

CELEBRATING  
20 YEARS  
of

20th Edition

# What's Growin' On?



**Extra! Extra! Classroom Extensions**

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# Introduction

Welcome! Thank you for your interest in California Foundation for Agriculture in the Classroom's student activity newspaper, ***What's Growin' On? California Leads the Nation***. Developed by educators and reviewed by industry experts, ***What's Growin' On?*** offers fun and engaging ways to teach and practice core academic skills while sharing the importance of agriculture in our lives.

***EXTRA! EXTRA! Classroom Extensions*** is designed to help educators continue exploring the concepts presented in each annual edition of our ***What's Growin' On?*** student newspaper. Inside, you will find classroom connections that meet educational content standards, literature links, additional curriculum resources, and videos that will transport your class (no school bus required!) to family farms across the state. Activity ideas are varied to help you meet the diverse learning styles of students in your classroom—group work, hands-on activities, and independent practice offer all students the opportunity to make a meaningful connection.

California Foundation for Agriculture in the Classroom is dedicated to increasing the awareness and understanding of agriculture among California's educators and students. We provide educators with resources and programs that enhance agricultural literacy. To request a free classroom set of the current edition of ***What's Growin' On? California Leads the Nation***, order online at [LearnAboutAg.org/wgo](http://LearnAboutAg.org/wgo) or contact us via e-mail ([info@LearnAboutAg.org](mailto:info@LearnAboutAg.org)) or phone (916-561-5625).

# The Amazing Artichoke

## CLASSROOM CONNECTIONS

### Math...Naturally!

The spiral of an artichoke's leaves can be described by the Fibonacci Sequence. This sequence is a simple mathematical pattern where each successive number in the sequence is equal to the sum of the two preceding numbers, beginning with 0 and 1. Show students how the spiral reflects the sequence (excellent article [here](#)), and then have them use the pattern to determine the first 20 numbers of the Fibonacci Sequence.

Standard: CC Math: 4.OA.C.5

### Artichoke Life Cycle

Artichokes are somewhat unusual vegetables because the part we eat is scientifically a flower bud, although the petals are called bracts. If an artichoke is left on the parent plant, it will eventually bloom and produce seed. Invite students to research the life cycle of an artichoke plant. They may illustrate the life cycle with their own artwork, or find photos online which they place in the correct sequence.

Standard: NGSS 3-LS1-1

## DIGGING DEEPER

Website: [www.oceanmist.com/products/artichokes](http://www.oceanmist.com/products/artichokes)

This informative website includes nutritional information, selection tips, storage and handling recommendations, as well as information about different varieties grown in California. It also features production and preparation videos.

Resource: [Artichoke Fact and Activity Sheet](#) (Grades 6-12)

By California Foundation for Agriculture in the Classroom

This California-specific fact sheet includes information on artichoke production, history, nutrition, and economic value. The activity sheet provides lesson ideas and interesting facts about artichokes.

Resource: [Pick It! Try It! Like It! Preserve It!](#) (Grades 3–12)

By South Dakota State University Extension

Colorful fact sheets, recipe cards and educational videos provide educators and families with fun, engaging tools to help students appreciate the health benefits of artichokes.

## VIRTUAL FIELD TRIP

In this video produced by California Bountiful, students will learn about artichoke production in Castroville, California, the artichoke capital of the world. Ocean Mist farms has been devoted to growing the thorny thistles since 1924 and today they are the largest artichoke grower in North America. Watch how artichokes are grown, harvested, and used to create delicious recipes.

<https://www.youtube.com/watch?v=lbjZgrTSV6U>

# Raisin' the Roof

## CLASSROOM CONNECTIONS

### Raisins Around the World

California grows 100% of the raisins in the U.S. and approximately 40% of the global crop. California raisins are shipped all over the world. The top five export markets for California raisins are Japan, European Union, Canada, China/Hong Kong, and Mexico. Using a world map, have students locate, color, and label each of the top export markets.

Standard: CA HSS: Analysis Skills K-5 Chronological and Spatial Thinking 4

### Raisin Rap

Raisins have many nutrients that benefit the human body, including fiber, tartaric acid, and antioxidants. Challenge students to research the health benefits from eating raisins, as well as information about how raisins are produced. Once they have compiled their facts, have students compose a song, rap, or poem to share what they've learned about raisins.

