





AND MORE!



# Farmer Spotlight

KELLEY HANSEN - MT. DENNISON ORCHARDS SPRINGVILLE, CA

First-generation farmer Kelley Hansen started farming apples four years ago. Her motivation to pursue farming was



somewhat unusual—a deep appreciation for her community. "I grew up in this community, and apples are part of our history. I watched newcomers rip out 100-year-old trees and it felt like they were wiping away our history. I wanted to do something about it." Hansen and her family are trying to bring apple production back to Springville by leasing historic orchards and planting new trees on their property. Today, they farm 80 acres and harvest ten different apple varieties.

"For new trees, we plant grafted rootstock. We also take cuttings from our old trees and graft them to new root stock to help preserve the heirloom varieties we farm," explained Hansen. Grafting is a propagation method that joins the bud of a desired apple variety to a hardy root system. Once planted, it takes four to five years for the trees to produce fruit. In April or May, bee boxes are placed in the orchard to help with pollination. Once pollinated, blossoms fall to the ground and small apples begin to grow in the blossom's place. Hansen's crew "thins" the orchard by removing some apples. She explained, "If you leave too much on a branch, you'll end up with a smaller yield and smaller apples."

Throughout the season, apple trees require frequent watering. Hansen's property, which rests at the base of the Sierra Nevada mountains, is irrigated by the previous winter's snow melt. "All our irrigation is gravity fed, which means we don't need any pumps to irrigate our crops. We use microspray irrigation and put a huge emphasis on water conservation," said Hansen.

The apple crop is harvested by hand in the fall. Seasonally, fresh apples are sold at local farmers markets while apple products are produced year round through Hansen's commercial kitchen—Ciderhouse Foods. According to Hansen, it's hard to pick the most popular apple product, but apple pies, apple granola, apple cider syrup, and hand-milled apple butter certainly top the list. Readers can follow Hansen's journey to revitalize Springville's apple culture by following Ciderhouse Foods on Facebook and Instagram.

# FOOD for FUEL



They are full of essential vitamins and a natural source of beneficial antioxidants.

HERE ARE SOME OF THE HEALTH BENEFITS OF INCLUDING APPLES IN YOUR DIET:



Apples are rich in the compound quercetin, which has been shown to reduce inflammation while fighting against heart disease and hypertension.



The vitamin C found in apples may help strengthen hair, nails, and speed up skin cell production, while the beneficial B vitamins help fight acne and skin irritation.



The fiber found in apples helps us feel full and keeps things moving in our digestive tract-just be sure to leave the skin on as it contains half of the total fiber.



# **APPLE OWL**

Fruit orchards attract voles, mice, and other rodents but don't provide suitable homes for birds of prey. Farmers can welcome owls onto their properties by installing nesting boxes—simple wooden boxes that provide a safe place for owls to roost during the day. Let's celebrate these excellent hunters (and helpers!) with a creative snack.

## **Wirections**:

- 1. Wash your produce under running water.
- 2. Cut one apple in half. Leave one half whole for the body, and slice the other half thinly for the wings.
- 3. Take the second apple, and cut a rounded slice for the head. Cut triangular pieces for the ears.
- 4. Form the owl's body on a plate.
- 5. Cut the marshmallow in half. Arrange the halves on top of the owl's head to make eyes. Place chocolate chips in the middle of the eyes.
- 6. Use mandarin orange slices to create the beak and feet.
- 7. Place the pretzel rod under the feet to form the branch.



**Ingredients:** 

One marshmallow

One pretzel rod

Adapted from

• Two chocolate chips

kitchenfunwithmy3sons.com

Three mandarin orange slices

• Two apples

An apple's an apple...right? You might be surprised to learn that in the United States there are roughly 2,500 different varieties grown. Each apple variety is unique in its color, taste, and shape. While some varieties are better for snacking and salads, others are a perfect

match for pie, sauce, or cider. This apple exploration invites students to identify how different varieties measure up.

