

Potatoes



COOKING IN THE CLASSROOM

Waved Chips

Serves: 32, Prep: 25 minutes. Adapted from www.allrecipes.com

Ingredients:

- 1 large yukon gold potato
- Spray cooking oil
- Salt

Directions:

1. Prep a cooking surface for your potato chips by lining your microwave with parchment paper or using a large microwave safe plate. Alternatively, the microwave tray may be used once thoroughly cleaned. Lightly spray the cooking surface of your choice with cooking oil.
2. Scrub the potatoes, then slice them paper thin with a vegetable peeler. Place the potato slices in a single layer on top of of your oiled cooking surface. Season with salt.
3. Cook on high power for 8 minutes, or until potato slices are browned and crisp, testing and adjusting the time as necessary since all microwaves cook differently. Remove potato chips from the microwave and cool on a rack. Repeat these steps to cook the remaining potato slices.

HOW IT'S GROWN

Potatoes are grown as annual plants, meaning they have one life cycle beginning with germination, then flowering and harvesting before the plant dies. Most potato crops are planted in spring, and harvested in the fall. All potato plants look something like the picture below.

The part of the plant we call a "potato" grows underground and is a "tuber".

It is surprising for many people that potato plants produce flowers - sometimes very attractive ones. The fruits that grow from these flowers look a lot like green tomatoes, but they are not edible.

There are many different kinds of potatoes grown in Washington. Most of them are brown-skinned with white flesh, and are called "russets." Russet Burbank is the most common variety of russet potato. It is grown for French fries and for grocery stores. Other varieties grown in Washington produce yellow, red, and blue potatoes.

There is not enough rain in Washington during the summer to grow potatoes within irrigation. Many fields in Washington are irrigated (watered) using sprinkler systems.

Unlike many crops we eat, potatoes are not grown from seed. Instead, we plant "seed potatoes", which resemble small potatoes and grow stems and roots from the "eyes".

Potatoes are carefully harvesting starting around the 4th of July through October depending on the location and variety of potato. If stored correctly (in a dark, dry and cool environment) some potatoes can be stored for up to 12 months.

Definitions:

Tuber:

A specialized underground stem where a plant stores extra energy in the form of starch.

Annual Plant: An annual plant is a plant that usually germinates, flowers, and dies in a year or season.

For more information, see:

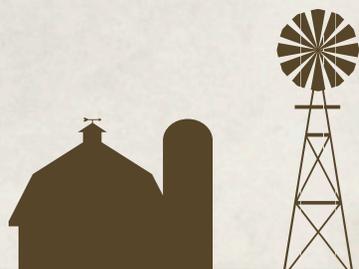
<http://www.potatoes.com/ProductionFarming.cfm>

DID YOU KNOW?

- Washington state potatoes come in a variety of shapes, sizes and colors; with names like Russets, Reds, Whites, Yellows/Golds, Blue/Purples and Fingerlings.
- A whole Washington potato is nutrient dense with more potassium than a banana, the protein of half a glass of milk and enough Vitamin C to meet 50% of your daily needs.
- Unfortunately for our health, most potatoes are not eaten whole, 87 percent of the Washington potato crop is sold to processors who transform them into fries, chips and mashed potatoes.
- At least nine out of every ten Washington potatoes are sold outside of our state, i.e. Japan purchases approximately 65 percent of the french fries made from Washington potatoes!

For more information, see:

<http://www.potatoes.com/PotatoKids-History.cfm>



SCHOOL GARDEN

WINTER FOCUS: SPROUTING SPUDS

Study science with your students by learning how to grow potatoes. Ask your class to bring in old potatoes that have begun to sprout or download images online. New potato plants grow (sprout) from the buds (eyes) on the skin surface of potato tubers (potato tubers are simply potatoes we buy in the store). Potato tubers are naturally dormant for a period of time after harvesting. Sprouting at the eyes indicates that the tuber is no longer dormant. To break dormancy, store dormant tubers in a lighted area at room temperature for a few days.

Cut your seed potatoes so that each piece is about the size of an egg with at least one eye per seed piece. Typically one pound of potatoes will make about six to eight seed pieces. Potatoes grow best in full sun and well drained soil, therefore discussing how potatoes grow may be more successful than planting them in your Seattle school garden!

How many times have one of your potatoes started to sprout before you have had time to use it? We could attempt to plant a portion of this potato, but since potatoes are commonly affected by disease, it's suggested to plant "potato seeds" purchased at a local nursery for better results.