Standards: CA Health Education: Grade 4: 1.3.N; Grade 5: 1.9.N; Grade 7/8: 1.2.N

## DIGGING DEEPER

Book: *How Do You Raise a Raisin?* by Pam Muñoz Ryan

Did you know ancient Greeks and Romans awarded raisins at sporting events and astronauts have taken raisins into space? Readers will learn fascinating raisin facts in this colorful picture book.

Lesson: [Fruits of Our Labor](#) (Grades K-2)

By Alliance to Feed the Future

In this thirty minute lesson, students discover how fresh fruits can be dried and preserved by participating in an activity where they make raisins by drying grapes. This lesson is easily adaptable for upper elementary grade levels.

Website: [sunmaid.com](http://sunmaid.com)

Known for their little red boxes, Sun-Maid has been producing raisins for more than 100 years. Their website features information about raisin growers, and features kid-friendly content like a TikTok challenge and doodle contest.

## VIRTUAL FIELD TRIP

This 3-minute video produced by Tesco's Eat Happy Project, gives an inside look at how California raisins are transported to the U.K. for consumers to enjoy. Starting as grapes on the vine, raisins are harvested, dried in the California sun, packaged, and then transported across the Atlantic Ocean.

<https://www.youtube.com/watch?v=RNO-VmlInEM&t=1s>

# It's Just Peachy

## CLASSROOM CONNECTIONS

### Five Senses Experience

With their fuzzy skin and sweet taste, peaches make a wonderful subject for observing with the five senses. Instruct students to divide a sheet of paper into five sections, labeling each section with one of the five senses. Distribute peaches, plates, and plastic knives, and invite students to record adjectives that describe the peach. Create a shared “five senses” poem at the end of the activity.

Standards: NGSS: 4-LS1-2; CC ELA: W.3-8.10

### Weighing Drupes

A drupe, in botany, is a fleshy fruit with thin skin that contains a central stone, also known as the endocarp or pit. Some commonly consumed drupes are peaches, plums, olives, and cherries. Use a balance to estimate, measure, record, and compare the mass of a different fruit in the drupe family. Use the measurements to practice ordering numbers and using the terms “greater than” and “lesser than.”

Standard: CC Math: 3.MD.A.2

## DIGGING DEEPER

Book: *The Peach Pit Parade* by Shanna Keller

When the U.S. government requests peach pits to be used in gas mask filters during the first world war, Polly organizes her Girl Scout troop to help. This book provides accurate historical context while introducing students to the many uses of agricultural products.

Lesson: [What's All the Fuzz About?](#) (Grades 3-5)

By Utah Agriculture in the Classroom

In this hour-long lesson, students explore peach production in various regions of the United States, describe how peaches are produced and processed from farm to table, and explain how internal and external structures of peaches support survival and growth.

Resource: [Cling Peaches Fact and Activity Sheet](#) (Grades 6-12)

By California Foundation for Agriculture in the Classroom

This California-specific fact sheet includes information on peach production, history, nutrition, and economic value. The activity sheet provides lesson ideas and interesting facts about cling peaches.

## VIRTUAL FIELD TRIP

It's always a peachy good time at Manas Ranch in Esparto—at least it has been for the last 30 years for Fred and Alice Manas, who run the ranch. Produced by California Bountiful and narrated by Alice Manas, this video shows how peaches are harvested and prepared for the fresh market.

<https://www.youtube.com/watch?v=V0hPZBwgaUM>

# Nectarines: Facts and Myths

## CLASSROOM CONNECTIONS

### Unlikely Relatives

Nectarines are botanically considered drupes—a fleshy fruit with thin skin and a central stone. They have some unlikely “relatives” in this category, including olives, almonds, and coconuts! Compare a nectarine to another drupe using a Venn diagram to organize information you find online. Challenge students to think of more obvious comparisons, as well as comparisons that require some research. Have students present their findings to the class.

Standards: CC ELA: W.3-5.7

### Journey of a Nectarine

Nectarines originated in China more than 2,000 years ago and were introduced to Californians in the 1700s by Spanish padres. But how did they get from China to California? Use a map and historical texts to identify trade routes that were common prior to the 1700s. Which trade routes were likely to move nectarines closer to America? Have students create a map that includes the likely route, as well as a map key.

