic spoons

In a large bowl, combine fruit, then divide equally into small bowls. Put one tablespoon of yogurt over fruit in each bowl and sprinkle with a dash of cinnamon.

Adapted from: *Discover the Secret to Healthy Living,* Public Health Institute, 2004.

For more ideas, reference:

Kids Cook Farm-Fresh Food, CDE, 2002.

Reasons to Eat Oranges

One medium orange provides:

An excellent source of Vitamin C, 152 percent of the recommended Daily Value, helping the body to fight off illnesses and keeping the immune system healthy.

A good source of fiber and folate. Folate, or folic acid, is vital for growth development, especially for young children.

Antioxidants, which help fight aging, cancer and other diseases.

A source of Vitamin A, calcium, potassium, thiamin and magnesium.

January Events

- **National Fiber Focus Month**
- **National Book Month**
- **Healthy Weight Week**

ORANGES

January

Eat Your Colors

Fruits and vegetables come in a rainbow of colors. Eat a variety of colorful fruits and vegetables every day — red, yellow/orange, white, green and blue/purple. Oranges are in the yellow/orange color group.

- Yellow/orange fruits and vegetables help maintain a healthy heart, vision health and a healthy immune system. They may also lower the risk of some cancers. Examples include oranges, tangerines, grapefruits, apricots, sweet potatoes, yellow and orange bell peppers, carrots, rutabagas, yellow beets and butternut squash.

For more information, visit:
www.harvestofthemonth.com
www.fruitsandveggiesmatter.gov

How Do Oranges Grow?

Oranges grow on trees, which thrive best in warm, subtropical to semitropical climates. Orange trees are evergreens, seldom exceeding 30 feet in height. The leaves are oval and glossy and the flowers are white and fragrant. Orange trees produce leaves, flowers and fruit all at the same time, making them very fragrant in full bloom.

Oranges will grow in almost any kind of soil as long as it drains well, but protection from frost is a critical factor. Growers in California use fans placed above the trees to circulate the warmer air above the grove with the colder air near the ground.

Because plants grown from seed are all slightly different, commercial growers propagate oranges by grafting or budding to ensure they'll always get the same high-quality fruit. To graft, a single bud is taken from the branch of a high-quality tree and inserted into the bark of a seedling. This bud then becomes the part of the tree that produces the fruit.

Orange trees usually flower in the spring. Individual flowers or, occasionally, clusters of large, white, fragrant flowers appear on short stems. The flowers are self-fertile or can be pollinated. It takes between eight and 18 months for the fruits to grow and ripen. Citrus is one of the few fruit trees that doesn't require regular pruning and is also one of the few fruits that can be left on the tree without becoming overripe.

For more information, visit:
www.cfaitc.org/Commodity/Commodity.php

Student Sleuths

1. What major parts of the body does thiamin support? What are the effects of thiamin deficiency?
2. Among other important functions, zinc plays a role in the acuity (sharpness, clarity and distinction) of two major senses. What are those senses?
3. What does the color of an orange's peel tell you?

For information, visit:
www.fruitsandveggiesmatter.gov/month/orange.html

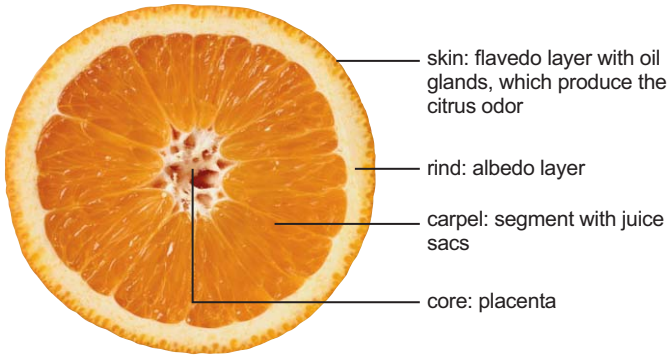
What's in a Name?

Pronunciation: ôr´inj
Spanish name: naranja
Family: Rutaceae
Genus: *Citrus*
Species: *C. sinensis*

Orange refers to the citrus tree, *Citrus sinensis,* and the fruits of this tree. Belonging to the family Rutaceae, oranges are a kind of hesperidium, or berry, because they have many seeds, are fleshy, soft and derived from a single ovary. All citrus trees are of the single genus *Citrus* and are interbreedable, meaning that there is only one "superspecies," which includes lemons, limes and oranges.

Originating in ancient times in Southeast Asia in either India, Vietnam or southern China, the orange is a hybrid fruit, possibly between the pummelo, *Citrus maxima,* and tangerine, *Citrus reticulata.* Compared to modern cultivars, the original fruit was bitter and referred to as the sour orange (or bitter, bigarade or Seville orange). The sweet orange was first grown in Spain and has become the most popular variety worldwide. The Navel orange, a sweet orange, was the result of a single mutation in an orchard in Brazil. Internationally, it is also known as the Washington, Riverside or Bahia Navel.

