

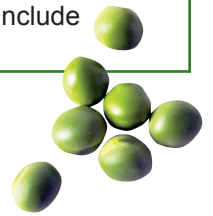
Harvest of the Month



Network for a Healthy California

Health and Learning Success Go Hand-In-Hand

Students' attention, attendance, and test scores improve when they eat breakfast. Additionally, school breakfast programs have been shown to positively impact academic performance, absenteeism, and tardiness among low-income elementary school students. Use *Harvest of the Month* to support academic content standards and teach students lifelong healthy habits that include eating fruits and vegetables and being active every day.



Exploring California Peas: Taste Testing

What You Will Need (per group of 4-6 students):

- ½ cup each of fresh, frozen, and canned green peas
- Nutrition Facts labels for each ½ cup sample*
- Paper and pencils

*Download labels from www.harvestofthemonth.com.

Activity:

- Make chart and label columns as fresh, frozen, and canned; label rows as taste, color, texture, and shape.
- Observe, feel, smell, and taste each sample; record data in chart.
- Review Nutrition Facts labels; discuss similarities and differences in nutrient values.
- Take a poll to determine classroom favorite; share results with school nutrition staff.

Optional: Do Adventurous Activities (page 4) for more analysis.

For more ideas, reference:

Kids Cook Farm-Fresh Food, CDE, 2002.

Cooking in Class: Snow Peas With Mint

Makes 24 tastes at ¼ cup each

Ingredients:

- 2 pounds snow peas
- 4 cups water
- 1 tablespoon vegetable oil
- ¼ teaspoon salt
- ¼ teaspoon pepper
- 1 tablespoon brown sugar
- 12 fresh mint leaves, cut into strips
- Small plates or cups and forks

1. String snow peas by snapping at tops and pulling top toward the opposite end. Place peas in colander and rinse under cold water.
2. Boil water and cook peas for 3 to 4 minutes.
3. Drain peas in colander in sink.
4. Add oil, salt, and pepper to saucepan. Add drained peas. Put on stove over low heat. Stir with spoon.
5. Sprinkle brown sugar over peas. Add mint and stir until peas are well coated. Serve immediately.

Nutrition information per serving:

Calories 22, Carbohydrate 3 g, Dietary Fiber 1 g, Protein 1 g, Total Fat 1 g, Saturated Fat 0 g, Trans Fat 0 g, Cholesterol 0 mg, Sodium 26 mg

Adapted from:

Storybook Stew by Suzanne Barchers and Peter Rauhen (Fulcrum Publishing, 1996).

Reasons to Eat Peas

A ½ cup of fresh or cooked green peas provides:

- An excellent source of vitamin K.
- A good source of vitamin A, vitamin C, fiber, folate, and thiamin*.
- A source of protein and iron.

*Learn about thiamin on page 2.

Champion Sources of Thiamin*:

- Black beans
- Corn
- Fortified whole grain cereal
- Lentils
- Peas
- Pecans
- Sunflower seeds

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

For more information, visit:

www.nal.usda.gov/fnic/foodcomp/search/ (NDB No.: 11304, 11305)



Nutrition Facts

Serving Size: ½ cup green peas, cooked (80g)

Calories 67 Calories from Fat 2

% Daily Value

Total Fat 0g 0%

Saturated Fat 0g 0%

Trans Fat 0g

Cholesterol 0mg 0%

Sodium 2mg 0%

Total Carbohydrate 13g 4%

Dietary Fiber 4g 18%

Sugars 5g

Protein 4g

Vitamin A 13% Calcium 2%

Vitamin C 19% Iron 7%

PEAS



What is Thiamin?

