



..... THIS MONTH
WE'RE HARVESTING

Apples!

In This Issue



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 micro-spray 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

**APPLES PROVIDE UNIQUE
health benefits**



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:**

Healthy HEART

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

Clear & Strong SKIN & HAIR

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.

Happy GUT

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 OATMEAL BAR

There's nothing like a warm breakfast on a chilly fall morning. This recipe feels like a treat, even though it's full of whole grains, tender apples, cinnamon, and lowfat milk. With ingredients found in most pantries, this kid-friendly recipe will provide even the youngest bakers with experience measuring, pouring, and mixing!



*(Adapted from
fiveheartshome.com)*

Ingredients:

- 2 cups rolled oats
- 1 cup chopped walnuts (optional)
- 2 tsp ground cinnamon
- $\frac{1}{4}$ tsp salt
- 1 cup diced apples
- $\frac{1}{2}$ cup applesauce
- $\frac{1}{2}$ cup lowfat milk
- $\frac{1}{4}$ cup coconut oil, melted (or vegetable oil)
- 2 eggs
- $\frac{1}{4}$ cup maple syrup
- 1 tsp. vanilla extract

Directions:

1. Preheat the oven to 350°F. Lightly grease an 8 x 8-inch baking dish.
2. Wash your apple under running water.
3. Using the knife and cutting board, carefully dice the apple into small pieces.
4. In a large bowl, combine the rolled oats, walnuts (optional), cinnamon, and salt.
5. Mix in the diced apples, applesauce, milk, oil, eggs, maple syrup, and vanilla. Stir until all ingredients are combined.
6. Spread the mixture into the prepared baking dish and bake for 30 minutes. Serve warm topped with lowfat milk or plain yogurt.
7. Enjoy!

Tools: Large bowl, wooden spoon, chef's knife, cutting board, oven



Bushel or Peck?

Understanding Apple Measurements

is one-fourth of a bushel, or two dry gallons. Since these units measure dry volume instead of weight, the weight of the fruit in a bushel can vary, depending on the fruit. Thankfully, the USDA has established standard weights for bushels of produce, including bushels of apples which weigh 40 pounds. In this lesson, students will practice converting between dry volume and mass in the apple orchard.

If you visit a local orchard to pick your own apples, you might be asked how many apples you'd like to pick: a bushel or peck? These uncommon measurements date back to the 15th century and are still used today to measure dry volume, particularly in produce. A bushel is equal to 32 quarts, or eight dry gallons. A peck

Objectives:

Students will use ratio and rate reasoning to solve real-world and mathematical problems focused on apple measurements and prices.

California Standards:

CC Math: 6.RP.A.1, 6.RP.A.3, 7.RP.A.2

Materials: Various containers to illustrate a gallon and a quart, a bushel basket (optional), and student worksheet (page 3)

Procedure:

1. Read the mini book, *Apples: A Year in the Orchard*. Ask students if they have ever picked apples in an orchard. Have students share about their experience.
2. Show students a bushel basket. Explain that the basket is called a bushel basket and it is one method of measuring produce. A peck is another unusual measurement, and is one-fourth of a bushel. By the end of the activity, students will understand the volume of these measurements and how they are used in the apple orchard.
3. Hold up a gallon container. Ask students for examples of substances that are typically measured in gallons (milk, water, gas). Explain that we usually measure the volume of liquids in gallons. When you measure a solid using gallons, it's called a dry gallon. One bushel is equivalent to eight dry gallons of apples. It's a large quantity of apples.
4. Hold up a quart container. Ask students for examples of substances that are typically measured in quarts (milk, water, ice cream). Explain that when you measure a solid using quarts, it's called a dry quart. One peck is equivalent to eight dry quarts of apples. It's a smaller quantity of apples.
5. Distribute the related worksheet to the class. Complete the table together and encourage students to complete the word problems in pairs or independently.
6. Review the answers to the worksheet. Have students demonstrate their problem-solving methods.

Bushel or Peck? Understanding Apple Measurements

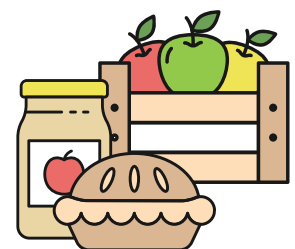
Complete the table below to show the proportional relationships between bushels, pecks, dry gallons, and dry quarts.

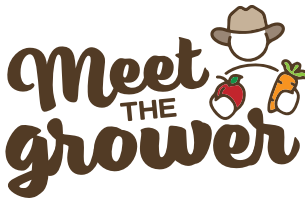
1 bushel	8 dry gallons
1 peck	8 dry quarts
1 dry gallon	4 dry quarts
1 bushel	_____ quarts

1 peck	_____ dry gallons
1 bushel	_____ pecks
2 bushels	_____ dry gallons
2 pecks	_____ bushel

Show all work for the following word problems.

1. Your neighbor wants to make an apple pie for the school auction. Should he buy a bushel of apples or a peck of apples? Explain.
2. The grocery store is selling fuji apples for \$3.29 per pound. The local u-pick orchard is selling fuji apples for \$100 a bushel. Which location is offering the best price on fuji apples? (Hint: one bushel = 40 pounds)
3. Two farms are selling honeycrisp apples at the farmers market. Hillcrest Farm is selling a peck of apples for \$40. Tremont Farm is selling apples for \$5 per pound. Which farm has the best deal?
4. Aunt Ruby is making applesauce for the county fair. She buys a bushel and two pecks of apples. How many pounds of apples did she buy?





In this video interview, apple farmer Kelley Hansen shares how she turns her apples into delicious products like pies, apple cider syrup, and granola. Kelley's farm continues to evolve as she meets her customers' needs: first for apples and baked goods, and now for overnight stays on a real working farm.

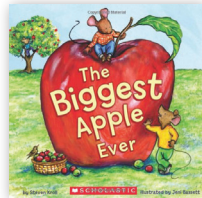


DIG DEEPER

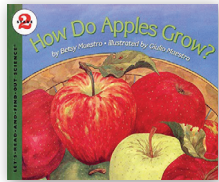
These books, websites, and other resources will help you and your students learn more about apples.

BOOKS

The Biggest Apple Ever
written by Steve Kroll and
illustrated by Jeni Bassett



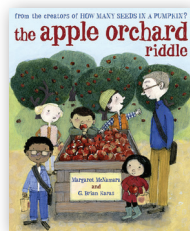
As another year at Mouseville School begins, the students will be learning all about apples—starting with a contest to find the biggest one ever! When a pair of friends can't find the biggest apple, they must think creatively and cooperatively to impress their class.



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 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.

WEBSITES

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.

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.

RESOURCES

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.