Standards: CA HSS: Grade 5: 5.2.3, Analysis Skills K-5 Chronological and Spatial Thinking 4

## DIGGING DEEPER

Story: *Diary of a Nectarine Tree* by Rebecca Gonzalez

Written by the fourth grader winner of Ag in the Classroom’s 2022 *Imagine this...* Story Writing Contest, this book introduces readers to a day in the life of a nectarine tree. From bud to bloom to fruit set to harvest—there’s always something happening in the orchard.

Website: [kidsfruit.org](https://kidsfruit.org)

The “Get Learning” section of this website provides ample information about a fruit for every letter of the alphabet. Letter “N” features nectarines, and includes historical information, a healthy recipe, nutrition facts, and an interactive map activity.

Resource: [Rotting Fruit Science Experiment](#) (Grades 3-8)

By Education.com

This science fair experiment introduces students to the essential processes of scientific inquiry while they compare different fruits (like nectarines) and how they change over time. Students will learn the importance of using a control, identifying dependent and independent variables, and collecting data.

## VIRTUAL FIELD TRIP

HMC Farms, located in Kingsburg, grows nearly 100 different varieties of nectarines as well as other varieties of stone fruit. This short video, produced by Western Growers, shows how nectarines are hand-picked from each tree several times during the season to ensure peak freshness and highest quality.

<https://www.youtube.com/watch?v=tNBSD6frwlc>

# Fig-uring Out Figs

## CLASSROOM CONNECTIONS

### Natural Friends

You will never see blossoms on a fig tree. The fruit is the blossom—and it's actually an inverted flower. In order to be pollinated, very small wasps must enter the fruit. The wasp and the fig tree are an example of mutualism—both species benefit from their interaction. Invite the class to brainstorm and illustrate other examples of mutualism in nature. Don't forget to consider the beneficial relationship between wild figs and the animals that eat them.

Standard: NGSS: 5-LS2-1

### Do Figs Make Good Boats?

Will figs sink or float in water? Have students test the buoyancy of figs and determine their density. First, estimate if the fig will sink or float. Next, find the mass in grams. Finally, use water displacement to find the density. To calculate density, divide the fig's weight in grams by its displaced volume in milliliters. Compare your findings with other figs, including different varieties.

Standards: NGSS: MS-PS1-1, CC Math: 5.MD.C.5, 6.NS.B.2

## DIGGING DEEPER

Book: *The Sweetest Fig* by Chris Van Allsburg

In this fantastical picture book, a dentist is given two magic figs by an old woman who promises the figs can make his dreams come true. Once the dentist understands the power of the figs, he is determined not to waste them. This modern fairytale appeals to all ages.

Website: [californiafigs.com](http://californiafigs.com)

The “Choose California” section of this website provides ample information about figs, including fig varieties and fig facts. Students may enjoy listening to an episode of the “Everyone Loves California Figs!” podcast, which features interviews with California fig lovers—from growers to chefs, to retailers and dietitians.

Lesson: [Fig Wasp Reproduction and Life Cycle](#) (Grades 6-8)

By Pennsylvania Department of Education

In this lesson, students compare the life cycles of male and female fig tree wasps and learn about how they reproduce. It includes supplemental materials that help students understand the relationship between fig tree wasps and fig trees.

## VIRTUAL FIELD TRIP

This video, produced by The Produce Nerd, shows how figs grow at J. Marchini Farms in Le Grand, California. Highly perishable figs are hand-harvested into buckets in the field before being transported to the packinghouse to be graded, sorted, and packed.

<https://www.youtube.com/watch?v=0v2oPiJRfdI>



# The Buzz About Almonds and Bees

## CLASSROOM CONNECTIONS

### Butter Be Almonds

Making almond butter is easy, as long as you have a sturdy food processor or blender and some patience. All you need is three cups of raw almonds. Adding a small amount of salt, cinnamon, vanilla, or honey at the very end is optional. Place almonds in a high-speed blender or food processor. Blend until creamy, pausing to scrape down the sides as necessary. The almonds will go from flour-like clumps, to a ball against the side of the food processor, and finally, it will turn perfectly creamy. Discuss whether the changes are physical or chemical. Once creamy, blend in desired add-ins.

