

# Harvest of the Month



Network for a Healthy California

## Health and Learning Success Go Hand-In-Hand

Your Local School Wellness Policy (LSWP) can help improve the academic success of your students. Studies show a clear link between nutrition, physical fitness, and academic achievement. Strong bodies and strong minds work together to help students succeed – meaning increased concentration, improved mathematics, reading and writing test scores, and less disruptive behavior. Bring your LSWP to life by incorporating *Harvest of the Month* throughout the year.

## Exploring California Cucumbers: Taste Testing

### Getting Started:

- Partner with your school nutrition staff, local farmers, or grocery stores. Get produce samples for taste testing.

### What You Will Need (per group):

- 2 different varieties of raw, whole cucumbers (rinsed)\*
- 1 dill pickle
- Paring knives and cutting boards
- Napkins/paper towels

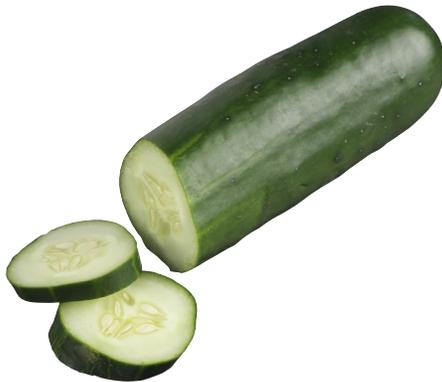
\*Refer to page 2 for a list of varieties.

### Activity:

- Have students make three columns and label with each variety of cucumber and dill pickle. Make five rows and label as: look, feel, touch, smell, taste.
- Examine each item using the five senses. Describe findings in the chart. Discuss similarities and differences as a class.
- Make another grid with the same column labels. Label four rows: sweet, salty, sour, bitter.
- Enter presence or absence of each taste bud sensation. Discuss the similarities and differences as a class.

### For more ideas, reference:

*Kids Cook Farm-Fresh Food*, CDE, 2002.



## Nutrition Facts

Serving Size: ½ cup cucumbers, sliced (52g)

Calories 8      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 2g      1%

Dietary Fiber 0g      1%

Sugars 1g

Protein 0g

Vitamin A 1%      Calcium 1%

Vitamin C 3%      Iron 1%

## Cooking in Class: Chili Cucumbers

### Ingredients:

#### Makes 20 tastes

- 40 whole wheat crackers
- 3 large cucumbers (40 slices)
- Chili powder
- Serving tray and napkins

- Place one cucumber slice on top of a cracker.
- Sprinkle with chili powder. Serve two crackers with napkin to each student.

Source: Monrovia Unified School District

For nutrition information, visit: [www.harvestofthemonth.com](http://www.harvestofthemonth.com)



## Reasons to Eat Cucumbers

A ½ cup of sliced cucumbers provides:

- A good source of vitamin K.
- A source of water, a vital nutrient for the body.\*

\*Learn about water on page 2.

### For information, visit:

[www.nal.usda.gov/fnic/foodcomp/search](http://www.nal.usda.gov/fnic/foodcomp/search)

### Champion Sources of Water:\*

(Percent Water by Weight)

- Cabbage (92%)
- Cantaloupe (90%)
- Celery (95%)
- Cucumbers (96%)
- Grapefruit (90%)
- Honeydew melon (90%)
- Spinach (91%)
- Strawberries (91%)
- Tomatoes (95%)
- Watermelon (91%)

\*Champion sources contain at least 90% water.

### For information, visit:

[www.extension.iastate.edu/nutrition/sport/fluids.html](http://www.extension.iastate.edu/nutrition/sport/fluids.html)

# CUCUMBERS

## What is Water?

- Water is an essential nutrient for all life forms.
- Approximately 60-65% of the human body is made up of water, or about 11-12 gallons for a 150-pound person.
- Every cell, tissue, and organ and nearly every bodily function needs water to operate.
- Water carries nutrients, helps maintain normal body temperature, lubricates joints, and helps get rid of waste products.
- The recommended daily amount of fluid is 64 ounces (or eight cups).
- Water can come from foods, like fruits and vegetables, as well as plain water and other beverages.