- Thiamin is also called vitamin B₁.
- A water-soluble vitamin, thiamin plays a role in many chemical reactions in the body.
- Thiamin helps keep the body's nerves healthy. It also helps the body use the energy found in food.
- It helps the body's cells convert carbohydrates into energy. It is also essential for the functioning of the heart, muscles, and nervous system.
- A thiamin deficiency can cause weakness, fatigue, and nerve damage.
- Thiamin is part of a family of vitamins called B-complex vitamins. These vitamins have related roles in promoting health. They include: thiamin, niacin, vitamin B₆, folate, vitamin B₁₂, biotin, and pantothenic acid.

For more information, visit:

www.nih.gov

www.nlm.nih.gov/medlineplus

How Much Do I Need?

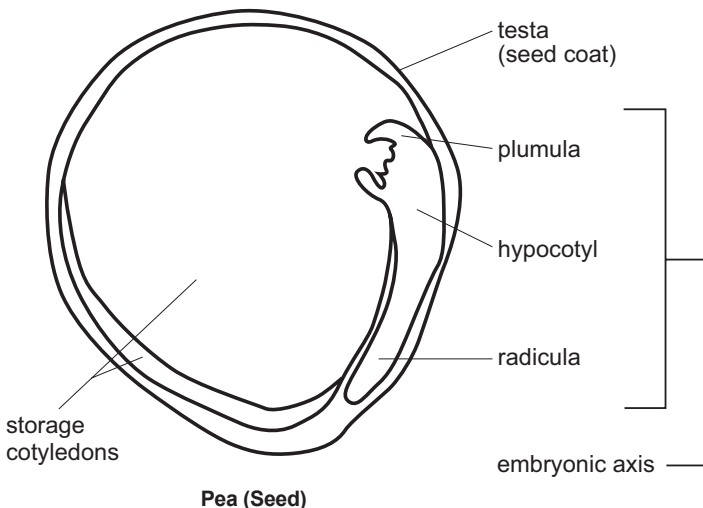
A ½ cup of peas is about one cupped handful. Peas come in a variety of forms – fresh, frozen, canned, and even dried. All forms are nutritious and count toward your daily amount. The amount of fruits and vegetables that each person needs depends on age, gender, and physical activity level. (Look at the chart below to find the recommended daily amount for you and your students.) Encourage students to try peas prepared in different ways (e.g., fresh, cooked) to find their favorite. Adding a variety of colorful fruits and vegetables to all meals and snacks will help students reach their daily amount.

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.



Pea (Seed)

Image adapted from: www.seedbiology.de/hormones.asp.

Download botanical image from www.harvestofthemonth.com.

Botanical Facts

Pronunciation: 'pēz

Spanish name: chícharos

Family: Fabaceae

Genus: *Pisum*

Species: *P. sativum*



Peas are a member of the Fabaceae or legume family, which includes plants that bear pods enclosing fleshy seeds. There are two main kinds of peas: green and edible-pod. Green peas have inedible pods and sweet, full-sized seeds. Most edible-pod peas have seeds that are not yet fully developed.

Throughout much of the world, edible-pod peas are referred to as *mange tout*, a French term meaning “eat all.” They are also nicknamed *snapping peas* for how they can be “snapped” and eaten like green beans.

Pea Variety	Other Names and Specific Varieties
Green peas	Shelling peas, garden peas, English peas
Edible-pod peas	Snow peas, Chinese peas, Oriental or Asian peas, sugar snap peas

For more information, visit:

<http://plants.usda.gov>

<http://ucanr.org/freepubs/docs/7233.pdf>

How Do Peas Grow?

Peas are a low-maintenance, cool weather crop requiring full sunlight and little water. Depending on the variety, pods are harvested five to eight days after flowering.

- **Soil:** 5.5 - 6.8 pH (slightly acidic), well-drained
- **Temperature:** 55 - 65 F
- **Planting:** 1 to 2 inches deep, spaced 2 inches apart
- **Watering:** 1 to 2 inches per week
- **Harvesting:** by hand every 2 to 4 days

Pea plants were originally all vines or climbers (indeterminate), but recent breeding efforts have resulted in dwarf or bush (determinate) plants. The following chart outlines the growing information for the two types of pea plants.

