Fall Vegetables

Lesson Three: What do you do with fall harvest crops such as pears and root vegetables?
For November

“Pears” and “Root Vegetables” from HARVEST OF THE MONTH: Network for a Healthy California.
Students learn facts about pears and root vegetables – how they grow, the nutrient content, history – and conduct experiments on ripening pears or dense and loose soil.

Content objectives: Identify key nutrients in pears and root vegetables; recognize reasons to eat pears and root vegetables; describe how pears and root vegetable grow; understand how fruits and vegetables ripen.

Life Skill objectives: Healthy living, Critical thinking, Communication, Cooperation, Decision making, Problem solving, Keeping record

Core and STEM concepts and skills:
Science Science as inquiry, Earth and space, Life science
Math Measurement and observation, Data
Language Arts Speaking, Listening, Writing, Viewing
Social Studies Geography, History

Healthy snack: Party Pear Frisbee, Jicama Cucumber Salad

Additional and supporting resources:
Additional resources are listed in each Harvest of the Month section.
**LESSON PLANS FOR 2012-13 SCHOOL YEAR, GRADE 5**

**November:** What do you do with fall harvest crops such as pears and root vegetables?

**Table of Contents**

<table>
<thead>
<tr>
<th>Section</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lesson Plan Outline: Before, The Lessons, and After</td>
<td>2</td>
</tr>
<tr>
<td>FIGHT BAC: Six Steps to Safer Fruits and Vegetables</td>
<td>4</td>
</tr>
<tr>
<td>Partnership for the Food Safety Education</td>
<td></td>
</tr>
<tr>
<td>FIGHT BAC: Four Simple Steps to Food Safety</td>
<td>6</td>
</tr>
<tr>
<td>North Dakota State University Extension Service</td>
<td></td>
</tr>
<tr>
<td>Lesson Part One: Harvest of the Month: Pears</td>
<td>8</td>
</tr>
<tr>
<td>Network for a Healthy California</td>
<td></td>
</tr>
<tr>
<td>Lesson Part Two: Harvest of the Month: Root Vegetables</td>
<td>17</td>
</tr>
<tr>
<td>Network for a Healthy California</td>
<td></td>
</tr>
</tbody>
</table>

Recipe and Taste Testing Options *(found in the lessons)*
BEFORE THE LESSON
Apples may be the most popular fruit crop that comes from trees. However, pears are also a popular fruit crop that comes from trees. If you look at the ingredient label on many fruit juices, you will find that pear juice is used to combine the main flavors of the juice. There are many popular root crops that are harvested in the fall. Thanks to the Network for a Healthy California Harvest of the Month www.harvestofthemonth.cdph.ca.gov website, we were able to find educator newsletters that included information, recipes, and activities about these two popular fall crops.

1. Grade 5, November: Pears and Root Vegetables
This document contains all the curriculum items and resources you need for this lesson. All lesson downloads are located on the www.peoplesgarden.wsu.edu Educational Toolkit.

2. FIGHT BAC: Six Steps to Safer Fruits and Vegetables is a brochure from Partnership for the Food Safety Education that focuses on tips to keep fruits and vegetable safe to eat and to prevent foodborne illness.
FIGHT BAC: Four Simple Steps to Food Safety is a brochure from North Dakota State University Extension Service that lists tips to clean, separate, cook, and chill food, including fruits and vegetables, to prevent foodborne illness.

You might want to make a simple poster to display in the classroom to remind everyone that about these simple steps. Go over the relevant steps before starting the cooking portion of the lesson.

3. Garden Journals
If you are working with a Garden Journal, have the students prepare two KWL pages about Pears and Root Crops. Fold or divide the paper into thirds and write Know, Want to Know, and Learned at the top of the columns. Finish the first two columns before the lesson and the third column after the lesson. Have them keep the page in their Garden Journal.

4. Pears and Root Vegetables are two lessons that should be done on two different days or over multiple days to meet your class needs. Please read each of the lessons in plenty of time to think through the activities and gather the supplies.

5. Pear and Root Vegetables Recipes
Party Pear Frisbee and Jicama Cucumber Salad recipes are found in their respective lessons which should be done on different days. Be sure to have the ingredients and equipment ready to go before class. Think about how to organize the students and assign tasks to make and serve the recipes. The recipe calls for canned pears; however, you could use locally grown fresh pears. It is not likely that you will find locally grown jicama, but it is generally available in most grocery store produce aisles. Get enough so that everyone can taste plain jicama.

THE LESSONS
Special note: We recommend doing the Pears and Root Vegetables lessons on separate days or multiple days according to your schedule.
1. Remember to review the appropriate food safety steps for produce using the Fight BAC information before you do the cooking activities.

2. **Lesson Part One: Pears**  
A suggested lesson design is included just before the lesson resources from [Harvest of the Month: Pears](#).

3. **Lesson Part Two: Root Vegetables**  
A suggested lesson design is included just before the lesson resources from [Harvest of the Month: Root Vegetables](#).

4. You may want to expand the lesson by choosing other activities from [Harvest of the Month: Pears](#) or [Harvest of the Month: Root Vegetables](#).

**AFTER THE LESSON**  
You may want to check out the fruit and vegetable harvest in your area by taking a field trip to an orchard, patch, garden, or field; by visiting a farmer’s market; or inviting a local grower to talk about the crops he or she grows. You can also visit the local grocery store and identify all the different varieties of pears and root vegetables in the produce aisle and then different ways they are sold in different parts of the grocery store.
Safe Handling of Fresh Fruits and Vegetables

PROVIDED BY THE PARTNERSHIP FOR FOOD SAFETY EDUCATION

Check
- Check to be sure that the fresh fruits and vegetables you buy are not bruised or damaged.
- Check that fresh cut fruits and vegetables like packaged salads and precut melons are refrigerated at the store before buying. Do not buy fresh cut items that are not refrigerated.

Clean
- Wash hands with warm water and soap for at least 20 seconds before and after handling fresh fruits and vegetables.
- Clean all surfaces and utensils with hot water and soap, including cutting boards, counter tops, peelers and knives that will touch fresh fruits or vegetables before and after food preparation.
- Rinse fresh fruits and vegetables under running tap water, including those with skins and rinds that are not eaten. Packaged fruits and vegetables labeled "ready-to-eat", "washed" or "triple washed" need not be washed.
- Rub firm-skin fruits and vegetables under running tap water or scrub with a clean vegetable brush while rinsing with running tap water.
- Dry fruits and vegetables with a clean cloth towel or paper towel.
- Never use detergent or bleach to wash fresh fruits or vegetables. These products are not intended for consumption.

Separate
- When shopping, be sure fresh fruits and vegetables are separated from household chemicals and raw foods such as meat, poultry and seafood in your cart and in bags at checkout.
- Keep fresh fruits and vegetables separate from raw meat, poultry or seafood in your refrigerator.

Cook
- Cook or throw away fruits or vegetables that have touched raw meat, poultry, seafood or their juices.

Chill
- Refrigerate all cut, peeled or cooked fresh fruits and vegetables within two hours.