## How Much Do I Need?

A ½ cup of sliced cucumbers is about one cupped handful. This is about one medium cucumber. The amount of fruits and vegetables you need depends on your age, gender, and physical activity level. Look at the chart below to find out how much you and your students need.

### Recommended Daily Amounts of Fruits and Vegetables\*

	Kids, Ages 5-12	Teens and Adults, Ages 13 and up
<b>Males</b>	2½ - 5 cups per day	4½ - 6½ cups per day
<b>Females</b>	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](http://www.choosemyplate.gov) to learn more.

Set an example by incorporating *Harvest of the Month* produce into your meals and snacks. Choose at least one day each month to eat with your students. Remind them that eating a variety of colorful fruits and vegetables will help them reach their total daily needs.

## How Do Cucumbers Grow?

The cucumber is a warm weather, tropical plant. Outdoor cucumber plants are *monoecious* (meaning there are both stamens and pistils in separate flowers on the same plant) and produce 10-20 male flowers for every one female flower. When the female flower is pollinated, the cucumbers have seeds. Greenhouse cucumbers are generally *parthenocarpic*. This means the plants only have female flowers (gynoecious), which do not require pollination; therefore, the cucumbers are seedless.

For more information, visit:

[http://vric.ucdavis.edu/main/veg\\_info.htm](http://vric.ucdavis.edu/main/veg_info.htm)

<http://urbanext.illinois.edu/veggies/cucumber1.html>

## Botanical Facts

**Pronunciation:** 'kyü-(,)kəm-bər

**Spanish name:** pepino

**Family:** Cucurbitaceae

**Genus:** *Cucumis*

**Species:** *C. sativus*

Cucumber is an annual plant of the gourd family, Cucurbitaceae.

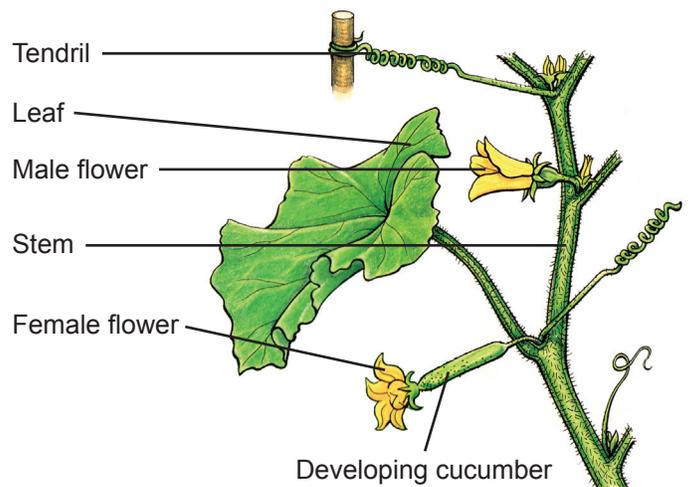
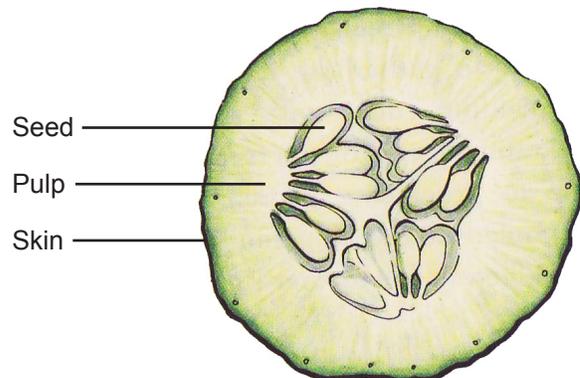
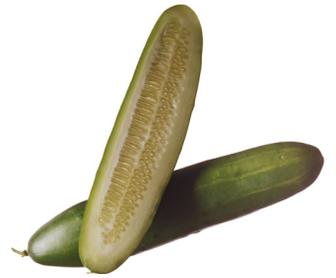
The cucumber species, *Cucumis sativus*, is divided into two categories: slicing and pickling. Slicing cucumbers are usually served raw in salads, sandwiches, sushi, and various snacks. Varieties include Apple, Lemon, Japanese, Persian, and English. Pickling cucumbers are developed specifically for the pickling process. They are generally smaller than slicing cucumbers with a thick, bumpy skin. Pickling varieties include Heinz, Country Fair, and Miss Pickler. Both categories can be grown outside or in a greenhouse.