For more information, see:

http://solutionsforyourlife.ufl.edu/hot_topics/lawn_and_garden/potatoes_home_garden.html



BOTANY

Family: Solanaceae | Genus: Solanum | Species: *S. tuberosum*

Potatoes were first cultivated by the Incas and known as papas. When the potato traveled to Spain, the Spanish referred to this tuber as batata. (Today, they use the term patata.) The French came to call it pomme de terre ("apple of the earth"), while the English coined it potato. The potato has several English nicknames including taters, murphies and spuds, the latter in reference to a spadelike tool — a spudder — used for digging. Prior to the Industrial

JUST THE FACTS

- Potatoes grow underground, but are actually swollen stems, not roots.
- South America is the birthplace of the "Irish" white potato that we eat today. The Amymara and Incan Indians of Peru and Bolivia developed more than 200 potato varieties.
- Spanish Conquistadors brought potatoes back to Europe in the 1400s. High in Vitamin C, potatoes were beneficial ship cargo as sailors who ate them did not suffer from scurvy, a disease associated with too little vitamin C in the diet.
- An 8-ounce baked potato has only 150 calories.
- The average American eats about 126 pounds of potatoes per year.

For more information, see:

<http://www.potatoes.com/>

LITERATURE LINKS

K-2

Potato Joe by Keith Baker (Harcourt, 2008)

Potatoes, Potatoes by Anita Lobel (Greenwillow, 2004)

Two Old Potatoes and Me by John Coy (Alfred A Knopf, 2003)

3-5

Buried Treasure: Roots and Tubers by Meredith Sayles Hughes (Lerner Publications 1998)

The Spud Syllabus: All about Fresh Washington Potatoes (Washington State Potato Commission, 2003)

The Amazing Potato: A Story in Which the Incas, Conquistadors, Marie Antoinette, Thomas Jefferson, Wars, Famines, Immigrants, and French Fries All Play A Part by Milton Meltzer (Harper Collins, 1992)

Revolution, people planted and harvested potatoes with spudders.

Members of the nightshade family, potatoes come in more than 200 varieties. These are often categorized as first earlies, second earlies and main crop, based on when they are harvested. First earlies includes new potatoes, which are harvested before the sugars have fully converted to starch, resulting in a flesh that is crisp and waxy. Second earlies are larger and have a waxy and moist flesh (ideal for broiling and roasting). Main crop potatoes are harvested when fully developed and can store for long periods. The most common American main crop variety, the Russet Burbank potato, was named after horticulturist Luther Burbank.

Reprinted from:

http://www.harvestofthemonth.com/download/Summer/Potatoes/pot_edu_2.pdf

STUDENT SLEUTH

1. Potatoes are enjoyed all around the world. However, you probably know that the dishes people make and the way in which they eat varies. For example, people in Ireland and Russia eat potatoes every day, while potatoes are a special holiday food for people of the Jewish faith. Does your family eat potatoes? When and how? Share your potato traditions and research another culture's experience with potatoes as well.

For more information, see:

<http://4h.wsu.edu/projects/publications/foods/ECG.pdf>

2. Have you ever seen a potato plant? Does a potato grow from a tree like an apple, above the ground like lettuce, or underground like carrots? What is a tuber? Draw a picture of a potato plant and label the following plant parts: flowers, leaves, stem, soil, tubers, and eyes.

For more information, see:

<http://www.potatoes.com/pdfs/KidsPDFs/Entire%20Coloring%20Book.pdf>

3. Potatoes suffer from a negative reputation because people prepare them in ways that add a lot of fat to our diets. Do an online search of "potato recipes" and jot down the high fat ingredients that are listed in a handful of recipes like cream, butter and cheese. Now google healthy potato recipes and see how potatoes are prepared with less fat. Print out the healthy potato recipe that looks tasty to you. Compare it with the list of ingredients in a typical potato dish. Does your healthy recipe look lower in fat? Share your findings with the class.



ADVENTUROUS ACTIVITIES

HISTORY

Take a trip around the world by exploring the "roots" of potato history. The potato story begins in South America, then makes it's way to Europe, where potatoes become a player in the devastating Irish famine. This leads to many Irish citizens immigrating to the United States; bringing the potato back to the Americas and popularizing them among Northerners.

For more information, see:

<http://www.potatoes.com/>

PROBLEM SOLVING/MATH

Use a variety of Washington grown potatoes (new potatoes, yellows, russets, fingerlings) for the following problems. Estimate the weight of each potato 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?

STUDENT ADVOCATES

Potatoes are the nation's leading vegetable crop. Fifty percent are processed, while the remaining are marketed as fresh. Work with a classroom or student group to create a bulletin board illustrating the nutritional differences between fresh and processed potato products.

Detail nutrient values of the following potato products: baked potato (with optional vegetable toppings like salsa and broccoli), mashed potatoes, potato chips (fried), and hash browns. Use labels from packages or visit www.nutritiondata.com. Compare similar serving sizes (e.g., one cup) for each product. In your chart, include columns for calories, fat, protein, Vitamin C, fiber and sodium. Describe the differences in fat, caloric and nutrient content between these products. Draw conclusions as to why they are different.

Display the "fresh vs. processed potato" bulletin board in the school cafeteria. Discuss the health benefits and risks of each product with students, parents and school staff like your kitchen manager and principal. What can your school do to offer potatoes with less fat and salt and more of the good stuff like fiber and Vitamin C?

For more information, see:

http://www.harvestofthemonth.com/download/Summer/Potatoes/pot_edu_2.pdf



HEAL IS A collaboration between Seattle Public Schools nutrition services, health education, physical education and risk management departments.

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