Standard: NGSS: 2-PS1-4

### Same Bee, Different Trees

Almond growers plant at least two varieties of almond trees in alternating rows because they are not self-pollinating (trees that can't pollinate themselves). There is research being done on self-compatible almond trees. Have students research and find which nut or fruit trees are cross-pollinated or self-fertile (commonly called self-pollinating or self-compatible). Note the type of fruit or nut, the varieties of the fruit or nut, and if the variety is self-pollinated or cross-pollinated. Students create poster-sized charts with information and discuss their findings. Standards: CC ELA: L.3-5.2; SL.3-5.1, SL.3-5.3, SL.3-5.6, RF.3-5.4, RF.3-5.6

## DIGGING DEEPER

Resource: [An Almond Story](#) (Grades 3-5)

By California Foundation for Agriculture in the Classroom

This five-lesson unit teaches about agriculture by focusing on all aspects of the almond industry. Students will learn about the people involved in growing almonds, development of almond trees and nuts, almond processing, different uses of almonds, almond history, and nutritional information.

Book: *Give Bees A Chance* by Bethany Barton

This cartoon-style picture book is for anyone who doesn't appreciate how extra special and important bees are to the world. Besides making honey, bees help plants grow fruits, vegetables, and nuts. Full of facts and fun, a nonfiction text for readers of all ages.

Resource: [Almond Fact and Activity Sheet](#) (Grades 6-12)

By California Foundation for Agriculture in the Classroom

This California-specific fact sheet includes information on almond production, history, nutrition, and economic value. The activity sheet provides lesson ideas and interesting facts about almonds.

## VIRTUAL FIELD TRIP

This fascinating “How It’s Made” video produced by the Science Channel gives viewers an inside look at what happens at an almond processing facility. You might be surprised by how many different machines and robots are involved in preparing almonds for consumption.

<https://www.youtube.com/watch?v=XtgJjLKxoxk>

# Ancient Celery Challenge

## CLASSROOM CONNECTIONS

### **Celery From Scraps**

Did you know it's possible to grow a new celery plant from the base of the stalk? Rather than throwing away your kitchen scraps, try this instead: cut off the bottom two inches of the stalk, place the base in a shallow bowl of water with the stalks pointing up, then make sure the bottom of the base is fully submerged, with the top above water. Next, place the bowl on a sunny windowsill and change the water every few days. The plant will regenerate after about five to seven days, and be ready to plant in soil after ten days. When planting, make sure the new growth remains above the soil.

Standard: NGSS: 2-LS1-1

### **Don't Forget the Dip!**

Celery's unique u-shaped stalks make it the perfect receptacle for a variety of dips and fillings. Bring a variety of dips to share (nut butter, garlic and herb, onion, hummus, etc) and have students research and compare the nutritional value of each. After tasting the dips, have students vote for the most delicious and the most nutritious dip. Display the results in a bar graph and summarize the class poll.

Standards: CC Math: 3.MD.3; CA Health: Grade 4: 3.2.N, 5.1.N, Grade 5: 1.2.N, 1.6.N, 5.1.N

## DIGGING DEEPER

Resource: [What Happened to Our Celery?](#) (Grades 3-8)

By National Science Teachers Association

This lesson is designed for families or classroom communities to observe and discuss the phenomenon of cut celery stalks changing from rigid to wilted (or rubbery) to rigid again. Formatted as a sensemaking task designed to engage learners in authentic and relevant science learning, students will make observations, ask questions, perform an experiment, conduct research, and discuss their findings.

Book: *Stems We Eat* by Katherine Rawson

Celery can be fun to crunch on, and it's more than a tasty snack. Celery is an important part of a plant—the stem. In this nonfiction reader, students will learn how stems help plants grow and discover new examples of stem vegetables we eat.

Lesson: [Snappy Stems](#) (Grades K-2)

By California Foundation for Agriculture in the Classroom

This lesson is part of a larger unit titled, *Edible Plant Parts*. In this lesson, students evaluate the function of plant stems and identify edible stems belonging to certain plants. Additional lessons examine the six basic plant parts—roots, stems, leaves, flowers, fruits, and seeds.