	Bush-type	Vine-type
Size	12-24" tall	12-60" tall
Matures in	40-60 days	60-80 days
Cropping period	1-3 weeks	3-5 weeks
Grows best in	Most areas in California	Along the coast
Support needed	Little fencing, if any	Extensive trellising
Yield	Lower	Higher
Pod to vine ratio	Higher	Lower

For more information, visit:

<http://casfs.ucsc.edu>

<http://postharvest.ucdavis.edu/Produce/ProduceFacts/Veg/Peas.shtml>

School Garden: Peas in a Pod

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:

- Variety of pea seeds (e.g., snow, sugar snap, shelling)
- Garden supports (e.g., poles, netting, stakes, wire fencing)
- Garden area that is well-drained with clay or sandy loam soil; in full sun

Growing Tips:

- Sow seeds in cooler weather.
- Plant seeds 1 to 2 inches deep; space seeds about 2 inches apart.
- Design supports for pea plants.
- As shoots emerge, twine tendrils onto supports.

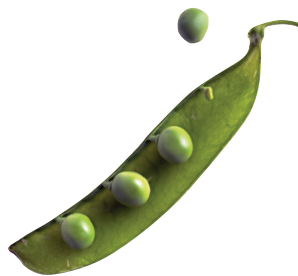
Activity:

- Grades K - 5: Observe pea flowers and study how parts change as they turn into pea pods.
- Grades 6 - 12: Study *thigmatropism**.

*Thigmatropism is the plant tendency to grab onto nearby supports.

Adapted from: www.lifelab.org

For more ideas, visit:
www.kidsgardening.com



Student Sleuths

- 1 What are B-complex vitamins?
- 2 Where are the largest stores of thiamin found in your body? Why does our body need thiamin?
- 3 What causes thiamin to be destroyed when cooking foods by microwave or boiling in water? Which cooking method retains the most thiamin?
- 4 List vegetables included in the legume family. Research the nutrient data of at least five legumes, including the three different forms of peas (use Nutrition Facts labels from the *Taste Testing* activity on page 1).
 - a What are the key nutrients common among legumes?
 - b What health benefits do they provide to the body?
 - c What nutrient is comparatively higher in legumes than in other vegetables?
 - d Make a plan to eat at least three legumes each week.

For information, visit:

<http://aggie-horticulture.tamu.edu>
www.whfoods.com/genpage.php?tname=nutrient&dbid=100



A Pod in Pea History

- Three possible origins of peas include:
 - Middle Asia (Thailand, Burma) with expansion to India through Afghanistan
 - Near East (eastern rim of the Mediterranean)
 - Ethiopia (in plateau and mountain ranges)
- Carbonized pea seeds found in the Near East and Switzerland date back as far as 10,000 years.
- Domesticated pea cultivars appeared shortly after domestication of wheat and barley crops. Early pea varieties have been found among the ruins of Troy and in tombs of Egypt.
- The cultivation of peas spread throughout Europe, India, and China about 4,000 years ago.
- Peas were a dietary winter staple of both peasants and royalty in medieval Europe.
- In 1492, Christopher Columbus planted peas in Santo Domingo, where indigenous people quickly adopted them.
- Easy to grow, peas were commonly planted by early American colonists and later by pioneers traveling west.

For more information, reference:

Spill the Beans and Pass the Peanuts: Legumes, Meredith Sayles Hughes, 1999.

Home Grown Facts

- Green peas are among the top ten most commonly eaten vegetable (fresh, frozen, or canned) by California children.
- California leads in the nation's production of Chinese peas (an edible-pod variety).
- Edible-pod peas are grown year-round in Santa Barbara and San Luis Obispo counties.
- Santa Barbara, San Luis Obispo, Monterey, and Stanislaus counties are the top four producing counties in California, growing more than 80% of the state's supply.

