Harvest of the Month

Network for a Healthy California

Health and Learning Success Go Hand-In-Hand

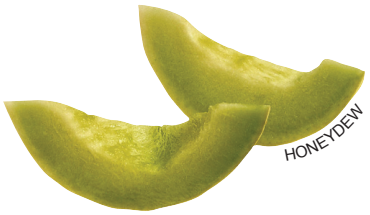
Research has shown that school-based interventions can improve health and academic performance, particularly among low-income children. Use *Harvest of the Month* to teach students about California's bounty of fruits and vegetables and how to practice healthy eating and activity patterns. *Harvest of the Month* links with core curricula and connects the classroom, cafeteria, home, and community.

Exploring California Melons: Taste Testing

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

- Three or more different varieties of melons (e.g., cantaloupe, honeydew, casaba, watermelon)
- Knife and cutting board
- Small plates or bowls
- Paper and pencils
- Printed Nutrition Facts labels* for all varieties

*Download labels from **www.harvestofthemonth.com**.



Activity:*

- Divide class into groups; distribute one melon variety to each group.
- Observe the external look, feel, and smell of melon; record observations.
- Cut open fruit and note color and smell of inside; record observations.
- Scoop out seeds and cube fruit; place on serving plate at head table.
- Sample each variety; record taste differences and similarities among melons and discuss as a class.
- Review Nutrition Facts labels; discuss similarities and differences in nutrients among varieties.
- Share observations with class; make a graph showing the classroom favorite.

Helpful Hint: Conduct taste testing in conjunction with *Adventurous Activities* (page 4).

For more ideas, reference:
Botany on Your Plate, University of California Botanical Garden, The Regents of the University of California, 2005.

Nutrition Facts

Serving Size: ½ cup cantaloupe, cubed (80g)

Calories 27	Calories from Fat 0
	% Daily Value
Total Fat 0g	0%
Saturated Fat 0g	0%
Trans Fat 0g	
Cholesterol 0mg	0%
Sodium 13mg	1%
Total Carbohydrate 7g	2%
Dietary Fiber 1g	3%
Sugars 6g	
Protein 1g	
Vitamin A 54%	Calcium 1%
Vitamin C 49%	Iron 1%

Cooking in Class: Marvelous Melons

Makes 36 tastes at 1 piece of melon each

Ingredients:

- 1 pound each of cantaloupe, honeydew, and watermelon
- 1 teaspoon chili seasoning or powder *(optional)*
- Lime juice *(optional)*
- Small plates and napkins

1. Wash, peel, and cut melons into small cubes.
2. Combine melons in a large bowl.
3. *Optional:* Sprinkle chili seasoning and/or lime juice over fruit and gently toss until well mixed.
4. Serve ¼ cup of melons on each plate.

Nutrition information per serving:
Calories 6, Carbohydrate 2 g, Dietary Fiber 0 g, Protein 0 g, Total Fat 0 g, Saturated Fat 0 g, Trans Fat 0 g, Cholesterol 0 mg, Sodium 3 mg

For more ideas, visit:
www.cachampionsforchange.net

Reasons to Eat Melons

- A ½ cup of cantaloupe is an excellent source of vitamin C and vitamin A.
- A ½ cup of casaba or honeydew is an excellent source of vitamin C.
- A ½ cup of watermelon is a good source of vitamin C.
- Melons provide a rich source of carotenoids*, such as lycopene (watermelon) and beta-carotene (cantaloupe).

*Learn about carotenoids on page 2.

Champion Sources of Vitamin A*:

- Apricots
- Cantaloupe
- Carrots
- Kale
- Peas
- Pink grapefruit
- Pumpkin
- Spinach
- Tomatoes
- Watermelon

*Champion sources provide a good or excellent source of vitamin A (at least 10% Daily Value).

For more information, visit:
www.nal.usda.gov/fnic/foodcomp/search/
(NDB No.: 09181, 09183, 09184, 09326)

MELONS

What Are Carotenoids?