## VIRTUAL FIELD TRIP

Have you ever wondered how celery is grown and harvested? Or the amount of love and care that goes into each and every stalk? In this video produced by Western Gowers, students spend a day with Greg Lewis, a celery farmer with Duda Farm Fresh Foods in Salinas.

<https://www.youtube.com/watch?v=NfoVWo4SMuU>

# Rice and Shine

## CLASSROOM CONNECTIONS

### Rice Around the World

Bring several bags of rice into the classroom. Invite students to examine the bags, locate the different origins of the rice on a world map, and research popular rice dishes in that country. Include several bags of rice grown in California, and find their location on a state map. Discuss how students eat rice in their homes.

Standard: HSS: Grades 3-5 Chronological and Spatial Thinking 4

### Dancing Rice

Have you ever seen rice dance? In this simple science experiment, students create a chemical reaction that creates a party in a jar. Add one teaspoon of baking soda to a jar of water and stir until dissolved. Add a spoonful of rice to the jar. Add a teaspoon (or more) of vinegar and watch the rice dance. Discuss acid-base reactions and why bubbles float to the surface. Test other grains to see which ones “dance” the most.

Standards: NGSS: 5-PS1-3, 5-PS1-4

## DIGGING DEEPER

Resource: [Rice is Rice, Right?](#) (Grades 3-8)

By National Science Teachers Association

In this lesson, students will observe different varieties of rice, recording their similarities and differences. This resource complements the book, *Everybody Cooks Rice* by Norah Dooley.

Resource: [Rice Fact and Activity Sheet](#) (Grades 6-12)

By California Foundation for Agriculture in the Classroom

This California-specific fact sheet includes information on rice production, history, nutrition, and economic value. The activity sheet provides lesson ideas and interesting facts about rice.

Book: *Rice* by Marianne Morrison

Published by National Geographic, this nonfiction book written for elementary students educates readers about where and how rice is grown and harvested.

## VIRTUAL FIELD TRIP

Third generation rice farmer, Matthew Dilgan, has produced more than 100 episodes for his platform, Rice Farming TV. In this episode, viewers join Matthew on a harvesting machine and get to see the ins and outs of rice farming from an entirely new perspective.

<https://www.youtube.com/watch?v=cjyok23h3nA>

# In the Clover

## CLASSROOM CONNECTIONS

### How Much Clover?

During harvest, sweet clover is cut, dried, and baled. A bale is a bundle of hay or clover that is tightly wrapped with cords. It makes transporting, marketing, and storing hay easier. Sweet clover is typically baled into two-string bales (tied with two strings) that weigh 65 pounds each. A typical horse might consume 18 pounds of clover hay each day. How many pounds of clover hay will that horse consume in a year? How many bales of hay would you need to purchase for the year? If each bale costs \$9, how much will a year's worth of hay cost?

Standards: CC Math: 6.RP.3, 4.NBT.5

### Make a Hay Infusion

Hay infusions are widely used as a source of microorganisms for studying decomposition, fermentation, and disease. In a large transparent container, add a generous handful of hay, pinch of sugar, and pinch of yeast. Fill the container with field-collected water. Let it sit for a few days. Use a pipet to collect small samples of water from the surface, middle, and bottom of the infusion. View samples under a microscope and record your findings.

Standard: NGSS: MS-LS1-1

## DIGGING DEEPER

Book: *Hey, Hey, Hay!* by Christy Mihaly

The rhyming text and brilliant full-page paintings follow a girl and her mother through the summer as they cut, spread, dry, and bale in the fields.

Resource: [A Hundred Bales of Hay](#) (Grades K-3)

By Oregon Agriculture in the Classroom

In this lesson, students use a hundreds chart while they learn about hay and livestock. Students discover the importance of hay in food production and practice counting, adding, and subtracting.

Resource: [Alfalfa, Hay, and Silage](#) (Grades 3-5)

By Oklahoma Agriculture in the Classroom

This resource includes a reading comprehension worksheet, book recommendations, and an activity investigating hay-inspired artwork—a popular subject for many well-known artists.

## VIRTUAL FIELD TRIP

Some farmers use sweet clover as a cover crop, a crop planted during the off-season in order to provide benefits all year long. As a legume, sweet clover can fix nitrogen to the soil, where it remains in a usable form for crop production. In this video, a farmer installs a camera on the back of their tractor to show how sweet clover is tilled back into the soil.