For more information, visit:

<http://ucanr.org/freepubs/docs/7233.pdf>
www.cdffa.ca.gov

Just the Facts

- The sugar snap pea is actually a hybrid of green and snow peas. It was developed in 1979 to make an edible-pod variety with sweeter, full-sized peas.
- Edible-pod peas were specifically bred so that the pods' fibers go in one direction, allowing them to be chewed.
- Today only 5% of all peas grown are sold fresh; over half are canned and most of the rest are frozen.
- One of Thomas Jefferson's favorite vegetables was the English pea. He planted more than 30 varieties of it in his garden at Monticello.

Sources:

www.fruitsandveggiesmatter.gov/month/peas.html
www.ag.uidaho.edu/cereals/nidaho/reports/2006/2006Peas.pdf

Physical Activity Corner

Eating breakfast and being active for at least 60 minutes every day are two healthy habits that students can practice to help improve test scores. Encourage students to jumpstart their day by eating breakfast. Then, start the school day by doing physical activity as a class. If students appear restless during lessons, take an activity break to help students re-focus.

Activity:

- Play upbeat music while students stretch and move/dance around desks.
- Continue for at least 10 minutes.
- Begin lesson plan with students focused on work.

Other Sample Class Exercises:

- Indoor: jumping jacks, stretches, balancing poses
- Outdoor: kick ball, hopscotch, jump rope

For more ideas, visit:
www.bam.gov

Student Champions

Missing or skipping meals interferes with student's brain function, particularly among nutritionally at-risk children. Many people do not eat breakfast, which can impact alertness, attention, memory, problem solving, and mathematics. Have students encourage their classmates to start the day with a nutritious breakfast.

- Invite classmates or another classroom to a breakfast challenge. Make or display posters that include a variety of healthy breakfast ideas.
- Each morning, students record in journals what they ate for breakfast.
- Graph daily how many students ate breakfast.
- At end of school day, students record in journals how they felt during the day.
- Record entries for one week.
- Analyze the breakfast meals (either by food groups or by nutrients consumed). Students compare journal entries describing how they felt.

For more ideas, visit:
<http://docs.schoolnutrition.org/meetingsandevents/nsbw/index.asp>



Cafeteria Connections

- Partner with school nutrition staff to organize a poster contest to promote a monthly theme, campaign, or event, such as:
 - National School Breakfast Week, National Nutrition Month, National Agriculture Week, and/or Read Across America.
- Work with an upper grade class to help promote contest.
- Create different categories for artwork (e.g., grade levels, themes, advertisements).
- Display poster artwork in cafeteria throughout month.
- Facilitate judging of posters at end of month.

For more ideas, visit:
www.fns.usda.gov/eatsmartplayhard/

Adventurous Activities

Math Solutions:

- Measure length and width of green and edible-pod peas*.
- Weigh whole green and edible-pod peas.
- Use a minimum of five pods to calculate averages.
- Take metric measurements.
- Convert to standard measurements.
- Shell peas and calculate average number in one pod.
- Guess how many peas are in one-half cup. Shell peas to find answer.
- Weigh shelled peas (grams) to calculate number of peas in one pound.

*Hint: Use peas from *Taste Testing* activity (page 1).

For more ideas, visit:
www.cfaitc.org
www.harvestofthemonth.com



Literature Links

- **Elementary:** *Eat Your Peas, Louise!* by Pegreen Snow, *Farming & Food* by Jane Shuter, *The Pea Blossom* by Amy L. Poole, *Pick, Pull, Snap!* by Lola Schaefer, *Shante Keys and the New Year's Peas* by Gail Piernas-Davenport, and *The Very Smart Pea and the Princess-to-Be* by Mini Grey.
- **Secondary:** *The Garden-Fresh Vegetable Cookbook* by Andrea Chesman and *Spill the Beans and Pass the Peanuts: Legumes* by Meredith Sayles Hughes.

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

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