Throw Away
- Throw away fresh fruits and vegetables that have not been refrigerated within two hours of cutting, peeling or cooking.
- Remove and throw away bruised or damaged portions of fruits and vegetables when preparing to cook them or before eating them raw.
- Throw away any fruit or vegetable that will not be cooked if it has touched raw meat, poultry or seafood.
- If in doubt, throw it out!
MAKE FOOD SAFETY A PRIORITY

The US food supply is among the safest in the world, but organisms that you can’t see, smell or taste – bacteria, viruses and tiny parasites – are everywhere in the environment. These microorganisms – called pathogens – can invade food and cause illness, sometimes severe and even life-threatening, especially in young children, older adults, persons with weakened immune systems and pregnant women.

Fresh fruits and vegetables are important to the health and well-being of Americans and we enjoy one of the safest supplies of fresh produce in the world. However, although low, the proportion of food-borne illness associated with fresh fruits and vegetables has increased over the last several years. As health and nutrition experts continue to recommend we add more fruits and vegetables to a healthy daily diet, it becomes increasingly important that consumers know how to handle them properly.

Handling fruits and vegetables safely is easy. Although an invisible enemy may be in your kitchen, by practicing the following recommendations you can Fight BAC!®

These messages were developed by the Partnership for Food Safety Education. The Partnership for Food Safety Education unites industry associations, consumer and public health groups and the United States Department of Agriculture, the Environmental Protection Agency and from the Department of Health and Human Services, the Centers for Disease Control and Prevention and the Food and Drug Administration, to educate the public about safe food handling and preparation. The Partnership, a non-profit organization, is the creator and steward of the Fight BAC!® campaign, a food safety education program developed using scientifically based recommendations and resulting from an extensive consumer research process. Fight BAC!® materials are fully accessible online at www.fightbac.org and utilized by consumers, teachers, dietitians, public health officials and extension agents across the United States.

Fight BAC!® and BAC! images, © 2004, Partnership for Food Safety Education.

This material made available with support from the Produce Marketing Association. For produce education information and tools, general food safety information and to register to be a BAC!® fighter, visit www.fightbac.org today! For additional food safety information, visit www.foodsafety.gov.
Be a BAC Fighter
Make the meals and snacks from your kitchen as safe as possible. **CLEAN**: wash hands and surfaces often; **SEPARATE**: don’t cross-contaminate; **COOK**: to proper temperatures, and **CHILL**: refrigerate promptly. Be a BAC Fighter and **Fight BAC**!

For More Information about Safe Food Handling and Preparation
USDA’s Meat and Poultry Hotline
1-888-MPHotline (1-888-674-6854);
TTY 1-800-256-7072
www.foodsafety.gov

FDA’s Food Information and Seafood Hotline
1-800-332-4010
Partnership for Food Safety Education Web Site
www.fightbac.org
NDSU Extension Service
www.ag.ndsu.edu/food
Or contact your local cooperative extension office.

For a complete listing of partners, please visit www.fightbac.org

Grade 5-6 Lesson 3 November
Apply the heat... and Fight BAC!
Cooking food to the proper temperature kills harmful bacteria. So **Fight BAC** by thoroughly cooking your food as follows:

<table>
<thead>
<tr>
<th><strong>SAFE COOKING TEMPERATURES</strong></th>
<th>Internal temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ground Meat and Meat Mixtures</strong></td>
<td></td>
</tr>
<tr>
<td>Beef, Veal, Lamb, Pork</td>
<td>160°F</td>
</tr>
<tr>
<td>Chicken, Turkey</td>
<td>165°F</td>
</tr>
<tr>
<td><strong>Fresh Beef, Veal, Lamb</strong></td>
<td></td>
</tr>
<tr>
<td>Medium-rare</td>
<td>145°F*</td>
</tr>
<tr>
<td>Medium</td>
<td>160°F</td>
</tr>
<tr>
<td>Well-done</td>
<td>170°F</td>
</tr>
<tr>
<td><strong>Poultry</strong></td>
<td></td>
</tr>
<tr>
<td>Chicken and Turkey, whole</td>
<td>165°F</td>
</tr>
<tr>
<td>Poultry Parts</td>
<td>165°F</td>
</tr>
<tr>
<td>Duck and Goose</td>
<td>165°F</td>
</tr>
<tr>
<td>Stuffing (cooked alone or in bird)</td>
<td>165°F</td>
</tr>
<tr>
<td><strong>Fresh Pork</strong></td>
<td></td>
</tr>
<tr>
<td>Medium-rare</td>
<td>145°F*</td>
</tr>
<tr>
<td>Medium</td>
<td>160°F</td>
</tr>
<tr>
<td>Well-done</td>
<td>170°F</td>
</tr>
<tr>
<td><strong>Ham</strong></td>
<td></td>
</tr>
<tr>
<td>Fresh (raw)</td>
<td>160°F</td>
</tr>
<tr>
<td>Precooked (to reheat)</td>
<td>140°F</td>
</tr>
<tr>
<td><strong>Eggs and Egg Dishes</strong></td>
<td></td>
</tr>
<tr>
<td>Eggs</td>
<td>Cook until yolk and white are firm</td>
</tr>
<tr>
<td>Egg Dishes</td>
<td>160°F</td>
</tr>
<tr>
<td><strong>Seafood</strong></td>
<td></td>
</tr>
<tr>
<td>Fish</td>
<td>145°F or flesh is opaque and separates easily with fork</td>
</tr>
<tr>
<td>Shrimp, lobster and crab</td>
<td>flesh pearly and opaque</td>
</tr>
<tr>
<td>Clams, oysters and mussels</td>
<td>shells open during cooking</td>
</tr>
<tr>
<td>Scallops</td>
<td>milky white or opaque and firm</td>
</tr>
<tr>
<td><strong>Leftovers and Casseroles</strong></td>
<td>165°F</td>
</tr>
</tbody>
</table>

*Allow three-minute rest time.
SEPARATE: Don’t cross-contaminate

Cross-contamination is how bacteria can be spread. When handling raw meat, poultry, seafood and eggs, keep these foods and their juices away from ready-to-eat foods. Always start with a clean scene—wash hands with warm water and soap. Wash cutting boards, dishes, countertops and utensils with hot soapy water.

- Separate raw meat, poultry, seafood and eggs from other foods in your grocery shopping cart, grocery bags and in your refrigerator.
- Use one cutting board for fresh produce and a separate one for raw meat, poultry and seafood.
- Never place cooked food on a plate that previously held raw meat, poultry, seafood or eggs.

COOK: Cook to proper temperatures

Food is safely cooked when it reaches a high enough internal temperature to kill the harmful bacteria that cause illness. Refer to the chart on the back of this brochure for the proper internal temperatures.