- Carotenoids are yellow, orange, and red pigments synthesized by plants.
- The most common carotenoids are alpha-carotene, beta-carotene, beta-cryptoxanthin, lutein, zeaxanthin, and lycopene.
- Alpha-carotene, beta-carotene, and beta-cryptoxanthin are called provitamin A carotenoids because they are made into retinol in the body and then converted into vitamin A.
- Lycopene, lutein, and zeaxanthin do not have any provitamin A activity but provide many other important health benefits.
- Studies have found that carotenoids function like antioxidants by protecting the body from free radicals and may help protect the body from some diseases.

For more information, visit:
http://lpi.oregonstate.edu/infocenter/phytochemicals/carotenoids/
http://ods.od.nih.gov/factsheets/vitamina.asp

How Do Melons Grow?

Melons are a warm-weather annual plant sensitive to cold temperatures at any stage of growth. In fact, seeded melons germinate best under hotter temperatures, up to 95 F, and can tolerate temperatures in excess of 100 F. Melons grow best when planted on raised beds spaced every 12 inches, in rows spaced four to six feet apart. Due to their large size, melons are normally hand-harvested when ripe at the "full-slip" stage, when the fruit easily separates from the vine with slight pressure.

Soil	Loam or clay-loam; well-drained
Optimal Temperature	85 to 95 F
Exposure	Full sun
Irrigation	Minimal; keep tops of bed dry to minimize fruit contact with moist soil
Reproduction	Bee pollination
Days to Harvest	75 to 100

For more information, visit:
http://anrcatalog.ucdavis.edu/pdf/7218.pdf

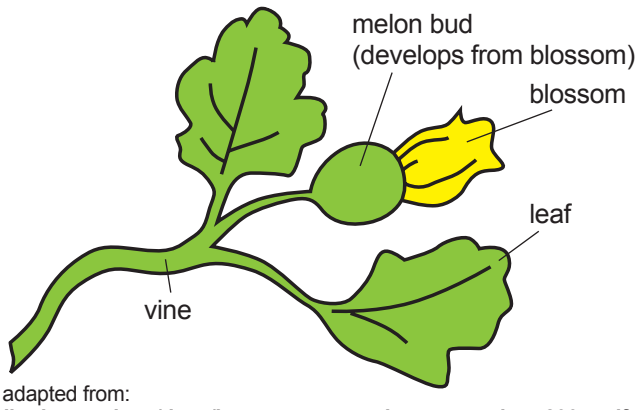
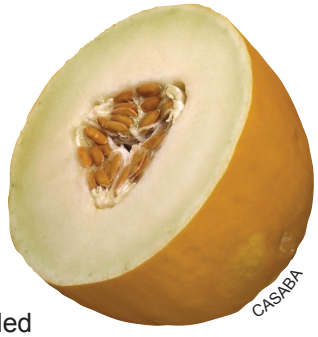


Image adapted from:
http://district.ausd.net/docs/harvest_watermelon_september_2005.pdf

Download botanical image from **www.harvestofthemonth.com**.

Botanical Facts



Pronunciation: měl'ən
Spanish name: melón
Family: Cucurbitaceae
Genus: *Cucumis*
Species: *C. melo*

Melons are vine-like herb plants of the Cucurbit family that bear an accessory fruit known as a false berry. The fruit is actually called *muskmelon* because of its odor when ripe, but over the years this has been shortened to *melon*.

The watermelon also belongs to the Cucurbit family, but is classified in the genus *Citrullus*. Therefore, it is only loosely considered a type of melon. There are numerous melon cultivars, but commercially the most common are the cantaloupe (Cantalupensis and Reticulatus Groups) and honeydew (Inodorus Group).

