CLASSROOM CONNECTIONS

TASTEFUL HARVEST

STRAWBERRIES

Healthy Nutrition and Learning Success

The classroom is one of the best places to teach students about the importance of eating healthy and being physically active. Studies show a relationship between good nutrition and academic performance. Tasteful Harvest connects with core curricula and links the classroom, cafeteria, and families.

Nutrition Facts		
Serving Size:	1/2 cup strawberries (72g)	
Calories 25	Calories from Fat 0	
		% Daily Value
Total Fat 0g		0%
Saturdated Fat 0g		0%
Trans Fat 0g		0%
Cholesterol 0mg		0%
Sodium 0mg		0%
Total Carbohydrate 6g		2%
Dietary Fiber 1g		0%
Sugars 4g		
Protein 0g		
Vitamin A 0%	Calcium 0%	
Vitamin C 70%	Iron 0%	

EXPLORING OKLAHOMA STRAWBERRIES: TASTE TESTING

What You Will Need (per group of 6-8 students):

- 6 small strawberries and 6 large strawberries
- Printed Nutrition Facts label for strawberries
- Paper and colored pencils
- AITC Commodity map of Oklahoma

Activity:

- Make two columns on a sheet of paper.
- Explore and taste the large strawberries; note in the first column the color, texture, smell, and flavor.
- Repeat with the small berries, noting characteristics in the second column. Compare and contrast the large and small strawberries; which size was sweeter?
- Discuss what may affect the taste and size (variety, sun, water, etc.).
- Review Nutrition Facts label and talk about the health benefits of eating strawberries (refer to Reasons to Eat below). Have students write down what they like best about strawberries and their favorite ways to eat them.

Adapted from: https://harvestofthemonth.cdph.ca.gov/documents/Spring/Strawberries/Strawberries%20-%20Educator%27s%20Newsletter_Final.pdf

COOKING IN THE CLASSROOM

Oklaberrynana Smoothie

Ingredients:
(for 1 student)

- 2 medium slices banana
- ¼ cup fresh or frozen berries
- ½ cup vanilla yogurt
- quart-size zip closing plastic bag
- small cup

Directions:
(for 1 student)

1. Place ingredients in plastic bag.
2. Zip tightly.
3. Use your fingers to “puree” the mixture until berries and bananas are thoroughly mixed with the yogurt.
4. Pour into a cup and enjoy!

ABOUT STRAWBERRIES

- On average, there are 200 seeds in a strawberry.
- Over 53 percent of seven- to nine-year-olds choose strawberries as their favorite fruit.
- Eight strawberries will provide 140% of the recommended daily intake of Vitamin C for kids.
- Strawberries are the first fruit to ripen in the spring.
- The strawberry is the official state fruit of Oklahoma.
- Strawberries are grown in every state in the United States and every province of Canada.

STICK TO THE FACTS

- Strawberries, like other berries, are a rich source of phenols, especially anthocyanins and ellagitannins. The anthocyanins provide the strawberry with its flush red coloring but also help protect cell structures in the body and prevent oxygen damage in all of the body's organ systems.
- An excellent source of vitamin C* – more than 80% of the recommended Daily Value.
- A source of fiber and folate
- Seventy per cent of a strawberry's roots are located in the top three inches of soil.
- The strawberry is a member of the rose family. It is the only fruit with seeds on the outside rather than the inside.
- According to the United States Department of Agriculture, the annual per capita consumption of fresh and frozen strawberries is 4.85 pounds.

STUDENT DISCOVERY: RESEARCH

1. What is the recommended daily amount for vitamin C, folate, and fiber? For each of these three nutrients, how much (in % Daily Value) does a ½ cup of strawberries provide?
2. How does vitamin C work as an antioxidant? What are the best food sources of vitamin C?
3. Describe the role vitamin C plays in the human immune system.
4. Research the different theories on the origins of how the strawberry got its name. Which theory do you think is most plausible?
5. What does the red color of strawberry flesh tell you?
6. Identify four factors that can influence the flavor of a strawberry.
7. Map the various regions in Oklahoma where strawberries are grown. Identify their growing season and main varieties produced. Compare the regions — why does each region grow a different variety? What factors affect when and what variety of strawberries are grown? Hypothesize why California is the nation's leading strawberry producer.
8. Discuss the advantages and disadvantages of hand and machine harvesting fruits and vegetables.
9. Trace the history of the cross-pollination of the Virginia and Chilean berries.
10. Research some medicinal uses of strawberries.
11. Without cross-pollination, we would not have the strawberry genotypes available today. Explain what a genotype is. Explain the cross-pollination process versus self-pollination.

LESSON ACTIVITIES

In Strawberry Fields - 6-8th
https://agclassroom.org/ok/lessons/upper/strawber.pdf

How to Pick the Best - K-3
https://agclassroom.org/ok/lessons/intermed/buyveg.pdf

Oklahoma's Berry Best - 1-5th
https://agclassroom.org/ok/lessons/lessons/berries.pdf

Strawberry Breeding & Genetics - 9-12th
https://www.agclassroom.org/teacher/matrix/lessonplan.cfm?lpid=519&search_term_lp=Strawberries

SCHOOL GARDEN: PLANT A STRAWBERRY PATCH

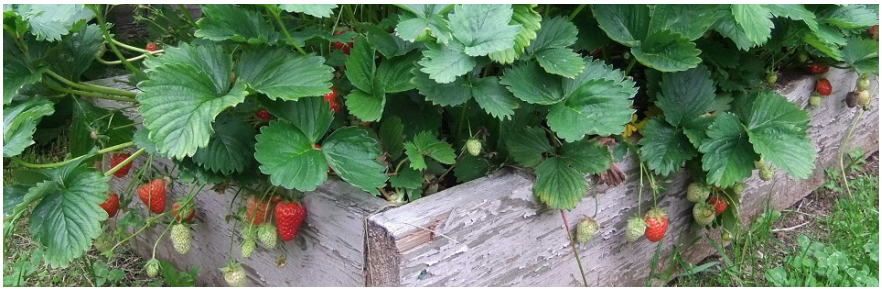
If your school has a garden, here is an activity you may want to implement. Look for donations to cover the cost of seeds, tools, irrigation systems, electric pumps, and any salary incurred by garden educators or others.