- Use a food thermometer to measure the internal temperature of cooked foods. Make sure that meat, poultry, egg dishes, casseroles and other foods are cooked to the internal temperature shown in the chart on the back of this brochure.
- Cook ground meat or ground poultry until it reaches a safe internal temperature. Color is not a reliable indicator of doneness.
- Cook eggs until the yolk and white are firm. Only use recipes in which eggs are cooked or heated thoroughly.
- When cooking in a microwave oven, cover food, stir and rotate for even cooking. Food is done when it reaches the internal temperature shown on the back of this brochure.
- Bring sauces, soups and gravy to a boil when reheating.

CHILL: Refrigerate promptly

Refrigerate foods quickly because cold temperatures slow the growth of harmful bacteria. Do not over-stuff the refrigerator. Cold air must circulate to help keep food safe. Keeping a constant refrigerator temperature of 40ºF or below is one of the most effective ways to reduce the risk of foodborne illness. Use an appliance thermometer to be sure the temperature is consistently 40ºF or below. The freezer temperature should be 0ºF or below.

- Refrigerate or freeze meat, poultry, eggs and other perishables as soon as you get them home from the store.
- Never let raw meat, poultry, eggs, cooked food or cut fresh fruits or vegetables sit at room temperature more than two hours before putting them in the refrigerator or freezer (one hour when the temperature is above 90ºF).
- Never defrost food at room temperature. Food must be kept at a safe temperature during thawing. There are three safe ways to defrost food: in the refrigerator, in cold water, and in the microwave. Food thawed in cold water or in the microwave should be cooked immediately.
- Always marinate food in the refrigerator.
- Divide large amounts of leftovers into shallow containers for quicker cooling in the refrigerator.
- Use or discard refrigerated food on a regular basis. Check USDA cold storage information at www.fightbac.org for optimum storage times.

CLEAN: Wash hands and surfaces often

Bacteria can be spread throughout the kitchen and get onto hands, cutting boards, utensils, counter tops and food. To Fight BAC®, always:

- Wash your hands with warm water and soap for at least 20 seconds before and after handling food and after using the bathroom, changing diapers and handling pets.
- Wash your cutting boards, dishes, utensils and counter tops with hot soapy water after preparing each food item and before you go on to the next food.
- Consider using paper towels to clean up kitchen surfaces. If you use cloth towels wash them often in the hot cycle of your washing machine.
- Rinse fresh fruits and vegetables under running tap water, including those with skins and rinds that are not eaten.
- Rub firm-skin fruits and vegetables under running tap water or scrub with a clean vegetable brush while rinsing with running tap water.

BAC (foodborne bacteria) could make you and those you care about sick. In fact, even though you can’t see BAC—or smell him, or feel him—he and millions more like him may have already invaded the food you eat. But you have the power to Fight BAC®!

Foodborne illness can strike anyone. Some people are at a higher risk for developing foodborne illness, including pregnant women, young children, older adults and people with weakened immune systems. For these people the following four simple steps are critically important.
Lesson Part One: Pears
The following recommended activities are from Harvest of the Month: Pears.

A. Page 2, “Just the Facts” and the pear diagram (question 8): Reveal the facts after asking the following questions (or have the students research these questions).

1.) Bartlett, Anjou and Bosc are examples of varieties of pears. What is your guess on how many varieties of pears are grown in the United States?

2.) If the state of Washington is the leading apple-growing state, what state is the leading pear growing state?

3.) What is the most popular variety of pear and is the most common canned pear?

4.) Is it better to pick pears from the tree when they are at the peak of ripeness or a little before?

5.) What part of the pear contains the most beneficial nutrients?

6.) Besides eating fresh pears, how else do we eat pears?

7.) What do pears have to do with clarinets and oboes?

8.) What body parts do pears and people have in common? (Where everyone can see it, draw a diagram similar to the one on page 2 of the cross-section of the pear. Have the students guess where the parts are and then label them. The common parts are shoulder, flesh, and skin. Calyx is spelled and pronounced differently than the cowlick we find in our hair.)

B. Page 4, “Adventurous Activities”: Do the Science Investigation to see how quickly pears ripen in different environments. Try to purchase pears that seem to be at the same stage of ripeness. To solve the problem, turn the experiment into a math activity and record your results on a graph with the number of days it took to ripen and types of environments. What method would you use to ripen pears at home? Wrap it up with a couple of healthy activities. Wash and eat the results of your experiment. While eating, talk about ways to increase walking as a good physical activity. Refer to the Calendar Connection and see if your community celebrates Walk to School Week.

C. Page 1: Ask the students to list why it is good to eat pears and read the “Reasons to Eat Pears.” Make the “Party Pear Frisbee” recipe and enjoy eating it! You may want to substitute fresh pears, put them directly on the rice cake and top with a teaspoon of yogurt.

D. Page 3: Work with the school cafeteria by doing something from the “Cafeteria Connections” or “School Garden: Composting” suggestions.
Health and Learning Success Go Hand-In-Hand

School-based nutrition education promoting healthful eating and physical activity can improve academic performance. 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 motivate and support students to make healthy food choices and be physically active every day.

Exploring California Pears: Taste Testing

What You Will Need:
- Variety of red, yellow, green, and brown pears, whole and quartered* (refer to Home Grown Facts on page 3 for varieties)
- One pear variety per every four students
- Whiteboard or chalkboard
- Dry erase markers or chalk
- *To reduce browning (oxidation), cut pears immediately before tasting.

Activity:
- Divide students into four groups (red, yellow, green, and brown pears).
- Make four columns on the whiteboard: red, yellow, green, and brown.
- Each group observes, smells, feels, and tastes their assigned pear.
- Note the different features in the columns on the whiteboard.
- Use descriptive sensory words like sweet, fragrant, yellow, grainy, crunchy, etc.
- Discuss the similarities and differences in the four groups.
- Sample the other colors.

Cooking in Class:
Party Pear Frisbee

Makes 36 tastes at 2 rice cakes with yogurt each

Ingredients:
- 1 (29-ounce) can pear chunks in light syrup, drained
- 4 (6-ounce) containers lowfat vanilla yogurt
- 3½ ounces mini rice cakes

1. Spoon yogurt into a large bowl.
2. Add pears and gently stir until just blended.
3. Place 1 teaspoon of yogurt and 2 pear chunks on top of each rice cake.
4. Place 2 rice cakes in a paper tray.
5. Serve immediately.

Nutrition information per serving:
- Calories 33
- Carbohydrate 7 g
- Dietary Fiber 1 g
- Protein 1 g
- Total Fat 0 g
- Cholesterol 1 mg
- Sodium 1 mg

Adapted from: Tasting Trio Team, Network for a Healthy California, 2010.

For more ideas, ask your school nutrition staff or ask to borrow: Fruits and Vegetables Galore, USDA, 2004.

Reasons to Eat Pears
- A ½ cup of sliced pears contains fiber and vitamin C.
- The edible skin* of pears is an additional source of fiber**.
- Pears offer a natural, quick source of energy, due largely to high amounts of two kinds of monosaccharides (fructose and glucose) and levulose.

*Always wash fruits and vegetables before serving.
**Learn more about fiber on page 2.