Materials: Apples for the entire class (use 2-3 different varieties), rulers, string, scissors, balances and gram weights, knife (for teacher use), student worksheet (page 3)

### Procedure:

- 1. Show students two different varieties of apples with noticeable differences in color, shape, and size. Record the similarities and differences of the apples within a Venn diagram.
- 2. Explain to students that apples come in thousands of different varieties, each with unique characteristics including color, shape, size, taste, texture, and preferred use.
- 3. Distribute worksheet and materials to the class. Have students record their apple variety at the top of the worksheet. Explain each measurement and have students make estimations. Demonstrate how to accurately find mass, and measure circumference and diameter.
- 4. Have students complete the student worksheet on page 3.
- 5. Invite students to report their measurements, by variety, on the board or flip chart. Find the average mass, circumference, and diameter for each variety. Ask students, "What general statements can you make about the varieties of apples we measured today?"

# **Objectives:**

Students will find the circumference, diameter, and mass of an apple. Advanced students will convert units within the same measurement system and find the approximate volume of the apple.

Standards: CC Math: 2.MD.A.1, 2.MD.A.3, 3.MD.A.2, 5.MD.A.1,6.SP.B.5, 8.G.C.9

LearnAboutAg.org



# My Apple Variety: \_\_\_\_\_ Name: \_\_\_\_\_

A measure of the amount of matter an object contains.

**Estimation:** grams ( | jumbo paperclip = approx. | gram )

I. Place your apple on the balance.

Materials: Apple, balance, gram weights

2. Add gram weights to the other side of the balance until the balance is level.

\* Connection \* The BIG Apple

3. Count the number of gram weights used. This is the mass.

# Circumference

The distance around a sphere.

Materials: Apple, string, scissors, ruler

### **Estimation:** centimeters (I staple = approx. I cm long)

Mass

I. Wrap your string around your apple.

- 2. Cut your string where the two ends meet.
- 3. Stretch out your string and measure it with a ruler. This is the circumference.

# Diameter

The distance across a sphere. Materials: Apple, knife, ruler

Estin	n <mark>atio</mark> i	n:

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- I. Ask an adult to cut your apple in half.
- 2. Measure the distance across the middle of your apple. This is the diameter.





Actual:	cm	

1			
~~~	Actual:	 grams	-



# Challenge: Convert each measurement into different units (ex:grams to kilograms).

5th/6th Grade

# 7th/8th Grade Challenge:

Find the approximate volume of the apple.  $V = \frac{4}{3} \prod r^{3}$ 

# 1 contimeters

This video, produced by True Food TV, takes you on a trip to one of America's oldest orchards to learn about how apples grow. The Lyman family introduces viewers to the innovative methods they use to promote sustainability on their 100-acre farm.





# These books, websites, and other resources will help you and your students learn more about apples.



### **The Biggest Apple Ever** written by Steve Kroll and

virtual

illustrated by Jeni Bassett

As another year at Mouseville School begins, the students will be learning all about apples—starting

with a contest to find the biggest one ever! When a pair of friends can't find the biggest apple, they must think creatively and cooperatively to impress their class.



# How Do Apples Grow? written by Betsy Maestro and

illustrated by Giulio Maestro

Suitable for a science lesson, this book highlights the apple life cycle, apple anatomy, and

the apple orchard

pollination. As they learn scientific facts, young readers will also gain an appreciation for the natural beauty of this popular fruit.

### The Apple Orchard Riddle

written by Margaret McNamara and illustrated by G. Brian Karas

Mr. Tiffin and his class head out on a field trip to the apple orchard. On their trip they learn all about apples—including how they are harvested, how cider is

made, and what the different varieties of apples are—all while trying to solve a mysterious riddle.



## learnaboutag.org

The California Foundation for Agriculture in the Classroom provides free resources to teachers. The resources highlight many of California's 400 agricultural commodities, including apples.

WEBSITES

### calapple.org/classroom-material

The California Apple Commission website provides additional information about how apples are produced in the Golden State. The site has a page for educators which features apple facts, games and puzzles, coloring pages, and activity ideas.



## Resource: Apples, A Class Act! (Grades PreK-3, 4-6)

### By U.S. Apple Association

These grade-specific newsletters provide a wealth of activity ideas, a full lesson plan, and abundant information about apples. Includes word searches, poetry ideas, science explorations, and much more!

### Unit: An Apple a Day (Grades K-8)

By Illinois Agriculture in the Classroom

This set of seven lessons incorporates apples into Math, English Language Arts, and Science. These simple lessons provide a basic introduction to apples for young students.

## Lesson Plan: A is for Apples (Grades K-2)

By Utah Agriculture in the Classroom

In this lesson, students will use their five senses to investigate apples, identify and model the parts of an apple, make applesauce, and learn how apples are grown.









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