

HARVEST OF THE MONTH: APPLES

An example of the materials available from
California's Harvest of the Month program.

Harvest of the Month



Network for a Healthy California



Nutrition Facts

Serving Size: ½ cup apples, sliced (55g)
Calories 28 Calories from Fat 0

	% Daily Value
Total Fat 0g	0%
Saturated Fat 0g	0%
Trans Fat 0g	
Cholesterol 0mg	0%
Sodium 1mg	0%
Total Carbohydrate 8g	3%
Dietary Fiber 1g	5%
Sugars 6g	
Protein 0g	
Vitamin A 1%	Calcium 0%
Vitamin C 4%	Iron 0%

APPLES

Health and Learning Success Go Hand-In-Hand

Increasing fruit and vegetable consumption tends to increase academic performance in undernourished children. *Harvest of the Month* connects with core curricula to give students the chance to explore, taste, and learn about the importance of eating fruits and vegetables. It links the classroom, cafeteria, home, and community to help students make healthy food choices and be physically active every day.

Exploring California Apples: Taste Testing

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

- 3-5 apples (each in a different variety*), sliced**
- Graph paper and colored pencils

*Refer to *Home Grown Facts* on page 3 for varieties.

**To prevent browning, keep sliced apples in 100% apple juice until start of activity.

Activity:

- Observe, touch, smell, and taste each apple variety.
- Develop a color graph using appearance, texture, smell, flavor, and sound.
- Compare and contrast the varieties.

For more ideas, reference:

School Foodservice Guide – Successful Implementation Models for Increased Fruit and Vegetable Consumption, Produce for Better Health Foundation, 2005, pp. 39-42.

Cooking in Class: Apple Oatmeal

Makes 36 tastes at ¼ cup each.

Ingredients:

- 3 large apples, cored
- 3 cups quick cooking oats
- ½ tablespoon ground cinnamon
- ¾ teaspoon salt
- 5¼ cups 100% apple juice
- Small cups and spoons

1. Chop apples into bite-sized chunks.
2. Combine apple chunks, oats, cinnamon, salt, and apple juice in a large microwave-safe bowl. Cover bowl with lid or plastic wrap. Leave a little opening for steam to get out.
3. Microwave on high for 3-4 minutes, stirring once after 2 minutes.
4. Stir and let cool 1 minute before serving.

Nutrition information per serving: Calories: 52, Carbohydrate 11 g, Dietary Fiber 1 g, Protein 1 g, Total Fat 0 g, Saturated Fat 0 g, Trans Fat 0 g, Cholesterol 0 mg, Sodium 26 mg

Adapted from: *Kids...Get Cookin'!*, Network for a Healthy California—Children's Power Play! Campaign, 2009.

Reasons to Eat Apples

- A ½ cup of sliced apples is a source of fiber. Dietary fiber is a complex carbohydrate. There are three main types of carbohydrates: starch, fiber, and sugar.*
- Eating a variety of colorful fruits and vegetables throughout the day will help you meet the recommended daily values of nutrients that your body needs to be healthy.
- Apples can be eaten in a variety of forms — as whole (fresh), unsweetened applesauce, dried apples, or 100% apple juice.

*Learn about sugar on page 2.

Champion Sources of Fiber*:

- Beans
- Blackberries
- Dates
- Peas
- Pumpkin
- Raspberries
- Whole wheat cereal
- Whole wheat bread

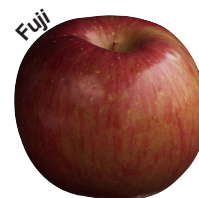
*Champion foods provide a good or excellent source of fiber.



Gala



Granny Smith



Fuji

What is Sugar?

- Carbohydrates are the body's main source of energy. There are three kinds of carbohydrates: starch, fiber, and sugar.
- Sugar is found only in foods of plant origin. In food, sugar is classified as either naturally occurring or added.
- Naturally occurring sugars include lactose in milk and fructose in fruit, honey, and vegetables.
- Added sugars (white, brown, powdered, and corn syrup) are originally made from sugar beets, sugar cane, corn, and grapes.
- Naturally occurring sugars (except honey) are usually found in foods along with vitamins and minerals, while added sugars provide calories and very few vitamins and minerals. Therefore, added sugars are often called empty calories.