For more information, visit:
www.fruitsandveggiesmatter.gov/month



Student Advocates

- Have your class work with the child nutrition and other school staff to have "Orange Day" where the entire school is asked to wear orange. Have your students create posters with illustrations, nutrition facts and history to hand out in the halls and create a sheet of fun facts to be read over the school intercom system during announcements. Offer incentives, like the class wearing the most orange wins a party with fresh squeezed orange juice smoothies or orange sorbet.
- Food handling and storage are major causes of health concern. Invite students to write to the USDA to receive food handling tips. Create posters to send to other schools, restaurants, hospitals, soup kitchens, day care centers, grocery stores, etc., that promote the rules of food safety.

A Slice of Orange History

Oranges are first mentioned in history around 2201 B.C.E. and were once considered a luxury among Italian nobility. Oranges arrived in the New World in 1493 when Columbus brought a variety of citrus fruits over on one of his voyages. As early as the 1700s, it was reported that orange seeds were being successfully grown at Spanish missions in southern Arizona.

With the founding of the first Spanish mission in San Diego in 1769, oranges and lemons were introduced into California from Mexico. But it was the California Gold Rush that created a demand for this nutritious fruit. When 200,000 miners and their families headed west, they faced a serious lack of fresh foods, particularly those rich in Vitamin C. In fact, the effects of their vitamin-deficient diet caused scurvy. A doctor named Lewis Gunn made a small fortune treating miners for scurvy — his son later became one of San Diego's leading citrus growers.

In the pueblo of Los Angeles, William Wolfskill planted his first orange grove in 1841. The first load of oranges was shipped by rail from Wolfskill's orchard to St. Louis in 1877. Once the proud possession of kings and noblemen, citrus fruit is now available to everyone.

Today, the United States is the leading citrus-producing country in the world and the second-leading producer of oranges, behind Brazil. There are many varieties of oranges, but the most popular include the sweet orange, sour orange and mandarin orange, or tangerine. The United States produces the sweet variety, including the Blood, Hamlin, Jaffa, Navel, Pineapple and Valencia.

Fruity Facts

- Almost 40 percent of the orange crop in the United States is used for making frozen concentrate.
- After chocolate and vanilla, orange is the world's favorite flavor.
- Navel oranges are the most popular "eating" orange in the world. They got their name because the bottom looks like a bellybutton or navel. The bigger the "navel" in an orange, the sweeter it will be.
- Valencia oranges are actually green. As they ripen on the tree, they go from green to yellow-orange; then when the weather becomes warm the oranges regain a little green tinge starting at the stem end as a result of the chlorophyll returning to the peel. This process is called "re-greening."
- Unlike many other fruits, citrus does not continue to ripen after being picked.

Student Sleuths

1. Map the various geographical regions in California where oranges are grown. What do these regions have in common? How are they different?
2. Ninety percent of Florida's oranges go into making juice. How much of the oranges harvested in California go into processed foods and juices? How much are available to be sold whole/fresh?

For information, visit:

www.cacitrusmutual.com/index.shtml
www.fruitsandveggiesmatter.gov/month/orange.html

Cafeteria Connections

- Participate in "Orange Day" in your school cafeteria. (See the *Student Advocates* section.)
- Work with a class to plan a menu that includes orange colored foods and meets the meal requirements.
- Use the Lunch Menu Planner and the Promotion Planning Worksheet found in *Fruits and Vegetables Galore* for ideas.
- Be sure to post the menu in advance of "Orange Day" and credit the students who helped create the menu.

For more ideas, reference:

Fruits and Vegetables Galore, USDA, 2004.

Physical Activity Corner

During the winter months, it is more important than ever to help students engage in at least one hour of physical activity every day to stay healthy and fit, both mentally and physically. Dedicate the month of January to playing a different game or activity every day, in or out of the classroom.