Growing strawberries in a school environment is easy and an enjoyable learning experience for students. To get started, all you need are strawberry plants and a growing area that gets at least six hours of sunlight every day.

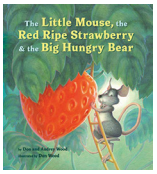
Growing Tips:

- Plant strawberries on a cloudy day or in the late afternoon.
- Strawberries prefer a well-drained soil, rich in organic matter.
- Set the strawberry plant in the soil so that the soil is just covering the tops of the roots. Do not cover the crown.
- Plants should be set 18 to 30 inches apart in rows of three to four feet apart. This will allow daughter plants to root freely and to become a matted row.
- Do not plant strawberries where peppers, tomatoes, eggplant, and potatoes have been grown. These plants could harbor verticillium wilt, a major strawberry disease. Strawberry plants need about one inch of water per week.
- After four or five weeks, plants will produce runners and new daughter plants.

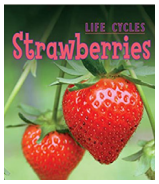
Adapted from: https://harvestofthemonth.cdph.ca.gov/documents/Spring/Strawberries/Strawberries%20-%20Educator%27s%20Newsletter_Final.pdf



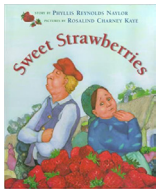
LITERATURE CONNECTIONS



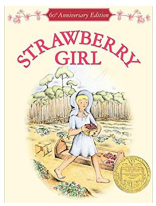
The Little Mouse, the Red Ripe Strawberry, and the Big Hungry Bear by Audrey Wood



Strawberries
by Robin Nelson



Sweet Strawberries by Phyllis Reynolds Naylor

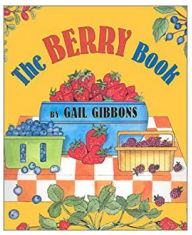


Strawberry Girl
by Lois Lensk

HISTORY OF STRAWBERRIES

- Madame Tallien, a prominent figure at the court of the Emperor Napoleon, was famous for bathing in the juice of fresh strawberries. She used 22 pounds per basin, needless to say, she did not bathe daily.
- The American Indians were already eating strawberries when the colonists arrived. The crushed berries were mixed with cornmeal and baked into straw berry bread. After trying this bread, Colonists developed their own version of the recipe, and Strawberry Shortcake was created. ï In Greek and Roman times, the strawberry was a wild plant.
- The English "strawberry" comes from the Anglo-Saxon "streoberie." It was not spelled in the modern fashion until 1538.
- In 1780, the first strawberry hybrid "Hudson" was developed in the US
- European explorers discovered straw berries in North America in 1588 when they landed on the shores of the state of Virginia. The explorers found tiny, sweet, deep red, wild strawberries. Early settlers in Massachusetts enjoyed eating strawberries grown by local American Indians who cultivated them as early as 1643.

FARM TO ECE
EARLY CARE EDUCATION



The Berry Book
From wild berries to cultivated berries, berries growing in the summer and berries growing in the winter, turn the pages to find out more about the berries we commonly eat.

Pop Goes The Berries...
(Tune: Pop Goes the Weasel)
All around the strawberry fields,
We picked some juicy berries
We brought them home and washed them off,
Pop! – go the berries!

Graphing Berries...
Make available several types of berries such as strawberries, blueberries, raspberries, cranberries and blackberries. After a tasting party graph everyone's favorite berry.

3D Berry Activity
https://agclassroom.org/ok/resources_food/crafts/3d.php
Each student needs:
- red construction paper
- 2 paper fasteners for each berry
- green construction paper for vines
- paper punch
- scissors

Instruction:
You will need to help preschoolers with this activity.
1. Cut three strips, about one inch wide, down the short side of the colored paper.
2. Students name 3 other fruits that are red.
3. Holding the strips together in a stack, use a paper punch to make three holes in each strip: one in the middle and one a half inch from each end.
4. Still holding the strips together, put a paper fastener in the middle hole.
5. Trace your hand for the leaf (DO NOT SPREAD YOUR FINGERS APART) and/or cut strips of green and curl them with a pencil for vines.
6. Punch a hole in leaf and vine, and put a paper fastener through the hole.
7. Bring up the ends of the long strips, and fasten them all together.
8. Spread out the paper strips to form a berry.

CAFETERIA CONNECTIONS

Partner with school nutrition staff to conduct a contest over several days in the cafeteria. Use questions based on information contained in this newsletter. For example:
- Why is it important to eat foods containing vitamin C?
- What is the average number of seeds on a strawberry?
- What is the Spanish word for strawberry?
- What is the botanical name for strawberry?

You can also create your own questions or have older students develop questions and then find the answers. Post questions on the cafeteria bulletin board at the beginning of the week. Then post the answers on Friday. Draw names of the "winners" and have a Oklaberrynana Smoothie Party. Follow the recipe on page 1.

For more ideas, reference: Fruits and Vegetables Galore, USDA, 2004.