For more information, visit:

<http://food.oregonstate.edu/learn/sugar.html>

Botanical Facts

Pronunciation: ăpel

Spanish name: manzana

Family: Rosaceae

Genus: *Malus*

Species: *M. domestica*

Apples are the fruit of plants of the genus *Malus* in the family Rosaceae (rose family). Domestic or table apples are of the species *M. domestica* and are one of the most widely cultivated tree fruits.

Malus sieversii is the wild ancestor of *M. domestica*, and its trees can still be found in the mountains of Central Asia. In fact, the former capital of Kazakhstan, *Almaty*, means "father of the apple." Wild apples (common name for *M. sieversii*) resist many diseases and pests that affect domestic apples, and they are often researched and used in the development of new disease-resistant apples.

For more information, visit:

www.urbanext.uiuc.edu/apples/



How Much Do I Need?

A ½ cup of sliced apples is about one cupped handful. This is about the size of half of a small apple. The amount of fruits and vegetables each person needs depends on age, gender, and physical activity level.

Activity:

Visit www.choosemyplate.gov and have students determine how many cups of fruits and vegetables they need to eat every day. Have students write down their goals and make a daily log for tracking how many fruits and vegetables they eat each day.

Recommended Daily Amount of Fruits and Vegetables*

	Kids, Ages 5-12	Teens and Adults, Ages 13 and up
Males	2½ - 5 cups per day	4½ - 6½ cups per day
Females	2½ - 5 cups per day	3½ - 5 cups per day

*If you are active, eat the higher number of cups per day.

Visit www.choosemyplate.gov to learn more.

How Do Apples Grow?

Apple trees grow in the temperate regions of the world. Apple trees are best adapted to places where the average winter temperature is near freezing for at least two months, though many varieties can withstand winter temperatures as low as -40 F.

Apple trees are deciduous. In late spring, white blossoms appear from the tiny buds on apple tree branches for about nine days and produce pollen and nectar. Bees help to cross-pollinate the blossoms, the first step in forming an apple.

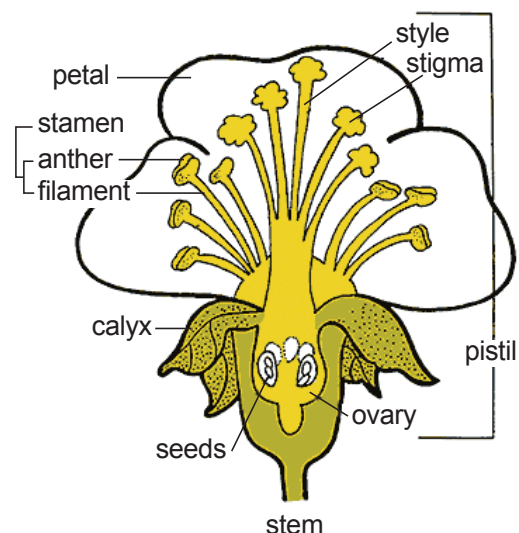
The seeds are distributed among an apple's five seed chambers, called carpels, found near the core. Seed development stimulates the apple tissue development. Apples continue to grow until late summer when they are ready to harvest and eat.

A Slice of Apple History

Apples have existed for the length of recorded history and are believed to have originated in the Caucasus, a mountainous area between what are now the Black and Caspian Seas.

Through the rise of Greece, the fall of Persia and migrations to Rome and Europe, apples were cultivated and — through a process called grafting, which produces new varieties — disseminated throughout various cultures. Apples experienced surges of popularity and, at one point, some varieties were nearly lost, but were saved due to traditional orcharding by the English church.

Apple growing arose again in 15th century Renaissance Italy. Eventually, France and England followed suit, and the fruit remained popular in Europe well into the 1800s, when European settlers brought apples with them to the Americas to share the cultivation and traditions.