Champion Sources of Fiber*:
- Beans
- Berries
- Dates
- Peas
- Pumpkins
- Whole wheat cereals and breads

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

For more information, visit:
www.fruitsandveggiesmatter.gov/month/pear.html
www.nal.usda.gov/fsic/foodcomp/search/(NDB No: 09252)
What is Fiber?
- Fiber is a complex carbohydrate found only in plant foods like fruits, vegetables, grains, nuts, and seeds.
- Fiber contains no calories.
- Fiber comes in two forms: insoluble and soluble.
- Insoluble fiber is known as “roughage” and helps move food through the body to prevent constipation. It also helps control blood sugar levels.
- Soluble fiber helps pull cholesterol out of the body. It also helps control blood sugar levels and keep food in the stomach longer so that you feel full.
- Fiber may help lower the risk of high blood pressure, heart disease, stroke, and some types of cancer.

For more information, visit:
www.eatright.org

How Do Pears Grow?
Pears need a location with good air circulation where the ground is slightly elevated and sloping because the trees bloom early and the flowers may be damaged in the spring by frosty air, which settles in low-lying areas. Pears should be grown in heavier soil types and will not survive on ground that is saturated with water.

The pear tree has glossy leaves and white flowers grouped in corymb, which are pollinated to become the edible fruit. In early spring, bees help the pear trees pollinate from flower to flower on the different pear trees. During the growing season, pear orchards need the ideal warm days and cool nights that are found in California, Oregon, and Washington regions.

Pears do not ripen properly on the tree so growers pick the fruit when it is mature but green. Pears are harvested by hand, placed into bins, and transported to a packing house. The pears are graded for quality, sorted by size, and packed for the fresh market or sent to a processing facility. They are cooled to slow down the ripening process. To initiate ripening, pears need to be brought to room temperature.

For more information, visit:
www.calpear.com

Botanical Facts
Pronunciation: pâr
Spanish name: pera
Family: Rosaceae
Genus: Pyrus
Species: P. communis, P. pyrifolia

Pear is the name for the fruit tree of the genus Malus and for its fruit, a pome, which is edible in most species. There are 30 known species of pears, three of which are important for edible fruit production. The common pear, Pyrus communis or European Pear, is cultivated mainly in Europe and North America, while Pyrus pyrifolia is grown mainly in eastern Asia and is known as the Nashi, Asian, or Apple Pear. The Ya Pear, Pyrus bretschneideri, is also cultivated in Asia.

Other pear species are used as rootstocks for European and Asian pear trees and as ornamental trees. For example, the Bradford Pear (Pyrus calleryana) and Willow-leafed Pear (Pyrus salicifolia) are grown only for decoration and have become widespread in North America.

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

Just the Facts
- There are more than 3,000 varieties of pears worldwide.
- Ninety-eight percent of all pears grown in the United States are grown in California, Oregon, and Washington.
- The Bartlett pear variety is America’s favorite pear.
- Pears ripen better off the tree and from the inside out.
- Pears are best when eaten with the peel, as that is where most of the fiber and antioxidants are found.
- Pears are processed into canned pears, fruit cocktail, juice concentrate, baby food products, and can be dried.
- The wood of pear trees is one of the preferred materials in the manufacture of high quality woodwind instruments.

How Much Do I Need?
A ½ cup of sliced pears is about one cupped handful. This is about half of one medium-sized pear. The amount of fruits and vegetables each person needs depends on age, gender, and physical activity level.

Visit www.mypyramid.gov and have students determine how many cups each 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*

<table>
<thead>
<tr>
<th></th>
<th>Kids, Ages 5-12</th>
<th>Teens and Adults, Ages 13 and up</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Males</strong></td>
<td>2½ - 5 cups per day</td>
<td>4½ - 6½ cups per day</td>
</tr>
<tr>
<td><strong>Females</strong></td>
<td>2½ - 5 cups per day</td>
<td>3½ - 5 cups per day</td>
</tr>
</tbody>
</table>

*If you are active, eat the higher number of cups per day. Visit www.mypyramid.gov to learn more.


**Student Sleuths**

1. Define the following terms and describe what they do in the body: monosaccharides, fructose, glucose, and levulose.

2. Which fruits are eaten with the peel? Which fruits are typically eaten after being peeled? How much fiber is added by eating the peel of fruits like pears, peaches, and apples?

3. Make a list of the snacks you eat regularly. Analyze the sugar and nutrient content of your snacks. How healthy are your snacks? Make a list of snacks that you can eat that are healthier (more nutrients and low in sugar).

4. Research and describe the technique called grafting that is used to grow and cultivate pears. What other fruits use the grafting technique?

5. Label the parts of the pear.

6. Map the various geographical regions in California where pears are grown. What are the top three pear-producing counties in California?

For information, visit:
- www.calpear.com
- www.fruitsandveggiesmatter.gov/month/asian_pear.html
- www.cfaitc.org/factsheets/pdf/Pears.pdf
- www.usapears.com

**Cafeteria Connections**

- Set aside a time each day to discuss the menu with students. Ask which meals they would like to try. How many times is the featured produce included on the menu? Does each meal include a fruit and a vegetable?

- Team up with the school nutrition staff to celebrate National School Lunch Week (NSLW) during the second week of October. NSLW encourages hunger awareness and community involvement, and opens the doors for further nutrition learning and discussions. Take this opportunity to involve your classroom in a particular NSLW activity.

- Visit www.schoolnutrition.org or contact your school nutrition staff for more NSLW information.

For more information, reference:
- School Foodservice Guide — Successful Implementation Models for Increased Fruit and Vegetable Consumption, Produce for Better Health Foundation, 2005, pp. 39-42.

**School Garden: Composting**

Autumn is an excellent time to make a compost pile in your school garden by recycling waste from the garden and cafeteria. Composting is a simple way to add nutrients to depleted soil. Common items used in compost piles include dead bugs, twigs, leaves, hay, fruit and vegetable scraps, and coffee grounds.

**Discussion:**
Nutrient-rich soil helps plants grow optimally. People also need nutrient-rich foods to grow and stay healthy. Discuss with students nutrient-rich foods that grow in the garden and why it is important to eat these foods every day.

For more information on composting, visit:
- www.lifelab.org
- www.foodlandpeople.org
- www.compostingcouncil.org

**Student Advocates**

- Have students work with school nutrition staff to design posters with pear drawings and facts to hang throughout the school and cafeteria. Partner with a local grocery store to hang students’ posters at the checkout stands.

- Help students organize a composting crew with your school nutrition staff to help reduce waste from the cafeteria. See the School Garden activity for details.

For more ideas, visit: www.ciwmb.ca.gov/schools

**A Slice of Pear History**

- Pears date back to ancient times as one of the earliest cultivated fruit trees. The Romans used special grafting techniques to develop more than 50 varieties of pears, which were introduced to other parts of Europe with the rise of the Roman Empire.

- The Bartlett pear was developed in England in the 17th century by a schoolmaster named John Stair. He sold some cuttings from a pear tree (which are used for grafting, a technique for developing new trees and fruit varieties) to a horticulturist named Williams, who further developed the variety and renamed it after himself.