For more information, visit:

[www.cucurbit.org/family.html](http://www.cucurbit.org/family.html)

[www.lpl.arizona.edu/~bcohen/cucumbers/basics.html](http://www.lpl.arizona.edu/~bcohen/cucumbers/basics.html)

[www.botgard.ucla.edu/html/botanytextbooks/economicbotany/Cucurbita/index.html](http://www.botgard.ucla.edu/html/botanytextbooks/economicbotany/Cucurbita/index.html)



Source: *Cool as a Cucumber, Hot as a Pepper*, Meredith Sayles Hughes, Lerner Books, 1999.

## School Garden: Seasonal Transitions

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.

Spring is prime planting time. Pull up your sleeves, get in the garden, and GROW!

- April is the time to prepare your ground and raised beds for direct seeding and transplanting.
- May through early July is the best time for planting cucumbers, melons, pumpkins, squashes, and gourds.
- Create a garden outside your classroom. There are a number of dwarf varieties in the Cucurbit family that are well-suited to containers. Visit your local nursery and check them out.

For more ideas, visit:

[http://celosangeles.ucdavis.edu/Garden\\_Tips\\_for\\_Los\\_Angeles\\_County/April.htm](http://celosangeles.ucdavis.edu/Garden_Tips_for_Los_Angeles_County/April.htm)

## A Slice of Cucumber History

- Cucumbers were first cultivated in India about 3,000 years ago.
- The cucumber arrived in Europe in the Middle Ages. By the 14th century, cucumbers had migrated to England.
- Columbus transported cucumbers to North America from Spain in the early 16th century.
- European trappers, hunters, and explorers traded cucumbers for squash, pumpkins, and gourds with native tribes of the Great Plains and Rocky Mountains.
- These tribes traded with California Native Americans who used the seeds for planting and roasting.

For more information, visit:

[www.botgard.ucla.edu/html/botanytextbooks/economicbotany/Cucurbita/index.html](http://www.botgard.ucla.edu/html/botanytextbooks/economicbotany/Cucurbita/index.html)

[www.lpl.arizona.edu/~bcohen/cucumbers/history.html](http://www.lpl.arizona.edu/~bcohen/cucumbers/history.html)

## Student Champions

- Water is a vital nutrient for the body. Check the drinking fountains in your school. Do they work? Are they clean? Report findings to site administrators along with a recommended course of action, if needed.
- Conduct a blind taste test using water from tap and bottled water. Be sure both are the same temperature. Which one do students like best? Is there a major difference in taste? What advantages does tap water offer that bottled water does not (minerals, vitamins, convenience, price, etc.)? Have students report findings to school administrators.

Source: Hawthorne School District

For more ideas, visit:

[www.epa.gov/earthday](http://www.epa.gov/earthday)



## Student Sleuths

- 1 Is a cucumber a fruit or vegetable? Make a list of produce items that are considered vegetables but are really fruits, and explain the difference.
- 2 Research the importance of water to health. Why does the body need water?
- 3 How much water does the body need daily? How do you calculate that amount? What is your plan for getting enough water each day?
- 4 What are the “compartments” that hold water in our bodies?
- 5 What does *parthenocarp* mean?

For information, visit:

[www.cdffa.ca.gov](http://www.cdffa.ca.gov)

[www.lpl.arizona.edu/~bcohen/cucumbers/info.html](http://www.lpl.arizona.edu/~bcohen/cucumbers/info.html)

[www.anrcatalog.ucdavis.edu](http://www.anrcatalog.ucdavis.edu)

## Home Grown Facts

- California ranks second in fresh cucumber production nationwide behind Florida.
- California is fifth in the nation in pickling cucumber production.
- Key production counties for fresh market and pickling cucumbers are San Joaquin, San Diego, Ventura, San Benito, and Riverside.\*

\*2007 Data

## Student Activity:

Despite our proximity to such agricultural abundance, we still import many foods from other countries and states. Is shipping food long distances necessary?

