

Orange

Grow

Orange is a fruit that grows on an evergreen citrus tree. It belongs to the Rutaceae family. They are a kind of berry or *hesperidium* that has a leathery rind surrounded by pulp-filled segments.

Oranges grow in warm, subtropical climates. Optimal temperatures are 55 to 64 degrees F in winter and up to 95 degrees F in summer. Orange trees, like other citrus, tend to go through a juvenile phase for the first 2 to 3 years of fruit production. During this period, the tree may be more “thorny” and produce few fruit, but those fruit are generally large and coarse-peeled. The trees typically bloom in the spring with peak bloom occurring in April. A tree will produce many more flowers than it will set fruit. The fruit will mature and be ready to harvest about 7 to 12 months after the fruit has set.

Brazil is the world’s leading orange producer. The United States is second. Florida is the number one producer (about 70%) in the United States. However, 90% of Florida’s oranges go into making orange juice. California, Texas, and Arizona also grow oranges. Many orange varieties exist but the most common are the sweet orange and the sour orange. The U.S. mostly grows sweet orange varieties like Blood, Jaffa, Hamlin, Navel, Temple, Pineapple, and Valencia. Some oranges have seeds and some are seedless.¹⁻²

Fun Fact: Orange trees produce leaves, flowers and fruit all at the same time, making them very fragrant.¹

Choose

Citrus fruits do not continue to ripen after harvesting. Opt for firm oranges, heavy for their size with fine-textured skin and no soft spots. Oranges should be free of bruises or cuts. Scars may develop on the peel where a young fruit has brushed against the tree, but these surface flaws do not affect the quality of the fruit inside. Oranges can be available year-round. Peak season in the United States is December to May.¹⁻²



Store

Store in warmest part of refrigerator – 45-50 degrees F and 85-95% relative humidity. Oranges cut or segmented should be covered and refrigerated if they are not eaten within 2 hours of preparation. Cut oranges will last about 1 to 2 days if refrigerated. Oranges do not freeze well because freezing can make the fruit very bitter tasting.²

Fun Fact: To make the best orange smiles (sections), cut an orange horizontally, instead of lengthwise.

Use

Oranges are commonly peeled and eaten fresh or squeezed for juice. Oranges pair well with poultry and seafood. They can also be used in salads, salsa, pasta, wraps, baked goods and more. The outermost layer of the rind can be thinly grated with a zester to produce zest. Orange zest is popular in cooking and baking because it contains oils and has a flavor similar to the orange pulp. Wash oranges under clean, running water before peeling. Steam oranges for 2 to 4 minutes for easier peeling.²

Fun Fact: There is very little waste with citrus. Citrus pulp is eaten, juice is used for fresh juice or refined for syrups and vinegars, the peel is used for zest or to make pectin, oils, marmalade or citric acid, and seeds are used for oil.¹

Orange

Teach

Oranges are one of the most commonly grown fruits in the world. Valencia and Navel oranges are categorized as “sweet oranges.” From the outside, the main difference in appearance is the feature that gives the Navel oranges their name - a second “twin” fruit opposite its stem (making it look like a human navel). Navels are seedless and peel easily. Valencias have a high juice content, are thin-skinned, and have few seeds.¹

Fun Fact: As oranges ripen, heat from the sun draws chlorophyll out of the orange. Chlorophyll helps plants make energy from the sun and gives plants a green color. As the orange matures and gets more sunlight, the fruit ripens and starts to change from orange to green. These re-green oranges are ripe and delicious!¹

Classroom Activity - Exploring Varieties

Materials Needed:

- 1 whole Navel and Valencia orange per student group
- 1 Navel and Valencia orange quarter per student
- Orange juice in small paper cups - ¼ cup per student
- Paper, rulers, and pencils

Steps: **Use food safety steps. Wash hands and produce.*

1. Ask students to make columns on a piece of paper with the headings: 1) Characteristics, 2) Valencia, 3) Navel, 4) Orange juice.
2. 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.
3. Instruct students to compare the whole Valencia and Navel.
4. Encourage students to taste each slice and the orange juice and note observations in the appropriate column next to the corresponding characteristic. (Enter N/A for the orange juice where applicable).
5. Discuss as a class the similarities and differences.
6. Variation: Try oranges during different times of the year. Oranges are sweeter in the winter.¹

Eat

One medium orange has about 72 calories. One cup of orange sections has about 84 calories, is very low in fat, and is free of cholesterol and sodium. Oranges are an excellent source of vitamin C (100% of the Daily Value). They are also a very good source of fiber, folate and thiamin. In addition, oranges are a source of copper, potassium, vitamin B6, lutein and zeaxanthin.

Fun Fact: Oranges are the primary source of vitamin C for most Americans.¹⁻²

Vitamin C helps our body absorb iron and folate from plants, protects us from infections and bruising, aids in healing, keeps our gums healthy, helps form collagen to hold muscles, bones and tissues together, and acts as an antioxidant to prevent cell damage. Soluble fiber helps lower blood cholesterol. Insoluble fiber aids in digestion. Our bodies need folate for blood cell, DNA and genetic development. Thiamin helps regulate metabolism and produce energy in cells. Copper is part of many enzymes. It helps your body produce energy in cells, develop connective tissue, myelin and melanin, and make hemoglobin which is needed to carry oxygen in red blood cells. Potassium helps maintain normal blood pressure, regulate fluids and mineral balance, transmit nerve signals and contract muscles. Vitamin B6 helps our body make protein building blocks (amino acids), turn tryptophan into niacin and serotonin (a brain messenger), and make hemoglobin, insulin, and antibodies to fight infection. Lutein and zeaxanthin may help maintain normal vision.³⁻⁴

Fun Fact: Oranges picked higher on a tree are sweeter than the ones picked closer to the ground!¹

Find

For more orange facts and resources, visit:

1. California Harvest of the Month, <https://harvestofthemonth.cdph.ca.gov>
2. U.S. Department of Agriculture, Food and Nutrition Service, www.fns.usda.gov
3. USDA FoodData Central, <https://fdc.nal.usda.gov/index.html>
4. Academy of Nutrition and Dietetics, www.eatright.org