Major Melon Cultivar Group	Characteristics	Includes
Cantalupensis	Rough and warty skin; grown only in Europe and South Africa	European cantaloupe
Inodorus	Smooth rind, subtle and sweet flavor	Honeydew, Crenshaw, casaba, winter melon, American melon, Oriental sweet melon
Reticulatus	Netted skin with musky odor	Netted melon, North American cantaloupe

For more information, visit:
www.hort.purdue.edu
www.fruitsandveggiesmatter.gov/month/melon.html

How Much Do I Need?

A ½ cup of melons is about one cupped handful. The amount of fruits and vegetables that each person needs depends on age, gender, and physical activity level. Encourage students to find out how many cups of fruits and vegetables they need to eat every day and to track what they eat on a worksheet*. Remind students that all forms count toward their daily amount – fresh, frozen, canned, and dried.

*Download student worksheets from **http://teamnutrition.usda.gov/resources/mypyramidclassroom.html**.

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.mypyramid.gov** to learn more.

Just the Facts

- On average, it takes about 10 to 15 bee visits for proper pollination to grow melons.
- By weight, the watermelon is the most common melon consumed in America, followed by the cantaloupe and honeydew.
- There are many varieties of the “western shipping type” cantaloupe, but since consumers cannot differentiate between them, they are marketed under the general name as “cantaloupe.”
- There are four main varieties of watermelon: allsweet, ice-box, seedless, and yellow flesh.

Sources:
www.fruitsandveggiesmatter.gov/month/watermelon.html
http://anrcatalog.ucdavis.edu/pdf/7218.pdf

Student Sleuths

1. Study the Nutrition Facts labels for cantaloupe, casaba, and honeydew melons. Make a list of nutrients found in each variety and write a brief sentence about the health benefits each provides to the body. Compare and contrast the nutrients for each melon. Refer to the Nutrition Facts label for watermelon. How does it compare to other melon varieties?
2. What role do carotenoids play in the body? List some of their health benefits. Identify at least three fruits or vegetables that you like and that contain at least one carotenoid.
3. Melons are members of the gourd family. Make a list of other produce items that belong to this family. Is the melon a fruit or vegetable? Write a persuasive argument for your statement.

For information, visit:
www.plants.usda.gov
www.nal.usda.gov/fnic/foodcomp/search/

A Slice of Melon History

- Melons were first cultivated in Persia and northern Africa nearly 4,000 years ago, and later by ancient Greeks and Romans.
- Introduced to western and northern Europe during the Middle Ages, melons were harvested by the Spaniards and later the French and British.
- Christopher Columbus brought the first melon seeds to North America on his second expedition, while watermelons arrived with African slaves.
- In 1683, the melon was introduced to California by Spanish missionaries who cultivated them.
- Melons and watermelons were grown almost exclusively in home gardens until the first half of the 20th century, when more disease- and wilt-resistant cultivars were developed by the USDA.

For more information, visit:
www.fruitsandveggiesmatter.gov/month/melon.html

School Garden: Bug Hunt

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.

What You Will Need:

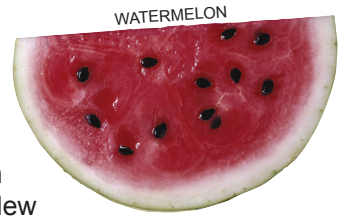
- Light-colored cloth sheet
- Magnified bug boxes or hand lenses

Activity:

- Take sheet and place under plant bush or shrub.
- Shake plant gently and carefully remove sheet.
- Use magnified bug boxes to observe bugs found on sheet; record observations.
  - **Grades K-6:** Draw and label the basic insect parts (e.g., head, thorax, abdomen).
  - **Grades 7-12:** Identify and classify insects; conduct population surveys; and/or study predator-prey relations in insect world.
- Shake sheet over plant to return bugs to their home.
- Repeat with different plant. Compare types of bugs found.
- Describe the role bugs play in a garden.