Apple Blossom

Source:

www.usapple.org/educators/applestore/4-6guide.pdf

Physical Activity Corner

Healthy nutrition is only one part of the equation to achieving optimal learning in the classroom; physical activity is another important part. Children need at least 60 minutes of physical activity every day to stay fit both mentally and physically. Commit to playing a different game or activity, like *Grab the Apple!*, each week in or out of the classroom.

Grab the Apple!

Objective:

Develops listening and fine motor skills (reflexes)

Equipment:

- One “apple” (foam ball or bean bag) for each pair of students
- Whistle or music

Preparation:

- Pairs sit cross-legged on floor facing each other, hands on knees
- Place box, with apple on top, between pairs
- Use START (whistle/music) cue to lead activity

Activity:

- On START cue, grab the apple before partner
- Variations:
 - Call out a specific hand to grab the apple
 - Start with hands on shoulders
 - Start in sit-up position (on back, knees bent)
 - Start in push-up position (on stomach, face down)

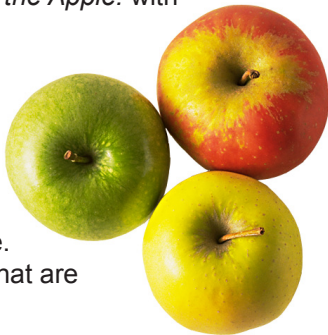
Go Farther:

Ask students to think of different starting positions to try.

Bring It Home:

Encourage students to play *Grab the Apple!* with family members.

For more ideas, visit:
www.sparkpe.org



Student Sleuths

- 1 Why is fiber important?
- 2 Apples contain natural fructose. What is natural fructose and what are its benefits?
- 3 Why do apples float in water?
- 4 What does the color of an apple's skin tell you about the environment where it was grown?
- 5 Map the origin of the apple and various geographical regions in California where apples are grown.
- 6 List the top five varieties of apples commercially produced in California and the counties that grow them.
- 7 Determine how much of the apples harvested in California go into processed foods/juices and how much is sold whole/fresh.

For information, visit:
www.calapples.org
www.usapple.org
www.fruitsandveggiesmatter.gov/month/apple.html

Cafeteria Connections

- Have students investigate what types of apples are used in the cafeteria. Talk with the school nutrition staff to find out why these varieties are selected. Then, write letters to the school nutrition staff promoting the benefits of locally grown apples (cost, flavor, etc.).

For more ideas, reference:

Fruits and Vegetables Galore, USDA, 2004.
www.nal.usda.gov/kids
www.agclassroom.org

School Garden: Savvy Seeds

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.

As fall weather spells an end to some school gardens, encourage students to become seed detectives by identifying, collecting, and saving their own seeds from the garden or in the wild. Some fruits and vegetables to consider: melons, tomatoes, beans, peas, peppers, pumpkins, squash, and corn.

Class Discussion

- How do plants grow from seeds?
- What nutrients do plants need for optimal growth?
- Compare plant nutrients with the nutrients humans need. Explain why it is so important for us to eat plenty of plant foods, especially fruits and vegetables.

For more ideas, visit:

www.kidsgardening.com

Home Grown Facts

- The apple industry in California dates back to the 1800s, when two early orchards were cultivated in Watsonville and Sebastopol along the Central and Northern coastal regions. Today there are more than 450 growers.
- California ranks fifth in commercial apple production in the United States — an impressive accomplishment achieved in about 25 years of serious production.
- California is known for its variety of apples and continual production of new varieties. Examples include the Red Delicious, Golden Delicious, Gala, Fuji, Granny Smith, McIntosh, Rome, Jonathon, and Pink Lady.
- California apples are harvested throughout the year and many varieties are available year-round.

For more information, visit:

www.calapples.org

Just the Facts

- About 2,500 apple varieties are grown in the United States and more than 7,500 are grown worldwide.
- Apples are best when eaten with the peel, as that is where most of the fiber and antioxidants are found.
- Almost one-half of all apples consumed are not in their fresh form, but rather as applesauce, apple juice, and jellies or jams. Apples can even be used to replace fat and butter in baked goods. (Replace shortening or oils in baking with an equal volume of applesauce plus one-third of the oil called for in the recipe.)