Objective: Develop base endurance and flexibility; study pulse/heart rate and the benefits of cardiovascular exercise

Authentic Graphing:

- Do different activities that require varying amounts of effort, like standing still, walking and running in place
- After two minutes of each activity, students measure their heart rates by taking their pulses
- Graph and discuss results
- Brainstorm ways to increase their heart rates throughout the day

Fitness Breaks:

- Take a two-minute fitness break between lessons
- Ask students to lead the break with stretches
- Play a popular dance song and let students dance

For more ideas, visit:

www.sparkpe.org
www.cdc.gov/HealthyYouth/physicalactivity

Home Grown Facts

- Navels and Valencias are the two main varieties grown in California. The major Navel- and Valencia-producing areas are the San Joaquin Valley region and the coastal area from Santa Barbara down to the San Diego/Mexico border. These regions are also top producers of other citrus varieties, including lemons, grapefruits and tangerines.
- The first three Navel orange trees were brought from Brazil and planted in Riverside, California in 1873. When the trees started producing fruit in 1878, the quality was so superior to any other orange grown in California that it quickly became the most popular variety. Today, one of the original trees is still alive and producing fruit.
- California oranges are rated the finest eating or table oranges (in other words, the best looking and least messy to eat). They usually have a full orange color (due to drier climate and cooler nights), with a thicker skin and are less juicy than the Florida fruit.

For more information, visit:

www.citrusvariety.ucr.edu/citrus/index.html

School Garden: Indoor Growing

It may be winter outside, but many plants will grow easily in the classroom, even a mini-orange grove. Orange plants are one of the easiest plants to grow from seed — all you need is water and some direct light.

Materials:

- Mature orange seeds
- Potting soil
- Plant containers (milk cartons, wide-mouthed cans or glass jars)

Getting Started:

- Use seeds from the *Adventurous Activities* (Research and Problem Solving) section, or ask students to bring in a seeded variety of orange. Students can also ask the produce manager at their local grocery store.
- Make sure students use full-size or mature seeds.
- Plant containers need to hold at least four inches of soil. Make drainage holes in containers.
- Plants grown under lights dry out quickly and should be checked regularly and kept moist.
- Plants grown indoors require temperatures between 60 F to 80 F during the day and about 15 degrees cooler at night. Plants should not be set on the heater.

Indoor Growing:

- Make a window sill garden in the classroom with each container labeled according to the orange variety and date planted.
- Plant some of the seeds in a transparent container so you can watch them germinate.
- Experiment by altering the growing conditions for some of the plants and charting the resulting differences.

Note: It will take about two weeks for the first seedling to appear.

Adapted from: *Gardening Tips from Life Lab's Garden Activity Calendar*

For more ideas, visit:

www.lifelab.org

Next Month: Broccoli

Adventurous Activities

Calendar Connection:

January is National Fiber Focus Month. With more than three grams per serving, oranges are a good source of dietary fiber. Discuss with your students the health benefits of fiber and brainstorm a list of other foods that are high in fiber. Encourage students to incorporate these foods into their daily meals.

Science Exploration:

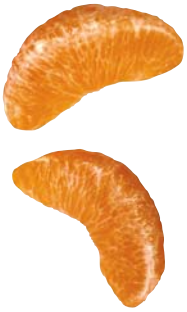
Have students name their favorite fruits and vegetables and list them on the board. When complete, identify and discuss which part of the plant these fruits and vegetables represent.

Examples:

- **Root:** carrot, onion, turnip, yam, beets
- **Stem:** asparagus, rhubarb, celery, fennel
- **Leaf:** spinach, chard, cabbage, lettuce, collards
- **Flower:** broccoli, cauliflower, artichoke
- **Fruit:** apple, citrus fruits, squash, tomato
- **Seed:** beans, corn, peas, soy beans

Research and Problem Solving:

- Students can use their observation and measurement skills to find out what else is in just one orange.
- Estimate what's in one orange: how many sections, seeds, tablespoons of juice, etc.
- If using several different types of oranges, make a comparison chart with the results from each variety.
- Chart observations and discuss research findings:
  - Does the circumference relate to the number of sections?
  - Does the number of seeds relate to the number of sections?
  - Does the amount of juice relate to the size of the orange?



For more ideas, visit:

www.nal.usda.gov/kids
www.agclassroom.org

Literature Links

- **Primary:** *I Like Oranges* by Robin Pickering, *The Strange Egg* by Mary Newell DePalma, *Oranges (What's for Lunch)* by Claire Llewellyn, *The Three Golden Oranges* by Alma Flor Ada and *Oranges on Golden Mountain* by Elizabeth Partridge.
- **Secondary:** *What's Growin' On in California?* by the California Foundation for Agriculture in the Classroom, *Inside the Orange: It's a Juicy Story* by Sunkist Growers, *The Interrelationship of Soil, Water, and Fertilizers and How They Affect Plant Growth** by Pamela Emery.

*Available at www.cfaitc.org.

CHAMPIONS for CHANGE
Network for a Healthy California

This material was funded by USDA's Food Stamp Program through the California Department of Public Health's *Network for a Healthy California*. These institutions are equal opportunity providers and employers. The Food Stamp Program provides nutrition assistance to people with low income. It can help buy nutritious foods for a better diet. For information on the Food Stamp Program, call 1-888-328-3483.