Adapted from: www.lifelab.org

For information, visit:
www.csgn.org/page.php?id=22



Home Grown Facts

- California leads the nation in both cantaloupe and honeydew production — producing nearly two-thirds of the nation’s crop — and ranks second in watermelon production*.
- In California, melons go to market beginning in May with a continuous supply through October, peaking in July and August.
- The cantaloupe is the predominant variety grown — accounting for more than half of all California grown melons.
- Fresno County is the leading producer of cantaloupes.
- The major growing regions for melons include the Central Valley (Fresno, Kings, Merced, Stanislaus, San Joaquin, and Kern counties) and the southern desert valley (Imperial and Riverside counties).

*2008 Data

For more information, visit:
http://anrcatalog.ucdavis.edu/pdf/7218.pdf
www.cdfa.ca.gov

Adventurous Activities

Melon Math:

- Estimate the weight of each melon variety; measure weight and record.
- Estimate the circumference, surface area, and volume of each variety; measure and record.
- Compare weight and size measurements for each variety. Determine if there is a correlation between weight and size. Why or why not?
- Determine the edible portion of each melon variety and weigh, if possible.
- Compare the ratio of fruit to rind for each melon variety.
- Estimate and record number of seeds in each variety. Determine which variety has the most number of seeds.

Helpful Hint: Coordinate activity with *Taste Testing* (page 1).

For more ideas, visit:
www.harvestofthemonth.com

Physical Activity Corner

- Have students sit on the floor in a circle. Designate one student as the "fruit" to sit in the center of the circle.
- Give all students a melon name: Cantaloupe, Casaba, Honeydew, Watermelon.
- When "fruit" calls out a melon name, all students of that melon exchange places and the "fruit" tries to sit in an empty spot. The student left without a spot becomes the "fruit."
- When "Fruit Salad" is called by "fruit," everyone must find a new place in the circle.

Helpful Hints:

- Have students sit on towels, jackets, or carpet squares.
- Change the locomotor movement frequently (e.g., crawl, belly crawl, creep, crab walk, bear walk).
- For safety, avoid fast movements like running and leaping.

Source: Physical Activity Specialist, Northcoast Region, *Network for a Healthy California,* 2011.

For more ideas, visit:
www.afterschoolpa.com

Cafeteria Connections

Work with school nutrition staff to host a "Melon Contest," celebrating the many varieties of melons.

- Find as many different varieties as possible at local grocery store or farmers' market*.
- Set-up display of melon varieties in cafeteria.
- Decide on contest (e.g., name the varieties; identify the flesh color; estimate the number of seeds in each melon; estimate the circumference of each melon; estimate weight).
- Feature melon varieties on menu throughout month to promote contest. Also, feature students' favorite variety from *Taste Testing* (page 1) as a "menu special" on a designated day.

*Refer to *Botanical Facts* (page 2) for different melon varieties.

Adapted from: Team Nutrition "Food Works," 1995.

Student Champions

Support local growers and California agriculture by promoting farmers' markets.

- Introduce yourself to the local growers and ask if you can help promote sales.
- Make a schedule of farmers' markets in your area. If none are nearby, find out how to get one in your neighborhood.
- Develop a promotional flyer inviting students, friends, and families to visit local farmers' markets.
- Distribute flyers on school campus and in local neighborhoods.
- Increase attendance by hosting a contest or arranging a neighborhood walk to and from the market.

For information, visit:
www.localharvest.org

Literature Links

- **Elementary:** *Anansi and the Talking Melon* by Eric Kimmel, *Melvin's Melons* by Sherry Vaughn, *A Seed Grows* by Pamela Hickman and Heather Collins, *Watermelon Day* by Kathi Appelt, and *We Love Fruit!* by Fay Robinson.
- **Secondary:** *Genetically Modified Food* by Nigel Hawkes and *Melons for the Passionate Grower* by Amy Goldman.

For more ideas, visit:
www.cfaitc.org/books

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CDPH California Department of PublicHealth

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