- Find out where your food comes from by visiting the produce section of your local store.
- Prepare a proposal for the produce or store manager to include local farmers' produce. Include list of benefits for the store, shoppers, and farmers.
- Compare prices of produce from the grocery store and the local farmers' market. Is there a difference? If so, why do you think this difference exists?

Sources:

<http://edis.ifas.ufl.edu/PI041>

[www.cdffa.ca.gov/statistics/files/CDFA\\_Sec9.pdf](http://www.cdffa.ca.gov/statistics/files/CDFA_Sec9.pdf)

For more information, visit:

[www.epa.gov/students](http://www.epa.gov/students)



## Adventurous Activities

### Science Investigations

- Cucumbers grow best in temperatures from 65-75 degrees Fahrenheit. Convert this to degrees Celsius.
- Place one half of a sliced cucumber in salted water and the other half in plain water. Predict which half will gain or lose weight and how much. Describe what *osmosis* is and how it works in the body.

For more ideas, visit:

[www.harvestofthemonth.com](http://www.harvestofthemonth.com)

### Physical Activity Corner

Stretching prepares the body for exercise by increasing the flow of blood to the muscles. It also helps prevent injuries. Have students stand and do these exercises. Be sure to switch sides and reverse directions.

- **Neck stretch:** Slowly and gently move your head clockwise.
- **Hamstring stretch:** Slowly bend over and reach for your toes. Hold for 15-30 seconds. Keep knees slightly bent.
- **Quadriceps stretch:** Gently bend your right knee behind you, reach back and grab your ankle with your right hand. Bring your heel as close as you can to the back of your thigh or buttocks. Hold for 15-30 seconds. If needed, hold a chair or desk for balance.
- **Triceps stretch:** Extend arms vertically up over your head, slide one hand down the middle of your back and with the other hand grab your elbow and pull it towards the middle of your back. Hold for 15-30 seconds.
- **Extended arm circles:** Extend arms horizontally. Make small circles first, then bigger, then back to small circles.

Adapted from: *Tools for Learning, Fuel for Moving: Performance-Related Nutrition Instructional Materials for Physical Education and Physical Activity Programs, Network for a Healthy California, 2009.*

For more ideas, visit:

[www.cdph.ca.gov/programs/cpns/Documents/Network-ShapeofYoga.pdf](http://www.cdph.ca.gov/programs/cpns/Documents/Network-ShapeofYoga.pdf)



## Just the Facts

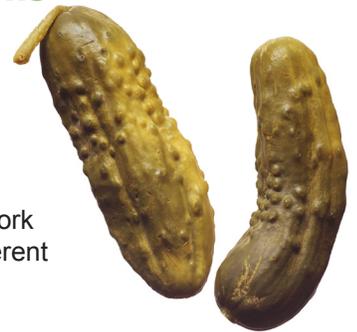
- There are over 800 species in the Cucurbitaceae family and they include cucumbers, gourds, melons, pumpkins, and squashes.
- The inside of a cucumber can be up to 20 degrees cooler than the exterior.
- Per capita, Americans eat about eight pounds of pickles per year.

For more information, visit:

[www.lpl.arizona.edu/~bcohen/cucumbers/history.html](http://www.lpl.arizona.edu/~bcohen/cucumbers/history.html)

## Cafeteria Connections

- Coordinate with school nutrition staff and ask them to provide different varieties of cucumbers\* and pickles.
- Contact your local farmers' market to determine which produce is at its peak and work with a farmer to provide different fruits and vegetables for the tasting event.
- Design small information cards for each featured produce item and include: name, where it is grown, how to eat it, what key nutrients it provides, how to store it, where to buy it, and how much it costs.
- Invite parents to participate and offer suggestions for using the cards at home.



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

Adapted from: *Popular Team Nutrition Events: An Idea Book*, USDA, 2005. [www.fns.usda.gov/tn/Resources/popularevents.pdf](http://www.fns.usda.gov/tn/Resources/popularevents.pdf)

## Literature Links

- Enlist your school librarian or local dietitian to help you find resources on nutrition and plan activities listed in this newsletter.
- Make the recipe from the *Cooking in Class* activity (page 1) and invite your librarian to read a book to your class and lead the activity.

For a list of book ideas, visit:

[www.harvestofthemonth.com](http://www.harvestofthemonth.com)



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