- Early Americans brought pear seedlings across the Atlantic to the Massachusetts Bay Colony. In 1812, nurseryman Enoch Bartlett discovered the pear variety and, unaware of the pear’s true name, distributed it as a “Bartlett.” However, it is still known as the “Williams” pear around the world. Bartlett cuttings eventually came west when the forty-niners headed for the great California Gold Rush and they continue to grow in California today.
Adventurous Activities

Field Trip:
Take students on a pear-picking field trip or to a farmers’ market. Or bring the field trip to the school. For information on Farm to School programs, visit www.cafarmersmarkets.com.

Guest Speaker:
Ask a local pear farmer or horticulturist to hold a hands-on grafting demonstration or explain how they harvest pears.

Problem Solving:
Use pears in math equations, such as addition, subtraction, and fractions, or introduce pie charts and chart the different ways and corresponding percentages that pears are sold.

  - **Example:** Sixty-five percent of pears go to canneries, 25 percent are sold fresh, 10 percent go to baby foods, etc.

Science Investigation:

  - **Materials:** Unripe pears of each variety being tested, thermometers, resealable plastic bags, and supplies as determined by students.

  - **Activity:**
    1. Explain that pears ripen best after they have been picked. Brainstorm variables that may affect the ripening rate.
    2. Create and perform experiments that will test each variable. For example, separate pears in plastic bags. Place one bag in the refrigerator and one on a countertop. Over the next few days, record temperatures and changes in color, firmness, etc. Compare the ripeness of the two sets of fruit.
    3. Discuss the results of each of the performed experiments.

Adapted from: www.cfaitc.org/factsheets/pdf/Pears.pdf

Calendar Connection:

- Participate in **Walk to School Week**. Encourage students to walk with a friend or an adult to school every day. Visit www.cawalktoschool.com for details.

  - **For more ideas, visit:**
    - www.nass.usda.gov/Education_and_Outreach/NASS_Kids
    - www.ars.usda.gov/is/kids

Physical Activity Corner

Eating healthy is only one step toward fighting overweight in youth. Children should engage in at least 60 minutes of physical activity every day to stay healthy and fit, both mentally and physically.

**Objective:**
Develops strength, locomotor skills, and group cooperation

**Activity:**

  - Have students pretend that they are their favorite superhero (or cartoon character) and act out a movement of the character for all the students to do together for about 30 seconds.
  - As students act out their movements have them call out their favorite fruit or vegetable that gives them energy.
  - Repeat until all students have had a turn being a superhero.

Bring It Home:
Encourage students to talk with family members about their favorite superhero and the importance of being active every day.

  - **For more ideas, visit:**
    - www.sparkpe.org

Home Grown Facts

- The California pear harvest begins in mid-July and continues through September.
- Seventy-five percent of California’s pear acreage is for the Bartlett pear.
- California ranks first in Bartlett pear production, producing 60 percent of the nation’s Bartlett crop.
- California ranks second in all pear production, producing 32 percent of all pears grown in the United States.
- Other California varieties include Bosc, Seckel, Comice, and Red Anjou.

Literature Links

- Ask school librarian to promote books about fruits, like pears, to students. For a list of book ideas, visit www.harvestofthemonth.com.
- Invite librarian to classroom to read a book about nutrition or the cycles of a fruit tree.

  - **For book lists, visit:**
    - www.californiahealthykids.org
Pears

Primary

• *Mr. Putter & Tabby Pick the Pears* by Cynthia Rylant (Sandpiper, 1995)
• *Too Many Pears* by Jackie French and Bruce Wheatly (Star Bright Books, 2003)

Secondary

• *A Fruit and Vegetable Man* by Roni Schotter (Little Brown & Co.; 1st Edition, 1993)
• *Pears On A Willow Tree* by Leslie Pietrzyk (Harper Perennial, 1999)

Please note that *Harvest of the Month* book lists are a compilation of books recommended by our partners, including the California Department of Education, California Foundation for Agriculture in the Classroom, and local agencies. These books are neither endorsed nor reviewed by the *Network for a Healthy California*.

If you wish to purchase one of these books with *Network/USDA* funds, please check with your *Network* Program Manager first.

Updated: September 2011
Pears

Source: www.usapear.com
Pears

Nutrition Facts

Serving Size: ½ cup pears, sliced (70g)

<table>
<thead>
<tr>
<th></th>
<th>Calories 41</th>
<th>Calories from Fat 0</th>
</tr>
</thead>
<tbody>
<tr>
<td>% Daily Value</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Fat</td>
<td>0g</td>
<td>0%</td>
</tr>
<tr>
<td>Saturated Fat</td>
<td>0g</td>
<td>0%</td>
</tr>
<tr>
<td>Trans Fat</td>
<td>0g</td>
<td>0%</td>
</tr>
<tr>
<td>Cholesterol</td>
<td>0mg</td>
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</tr>
<tr>
<td>Sodium</td>
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<tr>
<td>Total Carbohydrate</td>
<td>11g</td>
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<tr>
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<tr>
<td>Sugars</td>
<td>7g</td>
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<tr>
<td>Protein</td>
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<td></td>
</tr>
<tr>
<td>Vitamin A</td>
<td>1%</td>
<td>Calcium 1%</td>
</tr>
<tr>
<td>Vitamin C</td>
<td>5%</td>
<td>Iron 1%</td>
</tr>
</tbody>
</table>

Source: www.nal.usda.gov/fnic/foodcomp/search/
NDB No: 09252
# Pear

Rosaceae *Pyrus communis*
(analysis based on *unpeeled* raw Bartlett pear)
Pictured from top: yellow Bartlett, red Bartlett, Bosc, Anjou pears

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<thead>
<tr>
<th>Nutrient</th>
<th>Serving Size</th>
<th>% Daily Value</th>
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<tbody>
<tr>
<td>Carbohydrate</td>
<td>1 Medium Pear</td>
<td>96%</td>
</tr>
<tr>
<td>Dietary Fiber</td>
<td>165 Grams</td>
<td>2%</td>
</tr>
<tr>
<td>Vitamin A</td>
<td>26 Grams</td>
<td>2%</td>
</tr>
<tr>
<td>Vitamin C</td>
<td>5 grams</td>
<td>96%</td>
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<tr>
<td>Thiamin</td>
<td>1 Gram Protein</td>
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<tr>
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</tr>
<tr>
<td>Niacin</td>
<td>2</td>
<td></td>
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<td>Calories</td>
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<tr>
<td>from fat</td>
<td>165 Grams</td>
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</tr>
<tr>
<td>from protein</td>
<td>26 Grams</td>
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</tr>
<tr>
<td>from carbohydrate</td>
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</tr>
<tr>
<td>138 Grams Water</td>
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<tr>
<td>2 Milligrams Sodium</td>
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</tr>
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</table>
Lesson Part Two: Root Vegetables

The following activities are from Harvest of the Month: Root Vegetables.