<https://www.youtube.com/watch?v=kHMNB--u7fE>

# Kickin' Kiwifruit

## CLASSROOM CONNECTIONS

### Vitamin C Top Ten Countdown

Kiwifruit, bell peppers, broccoli, citrus fruits, cantaloupe, cauliflower, mustard greens, and strawberries are all good or excellent sources of vitamin C. But which is the best? Use an online nutrition database to research the vitamin C content of a variety of fruits and vegetables. Create a bar graph to display your findings, and create a "Top 10 Countdown" that organizes your findings, placing the fruit or vegetable with the most vitamin C at the very top.

Standards: CC Math: 3.MD.B.3; CA Health: Grade 4: 3.1.N, Grade 5: 1.6.N

### Creating Kiwi Demand

Sungold kiwifruit, known for their golden flesh, were created in the 1990s by a natural breeding program. The challenge of any new product entering the market is educating consumers and creating demand. Imagine a new kiwifruit is entering the market in 2023. Working in a small group, identify a special name for the variety, what makes this new variety unique, and how the variety will be marketed to consumers. Create a display with advertising images and present your new product to the class.

Standards: CC ELA: SL.3.4, SL.4.4, SL.5.4

## DIGGING DEEPER

Book: *The Great Kiwifruit Adventure* by Alyson Bowker

Join a group of kids who go on an adventure to learn about how kiwifruit grow and get picked, packed, and transported all around the world. A fun educational book for families to enjoy.

## VIRTUAL FIELD TRIP

The largest domestic grower of organic kiwifruit is in the small town of Tambo, just outside the city of Marysville in Northern California. In this video, ABC10 correspondent, John Bartell, provides an entertaining and informative commentary during an in-depth tour of the kiwi farm and packaging facilities.

<https://www.youtube.com/watch?v=RnEjjgktYyw>

# Way to Go Walnuts

## CLASSROOM CONNECTIONS

### The Price is Right

Help students explore measurements of grams and ounces with a bag of in-shell walnuts, a nutcracker (or a small hammer), and a kitchen scale. Give students the materials and then challenge them to find the answers to the questions below.

- How many in-shell walnuts equal one ounce?
- How many grams is an in-shell walnut? Remove the shell. How many grams is the edible meat?
- How many shelled walnuts are in a pound? Estimate and check.
- How many shelled walnuts are in a kilogram? Estimate and check.
- Compare the metric system and standard system of measurement.

To wrap up the activity, post prices for various walnut products and have students guess which product matches each price. The prize can be a tasty and nutritious walnut snack.

Standards: CC Math: 3.MD.A2, 4.MD.A1

### Crack, Snap, Bang!

These aren't just silly words or sounds, they're onomatopoeias. Onomatopoeia (aa·nuh·maa·tuh·pee·uh) is fun to say all by itself, but it is also a helpful word to describe language that imitates the sound associated with it. Start the discussion about these words by noisily breaking open a walnut and inviting students to describe the sounds with an onomatopoeia. Have them write the word on the board. Encourage students to get creative and think of other words for sounds that are related to their different experiences with foods.

Standards: CC ELA: L.6-8.5

## DIGGING DEEPER

Book: *All From A Walnut* by Ammi-Joan Paquette

When Emilia finds a walnut one morning, Grandpa tells her the story behind it: of his journey across the ocean to a new home, with only one small bag and a nut in his pocket. A story about family and the seasons of life.

Resource: [Walnut Fact and Activity Sheet](#) (Grades 6-12)

By California Foundation for Agriculture in the Classroom

This California-specific fact sheet includes information on walnut production, history, nutrition, and economic value. The activity sheet provides lesson ideas and interesting facts about walnuts.

Resource: [Walnut Lesson Plans](#) (Grades 2-8)

By California Foundation for Agriculture in the Classroom

Three lesson plans produced in partnership with California Walnuts introduce students to seasons in the orchard, production, harvest, and nutritional benefits.



## VIRTUAL FIELD TRIP

In this 10-minute video produced by California Walnuts, viewers can see the entire walnut lifecycle from tree to table. Go behind the scenes with walnut growers and processors, and see the care put into planting, grafting, pruning, harvesting, and processing.