Literature Links

The Legend of Johnny Appleseed

Born September 26, 1774 in Massachusetts on the eve of the American Revolution, John Chapman became the legendary “Johnny Appleseed.” He spent almost 50 years of his life in the American wilderness planting apple orchards in Illinois, Kentucky, Pennsylvania, and Ohio.

Johnny Appleseed was known as a kind and generous man. Alone, he pioneered the frontier on foot, planting apple trees, and selling them to the settlers on the plains for a few pennies each, or even clothing. Some had no cash, and from those he accepted a simple promise: to pay at a later date. Few failed to keep their word.

Chapman died in 1845, but even after 200 years, some of his trees still bear apples.

Elementary literature on the life of Johnny Appleseed:

- *The Story of Johnny Appleseed* by Aliko (Aladdin, 1987).
- *Folks Call Me Appleseed John* by Andrew Glass (Doubleday, 1995).
- *Johnny Appleseed: My Story* by David Harrison (Random House, 2001).

For book lists, visit:

www.harvestofthemonth.com
www.cfaitc.org



Adventurous Activities

Field Trip:

Take students on an apple-picking field trip or even bring the field trip to the school. For more information on Farm to School programs, visit www.cafarmtoschool.org.

Problem Solving:

Use apples in math equations to demonstrate addition and subtraction of fractions.

Creative Writing:

Have students interview and document their parents' favorite apple stories, memories, and recipes.

Science Investigation:

Oxidation is the browning reaction that occurs when the atoms in an apple come in contact with air and lose electrons.

- Cut two apples in half. Pour one tablespoon of lemon juice over the first half. Pour one tablespoon of water over the second half. Pour one tablespoon of apple juice over the third half. Do not pour anything over the fourth half. Leave all four halves in a visible spot in the classroom. Have students note the differences in the browning after one hour to see which method works best and why.

For more ideas, visit:

www.usapple.org/educators/applestore/index.cfm

FITNESSGRAM®

The FITNESSGRAM, a state-required Physical Fitness Test, is administered in spring for students in grades five, seven, and nine. The FITNESSGRAM is a set of tests designed to evaluate health-related fitness, with the goal of helping students establish lifetime habits of regular physical activity. Remind students that the FITNESSGRAM is not pass or fail, but the launching pad to a lifetime of health.

The FITNESSGRAM is designed to assess the three basic components of fitness:

- 1 aerobic capacity
- 2 body composition
- 3 muscle strength

Muscle strength is divided into four areas: abdominal strength and endurance; trunk extensor strength and flexibility; upper body strength and endurance; and overall flexibility.

Discuss with your class the importance of physical activity and encourage students to get more physical activity. Identify two activities you can do as a class regularly.

Examples include:

- 1 Jogging outside around the track or school
- 2 Doing jumping jacks in class for one minute
- 3 Taking stretch breaks after quizzes or exams

For more information, visit:

www.cde.ca.gov/ta/tg/pf
www.cde.ca.gov/re/pn/fd/documents/pefrwk.pdf
www.cdc.gov/nccdphp/dnpa/physical/index.htm



Student Champions

- Have students gather their favorite nutritious apple recipes.* Brainstorm ideas on how to incorporate apples into school breakfast and lunch menus. Have them meet with school nutrition staff to share their ideas.
- Ask students to note during their next trip to the grocery store where the apple displays are located. Are they in the front, back, or on the side? How many varieties do they have available?

*Visit www.cachampionsforchange.net for a variety of nutritious recipes.



This material was produced by the California Department of Public Health's *Network for a Healthy California* with funding from USDA SNAP, known in California as CalFresh (formerly Food Stamps). These institutions are equal opportunity providers and employers. CalFresh provides assistance to low-income households and can help buy nutritious foods for better health. For CalFresh information, call 1-877-847-3663. For important nutrition information, visit www.cachampionsforchange.net. © 2011