A. Page 2: Find fresh examples (as a second resort, find pictures) of the root vegetables in the chart under “Botanical Facts”. Then use the following steps to learn about root vegetables.
   1.) Read “Botanical Facts” and start a similar chart where everyone can see it. Using your samples, look at the characteristics of each of the subgroups to see if you can visually see the differences between the subgroups. You may want to wash and taste each of the crops.

   2.) Discuss the root vegetables you grew in the garden. Did you start with seeds, seed pieces, small plants or bulbs? How deep did you plant them? How long did it take for them to produce the vegetable that you ate? How did you harvest them? How many root vegetables grew from one plant? Then read “How Do Root Vegetables Grow” and display the Tuber Plant diagram if possible.

B. Page 1: Read the “Reasons to Eat Root Vegetables” then proceed with the following steps to make “Jicama Cucumber Salad”. Be sure to buy an extra jicama to cut into small samples and taste raw.

   1.) Jicama (the “j” is pronounced with an “h” sound) is a root vegetable that is not commercially grown anywhere in the United States. Does the label on the jicama say where it was from? According to the “Root Vegetable History” on page 3, the Spanish introduced jicama to the Philippines and Malaysia in the 1600s. Why don’t we grow Jicama in the United States? (Find the answer on the Internet.) Talk about other fruits and vegetables found in our grocery store produce aisles that are probably not grown commercially in the United States. Challenge the students to look at the labels the next time they go to the grocery store.

   2.) The recipe also contains cucumbers. Did you grow cucumbers in your garden? Cucumbers are not a root crop; have the students describe how the cucumbers grew. Discuss what kind of a plant limes grow on and whether they grow near where you live. Ask what vegetable chili powder comes from (chili peppers) and if you planted any peppers.

   3.) Look at the ingredient list and talk about the combination of sweet, sour, and spicy flavors from the one fruit and three vegetable ingredients. Talk about other foods that combine similar flavors such as salsa. You may want to read the labels on sauces, dips, entrees, etc. to find similar combinations of sweet, sour, and spicy fruit and vegetable ingredients.

   4.) Assign students tasks to make the salad. Under running water, wash hands and then the jicama, cucumber, and lime. You can use plastic knives and plastic plates to cut the ingredients. Demonstrate how to hold the produce to keep fingers away from the knife blade and always cut with the knife blade down and going away from you. Have an adult cut the jicama into smaller, more manageable chunks, to make it safer for the students to peel and cut into smaller chunks.
C. Page 4, “Physical Activity Corner”
We can enjoy the sunshine, air and life above the ground and we can move around. Root vegetables live and grow in one underground spot their entire life. Celebrate being a person instead of a root vegetable by figuring out how you can form a “walking school bus” and take some younger children for a walk outside.
Health and Learning Success Go Hand-In-Hand

Encouraging students to try new foods through taste tests is a great classroom strategy. Create a safe environment for students to taste new fruits and vegetables. A low-pressure approach to taste testing can help students develop a sense of what they like. Incorporate Harvest of the Month fruits and vegetables into lesson plans and help students expand their eating horizons.

Exploring California Root Vegetables: Taste Testing

Getting Started:
- Partner with your school nutrition staff, local farmers’ market, or grocery store to obtain produce for taste tests.

What You Will Need (per group):
- ½ cup each of raw, peeled, and sliced jicama and turnips
- ½ cup each of cooked* and sliced russet potatoes and rutabagas
- Printed Nutrition Facts labels for jicama, turnips, potatoes, and rutabagas**

Activity:
- Record sensory impressions by creating a Venn diagram on the board.
- Taste vegetables and note the look, texture, smell, color, and taste.
- Ask students to write a reflection or thank you letter to the farmer or school nutrition staff. Include sensory descriptions or reasons why they liked or disliked certain items.
- Examine Nutrition Facts labels for all items. Discuss how they differ nutritionally.
- Refer to Botanical Facts (page 2) and explain how tubers differ from roots.

*Make arrangements to cook (steam) potatoes and rutabagas in advance.
**Download from the Educators’ Corner of www.harvestofthemonth.com.

For more ideas, reference:
Kids Cook Farm-Fresh Food, California Department of Education, 2002.

Cooking in Class: Jicama Cucumber Salad

Ingredients:
Makes 24 tastes at ¼ cup each
- 1 pound jicama, peeled and cut into ½-inch cubes
- 2 medium cucumbers, quartered, and sliced ¼-inch thick
- 1 fresh lime
- 3 teaspoons chili powder
- Small plates and forks

1. Combine jicama and cucumbers in a large bowl.
2. Squeeze lime juice over salad and mix well.

For nutrition information, visit:

Reasons to Eat Root Vegetables
- A ½ cup of most root vegetables provides an excellent source of vitamin C.
- A ½ cup of sliced jicama is a good source of fiber.
- Complex carbohydrates* (commonly referred to as “starches”) are a key nutrient in root vegetables.

*Learn about complex carbohydrates on page 2.

Champion Sources of Complex Carbohydrates*
- Corn
- Dry beans
- Peas
- Sweet potatoes

*Champion foods include those in which most of their calories come from complex carbohydrates.

Source: USDA Nutrient Database

For more information, reference:
What Are Complex Carbohydrates?
- "Starchy vegetables" provide calories in the form of complex carbohydrates. They also provide vitamins, minerals, and fiber.
- The primary function of carbohydrates is to provide energy for the body, especially the brain and nervous system.
- Most people should get 55-60%, or over half, of their total calories from carbohydrates, preferably starches and naturally occurring sugars.
- Complex carbohydrates are made of polysaccharides (long chains of sugar units) that come from plant-based foods.
- The body uses enzymes to break down complex carbohydrates like starch into glucose, which the body then uses for energy.
- In plants, starch is produced by photosynthesis. Tubers store the highest quantities of starch of all vegetables.


For more information, visit: www.fruitsandveggiesmatter.gov

How Much Do I Need?
A ½ cup of sliced root vegetables is about one cupped handful. Root vegetables come in a variety of colors and most can be eaten raw or cooked. The amount of fruits and vegetables you need depends on your age, gender, and physical activity level. Remind students to eat a variety of colorful fruits and vegetables throughout the day. It will help them reach their recommended daily amounts.

Recommended Daily Amounts of Fruits and Vegetables*

<table>
<thead>
<tr>
<th>Subgroup</th>
<th>Varieties</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tubers</td>
<td>Potato, sunchoke, yam</td>
</tr>
<tr>
<td>Tap Roots</td>
<td>Beet, carrot, cassava, jicama, parsnip, radish, rutabaga, turnip</td>
</tr>
<tr>
<td>Tuberous Roots</td>
<td>Sweet potato, yucca</td>
</tr>
<tr>
<td>Corms</td>
<td>Celeriac, eddo, taro, water chestnut</td>
</tr>
<tr>
<td>Rhizomes</td>
<td>Arrowroot, galangal, ginger, ginseng, lotus root, turmeric</td>
</tr>
<tr>
<td>Bulbs</td>
<td>Garlic, onion, shallot</td>
</tr>
</tbody>
</table>

*Refer to Carrots, Potatoes, and Sweet Potatoes newsletters for more information about root vegetable varieties.