<https://www.youtube.com/watch?v=ONFXk7cwXSI&list=PLyMgGCnJZQ1tTD2Zmilr2aYedaaEfrVr&index=5>

# Olive the Information

## CLASSROOM CONNECTIONS

### I Love Olives

Conduct an olive taste test in the classroom. Include California grown green ripe olives and black ripe olives, as well as olives from around the world. Try Kalamatas (Greece), Castelvetro (Italy), Niçoise (French), Manzanilla (Spain), or Beldi (Morocco). Make scientific observations about color, texture, smell, size, and taste.

Standard: NGSS: MS-LS-1.8

### Floating Oil

Make your own olive oil in this hands-on experiment. Give students a cup of fresh olives, a plastic bowl, and a mallet or hammer. Have the students crush the olives into a paste using the materials provided. Once the mixture becomes shiny, invite students to tip the bowl slightly and extract a small amount of the oil with a pipet. Drawing the mixture into a pipet will allow students to see the oil naturally separate into two phases. Show students the oil layer on the top and an aqueous layer on the bottom. Explain that the lower density of olive oil (or any oil) causes it to float on water.

Standard: NGSS 5-PS1-3

## DIGGING DEEPER

Book: *I Have An Olive Tree* by Eve Bunting

At first, Sophia thinks the tree is an odd gift, but when Grandfather dies and her mother travels to Greece to see the tree, she discovers that what he has given her is far greater than she'd ever imagined.

Resource: [Table Olives Fact and Activity Sheet](#) (Grades 6-12)

By California Foundation for Agriculture in the Classroom

This California-specific fact sheet includes information on table olive production, history, nutrition, and economic value. The activity sheet provides lesson ideas and interesting facts about table olives.

## VIRTUAL FIELD TRIP

Produced by the California Department of Food and Agriculture, this 4-minute video is part of their "Growing California" video series that introduces consumers to the farmers behind the food. Over the past 50 years, the California olive industry has changed greatly. The state still leads the nation in table olive production and now offers consumers an ever-increasing selection of fine olive oils.

[https://www.youtube.com/watch?v=2\\_Vs7DHPGuk](https://www.youtube.com/watch?v=2_Vs7DHPGuk)

# Prominent Pistachios

## CLASSROOM CONNECTIONS

### **Pistachios Nutritiously Nutastic**

Pistachios are full of all kinds of goodness beneath their shells. But how do they compare to other nuts? Create an infographic to visually represent information, data, and knowledge about the nutritional value of pistachios. Invite students to compare the nutritional value of pistachios to different nuts.

Standards: CA Health Education: Grade 4: 3.2.N, Grade 7/8: 1.6.N

### **Pistachio Narratives**

Create a storyboard that illustrates the steps required to produce the perfect pistachio. Create characters of interest, identify their conflict, and explore possible resolutions. Students can tell their stories to one another, or they can develop the story in written form with greater detail.

Submit your stories to Ag in the Classroom's annual *Imagine this...* Story Writing Contest

([www.learnaboutag.org/imaginethis](http://www.learnaboutag.org/imaginethis))

Standards: CC ELA: W.3-8.2,3

## DIGGING DEEPER

Book: *The Adventure of Pistachio Mustachio* by Daniel Bryson

Pistachio Mustachio is different from all of the other nuts. He embarks on an adventure to find a place where he can fit in. On his journey he makes some new friends that show him that maybe it isn't so bad to be a little different.

Resource: [Pistachio Fact and Activity Sheet](#) (Grades 6-12)

By California Foundation for Agriculture in the Classroom

This California-specific fact sheet includes information on pistachio production, history, nutrition, and economic value. The activity sheet provides lesson ideas and interesting facts about pistachios.

Website: [americanpistachios.org](http://americanpistachios.org)

This informative website for the American Pistachio industry offers visitors nutrition and health facts, growing and harvesting information, and a database of pistachio recipes.

## VIRTUAL FIELD TRIP

Take a virtual field trip to Nichols Farms in Fresno, where you will see pistachios being harvested and then processed and prepared to be an ingredient in gourmet pastries at the Tower Cafe in Sacramento. This informative 3-minute video by California Bountiful chronicles how the California pistachio industry has changed over time.

<https://www.youtube.com/watch?v=PpL60PfqNeA>