How Do Root Vegetables Grow?
Root vegetables are cool-weather crops. Roots such as beets, carrots, radishes, rutabagas, and turnips can be planted in early spring and late summer for two crops. Tubers are a single-crop vegetable that can take up to one year to harvest. Roots need to be thinned so they have enough room to develop properly. Tubers do not require thinning, but they do need plenty of space and soil covering the underground vegetables.


For more information, visit:
www.nccsu.edu/sustainable/profiles/pppotato.html
www.urbanext.illinois.edu/veggies/potato1.html

Botanical Facts
Root vegetables are the roots of plants that are eaten as vegetables. These roots grow into the ground from the base of the plant stem. They anchor the plant, absorb water and nutrients, and store energy. Root vegetables are divided into six subgroups: Tap Roots, Tuberous Roots, Corms, Rhizomes, Tubers, and Bulbs.

Tubers differ from other roots in that they are swollen underground stems, capable of producing new plants and storing energy for the parent plant. If the parent plant dies, the underground tubers can create new plants. Other roots can take nutrients from the ground, but cannot store energy or use it for reproduction. So while every tuber is a root vegetable, not all roots are tubers.*

*If you are active, eat the higher number of cups per day. Visit www.choosemyplate.gov to learn more.

For more information, visit:
http://aggie-horticulture.tamu.edu/extension/specialty

Adapted from: Buried Treasure: Roots & Tubers by Meredith Sayles Hughes, 1998. To download reproducible botanical images, visit the Educators’ Corner at www.harvestofthemonth.com.
School Garden: To Dig or Not to Dig?

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.

Demonstrate the importance of planting in loosened soil. In compacted or dense soil, there is less room for air, making it difficult for water to drain.

Materials:
- 20 root seeds of same variety (e.g., turnips, parsnips)
- 4’ x 8’ unprepared garden area (i.e., soil is hard)
- String
- Markers
- Spading forks

Student Activity:
- Divide garden area in half using string.
- Label one side “Bed A.” Use forks to loosen soil to six inches deep.
- Label the other side “Bed B.” Leave it untouched.
- Plant equal number of seeds in Beds A and B. Record predictions about growth and harvesting in a journal.
- Harvest mature plants and taste the edible parts.
- Write an analysis of which bed was more suitable for plant growth and why. Compare it to original predictions.
  Complete Student Sleuths #5.


Student Champions
- Form a Nutrition Advisory Council to promote nutrition and school meals to student peers.
- Collaborate with school nutrition staff to create a taste testing event, make seasonal produce suggestions, or develop a standardized menu that complies with USDA school meal nutrition guidelines.

For more information, visit:
www.calsna.org/NAC/NAC.asp
www.fns.usda.gov/cnd/menu/menu_planning.doc

Student Sleuths
1. Complex carbohydrates, like those found in starch, provide the body with longer releasing energy. How does this differ from the energy provided by simple carbohydrates?
2. What is a root? What is a tuber? List examples of each.
3. Sweet potatoes (a root) are a good source of potassium. (USDA defines a “good source” as supplying at least 10% daily value of a nutrient per serving.) List three other fruits or vegetables that are good sources of potassium.
4. What is the difference between annual and perennial plants?
5. How do soils become compacted? What happens when the soil becomes compacted? How can we avoid compacting our garden beds?

For information, visit:
www.fruitsandveggiesmatter.gov
www.nal.usda.gov/fnic/foodcomp/search
www.extension.umn.edu/distribution/cropsystems/components/3115s01.html
www.garden.org

A Slice of Root Vegetable History
- Root vegetables were an essential part of the diet during the early evolution of humankind (about five million years ago).
- Turnip fossils were found in caves in China dating back thousands of years.
- Jicama was brought to the Philippines and Malaysia by the Spanish in the 1600s.
- Rutabagas are believed to have originated in Bohemia in the 1700s as a cross between the turnip and wild cabbage.
- American colonists relied heavily on root vegetables because they could be stored for months in the harsh New England winters.

For more information, visit:
www.idph.state.iu.us/pickabettersnack/common/pdf/factsheets/potatoes.pdf
www.ba.ars.usda.gov/hb66/078jicama.pdf
Adventurous Activities

Math Analysis

Compare and contrast the content of predominant nutrients – including vitamins and minerals – in different root vegetable varieties (e.g., jicama, parsnips, rutabagas, turnips, yams, sweet potatoes, potatoes).

Helpful Hint:
Complete in conjunction with Taste Testing activity on page 1.

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

Cafeteria Connections

- Examine the school lunch menu. List the different choices of root vegetables. Have students design posters promoting the nutritional significance of a root vegetable of their choice. Display posters in cafeteria.
- Ask students to select which root vegetables they will try. Record feedback and submit summary to the school nutrition staff with recommendations.
- Promote lunch time as a way for students to obtain maximum nutrition and help meet their daily fruit and vegetable needs. Design promotional messages around fruits and vegetables served that week.

For more ideas, visit:
www.schoolnutrition.org

Just the Facts

- Only the roots of jicama plants are edible.
- Turnips are members of the mustard family.
- The name rutabaga comes from the Swedish word rotbagga, meaning “thick root.”
- The word Daikon comes from two Asian words: dai- (large) and kon (root).

For more information, visit:
www.uga.edu/rootandtubercrops
www.panen.psu.edu/s.n.a.c

Literature Links

- Research the history of turnips and rutabagas in Irish, Scandinavian, and Russian cultures.
- Talk with a local dietitian to identify valid resources for nutrition information. Discuss popular beliefs about carbohydrates and resolve myths and facts.
- If allowed, conduct a taste test in a school library. Have the librarian present literature, such as a book related to food and/or nutrition.

For a list of book ideas, visit:
www.harvestofthemonth.com

Physical Activity Corner

Form a “walking school bus” to promote physical activity. For ideas on how to start a walking school bus, visit www.walkingschoolbus.org. A healthy lifestyle consists not only of a healthy overall diet, but also plenty of physical activity. The recommended amount of physical activity for children is 60 minutes on most days and 30 minutes for adults.

For more information, visit:
www.cawalktoschool.com

Activities & Resources Galore

Visit the Educators’ Corner online for more resources:
- Cooking in Class (recipe analyses, cooking tips)
- Reasons to Eat (Nutrition Glossary)
- How Does It Grow (botanical images, growing tips)
- Student Sleuths (Answer Key)
- Adventurous Activities
- Literature Links (book lists)
- Links to California Content Standards (all grades)

Root Vegetables

Primary

- *Blue Potatoes, Orange Tomatoes* by Rosalind Creasy (Sierra Club Books for Children, 1997)
- *The Life Cycle of a Carrot* by Linda Tagliaferro (Capstone Press, 2007)
- *Tops and Bottoms* by Janet Stevens (Harcourt Brace and Company, 1995)
- *The Vegetables We Eat* by Gail Gibbons (Holiday House, 2007)

Secondary

- *Blue Potatoes, Orange Tomatoes* by Rosalind Creasy (Sierra Club Books for Children, 1997)
- *Food in Colonial and Federal America* by Susan Oliver (Greenwood Press, 2005)
- *Food in the United States, 1820’s – 1890* by Susan Williams (Greenwood Press, 2006)

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Updated: September 2011
Root Vegetables

Adapted from: Buried Treasure: Roots & Tubers by Meredith Sayles Hughes, 1998.
How Do Root Vegetables Grow?

Roots and tubers are cool-weather vegetables. Root vegetables such as beets, carrots, radishes, rutabagas, and turnips can be planted in the early spring and late summer for two crops. Tubers are a single crop vegetable that can take up to a year to harvest. Root vegetables need to be thinned so they have enough room to develop properly. Tubers do not require thinning, but they do require space and plenty of soil covering the underground vegetables.

Soil, climate, and other conditions can affect the amount of capsaicin in a pepper, so that peppers of the same variety – even on the same plant – can vary in hotness. Habanero peppers contain the highest concentration of capsaicinoid and are the hottest pepper variety.

<table>
<thead>
<tr>
<th></th>
<th>ROOTS</th>
<th>TUBERS</th>
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<tbody>
<tr>
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<td>60-70 degrees F</td>
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<td>Soil Type and pH level</td>
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<td>Deep, sandy and well draining; pH level between 5.5-6.2</td>
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<tr>
<td>Irrigation</td>
<td>Requires regular watering</td>
<td>Requires regular watering</td>
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<tr>
<td>Planting</td>
<td>Annual crop requires direct seeding</td>
<td>Perennial crop started from slips or eyes of the produce</td>
</tr>
</tbody>
</table>

For more information, visit:
www.ncsu.edu/sustainable/profiles/pppotato.html
http://urbanext.illinois.edu/veggies/potato1.html
# Jicama

## Nutrition Facts

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<th>Quantity</th>
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<td>20%</td>
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</tr>
<tr>
<td>Iron</td>
<td>2%</td>
<td></td>
</tr>
</tbody>
</table>

NDB No: 11603
Russet potato

### Nutrition Facts

<table>
<thead>
<tr>
<th>Serving Size: ½ small russet potato, baked with skin (69g)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Calories</td>
<td>67</td>
</tr>
<tr>
<td>% Daily Value</td>
<td></td>
</tr>
<tr>
<td>Total Fat</td>
<td>0g</td>
</tr>
<tr>
<td>Saturated Fat</td>
<td>0g</td>
</tr>
<tr>
<td>Trans Fat</td>
<td>0g</td>
</tr>
<tr>
<td>Cholesterol</td>
<td>0mg</td>
</tr>
<tr>
<td>Sodium</td>
<td>10mg</td>
</tr>
<tr>
<td>Total Carbohydrate</td>
<td>15g</td>
</tr>
<tr>
<td>Dietary Fiber</td>
<td>2g</td>
</tr>
<tr>
<td>Sugars</td>
<td>1g</td>
</tr>
<tr>
<td>Protein</td>
<td>2g</td>
</tr>
<tr>
<td>Vitamin A</td>
<td>0%</td>
</tr>
<tr>
<td>Vitamin C</td>
<td>27%</td>
</tr>
<tr>
<td>Calcium</td>
<td>4%</td>
</tr>
<tr>
<td>Iron</td>
<td>3%</td>
</tr>
</tbody>
</table>

Other nutrients: Vitamin B6 (27%), Potassium (24%), Magnesium (11%), Folate (10%), Niacin (10%), Thiamin (7%)

NDB No: 11356
## Rutabagas Nutrition Facts

**Serving Size:** ½ cup cooked rutabagas, cubed (85g)

<table>
<thead>
<tr>
<th>Nutrient</th>
<th>Value</th>
<th>% Daily Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calories</td>
<td>33</td>
<td></td>
</tr>
<tr>
<td>Calories from Fat</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Total Fat</td>
<td>0g</td>
<td>0%</td>
</tr>
<tr>
<td>Saturated Fat</td>
<td>0g</td>
<td>0%</td>
</tr>
<tr>
<td>Trans Fat</td>
<td>0g</td>
<td></td>
</tr>
<tr>
<td>Cholesterol</td>
<td>0mg</td>
<td>0%</td>
</tr>
<tr>
<td>Sodium</td>
<td>17mg</td>
<td>1%</td>
</tr>
<tr>
<td>Total Carbohydrate</td>
<td>7g</td>
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</tr>
<tr>
<td>Dietary Fiber</td>
<td>2g</td>
<td>6%</td>
</tr>
<tr>
<td>Sugars</td>
<td>5g</td>
<td></td>
</tr>
<tr>
<td>Protein</td>
<td>1g</td>
<td></td>
</tr>
<tr>
<td>Vitamin A</td>
<td>0%</td>
<td></td>
</tr>
<tr>
<td>Calcium</td>
<td>4%</td>
<td></td>
</tr>
<tr>
<td>Vitamin C</td>
<td>27%</td>
<td></td>
</tr>
<tr>
<td>Iron</td>
<td>3%</td>
<td></td>
</tr>
</tbody>
</table>

Other nutrients: Potassium (8%), Magnesium (5%)


NDB No: 11436
Turnips

Nutrition Facts

Serving Size: ½ cup raw turnips, cubed 
(65g)

<table>
<thead>
<tr>
<th>Nutrient</th>
<th>Amount</th>
<th>% Daily Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calories</td>
<td>18</td>
<td></td>
</tr>
<tr>
<td>Total Fat</td>
<td>0g</td>
<td>0%</td>
</tr>
<tr>
<td>Saturated Fat</td>
<td>0g</td>
<td>0%</td>
</tr>
<tr>
<td>Trans Fat</td>
<td>0g</td>
<td></td>
</tr>
<tr>
<td>Cholesterol</td>
<td>0mg</td>
<td>0%</td>
</tr>
<tr>
<td>Sodium</td>
<td>44mg</td>
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</tr>
<tr>
<td>Total Carbohydrate</td>
<td>4g</td>
<td>1%</td>
</tr>
<tr>
<td>Dietary Fiber</td>
<td>1g</td>
<td>5%</td>
</tr>
<tr>
<td>Sugars</td>
<td>2g</td>
<td></td>
</tr>
<tr>
<td>Protein</td>
<td>1g</td>
<td></td>
</tr>
<tr>
<td>Vitamin A</td>
<td>0%</td>
<td></td>
</tr>
<tr>
<td>Vitamin C</td>
<td>23%</td>
<td>Iron 1%</td>
</tr>
<tr>
<td>Calcium</td>
<td>2%</td>
<td></td>
</tr>
</tbody>
</table>

Source: www.nal.usda.gov/fnic/foodcomp/search/ NDB No: 11564
Potato
Solanaceae *Solanum tuberosum*
(analysys based on *unpeeled*, microwave-baked potato—with skin eaten)
Pictured from top: round red, russet, long white, round red, small round white, russet, red creamer potatoes