

COOKING IN THE CLASSROOM

Breakfast Bulgur with Fruit

Preparation time: 20 minutes

Ingredients:

1 cup bulgur

1 ¾ cup low fat milk

1/3 cup dried fruit like raisins or apricots

Pinch of salt

2 Tablespoons brown sugar

1 teaspoon cinnamon

1 cup chopped fresh fruit like apples or pears

Directions:

Place bulgur, milk, dried fruit, salt, sugar and cinnamon in a large microwave safe bowl and cook on high heat for two minutes and 30 seconds. Keep in mind that each microwave is different and you may have to experiment a bit with the cooking time or stir every so often. Remove the bowl from the microwave when the cooking time is complete. Stir. Cover the bowl and let stand for about seven minutes. Stir once again, adding the fresh fruit.

Serves: 24 sample portions (2 Tablespoons each). Serve in Dixie cups or tasting cups with spoons.

Whole Wheat

HOW IT'S GROWN

Wheat is a relative of the grass plant. (Have you ever seen grass get very tall and grow seeds? It looks like tiny wheat plants!) In our state, wheat is planted and harvested at many different times of the year. This depends on the variety of wheat a farmer wants to grow.

There are six main kinds of wheat grown in this country: hard red winter, hard red spring, soft red winter, hard white, soft white, and durum. "Hard" and "soft" describe how hard the grain is to grind. These six varieties also have different color grains and are planted in different seasons.

After it is planted, wheat grows in four main stages. Tillering happens first. This is when the first shoot comes out of the ground, followed by other new shoots that start to grow closer together. Next comes jointing, where the larger shoots grow joints (nodes) that turn into the new branches or leaves. This helps the plant get taller, get more sunlight to make nutrients, and balance itself. The third stage is booting, where the "head" of the plant comes out of the top, wrapped inside of a new leaf. Last, the head unwraps itself during flowering.

The wheat plant now turns from green to golden brown, and then the wheat is harvested. Most farmers use a machine called a combine to cut the wheat (called reaping) and separate the wheat grains from the rest of the plant (called threshing). Grain trucks take the wheat to grain elevators for storage, where it waits until someone buys it. Then it will



travel by boat, train, or truck to a mill to be ground into flour, to a local baking company or restaurant for cooking, or to another country around the world.

Source: <http://www.wheatfoods.org/UrbanWheatfield-25/Index.htm>

DID YOU KNOW?

- There are five main kinds of wheat grown in Washington: soft white, hard red winter, hard red spring, hard white, and durum wheat.
- The first wheat in the Pacific Northwest was planted in 1825 at Fort Vancouver, Washington.
- Farmers plant "winter wheat" in the fall and harvest it the next summer. They plant "spring wheat" in spring and harvest it in early fall.
- Whitman County has been the #1 wheat-growing county in the United States since 1978!
- 85-90% of Washington's wheat is exported to other countries around the world.

Source: *Washington Wheat Facts 2009-2010*, by the Washington Grain Commission

SCHOOL GARDEN

SPRING FOCUS: PLANTING SEEDS

It's time to start thinking about your garden outside! Even though it might still be chilly, many seeds can be planted directly into the ground. You can give others a head start by planting them indoors, then transplanting them later. Seeds, whether they are wheat berries (kernels), beans, squash, or watermelon, are basically "sleeping." Teach the class about how seeds wake up and begin to sprout, which begins when they absorb water.

For more information on seed germinating and questions for classroom gardeners to explore, see <http://www.kidsgardening.org/Dig/DigDetail.taf?ID=901&Type=Art>

To read about how to start seeds indoors or outdoors, and how to transplant them, see <http://www.kidsgardening.com/2005.kids.garden.news/april/seeds.html>

JUST THE FACTS

- Make sure that bread and other package labels have the words "WHOLE wheat."
- Wheat is actually a relative of grass. After harvesting the kernels, the rest of the plant we don't eat is turned into straw for animal beds.
- Humans have been grinding grains like wheat since before 6,700 B.C. At that time they ground it with rocks instead of machines.

- Per person, Americans eat more wheat than any other food.
- The tool that farmers use to put the wheat seed in the ground is called a "grain drill."
- The complex carbohydrates in whole wheat bread give us longer-lasting energy than white bread.

LITERATURE LINKS

K-2

The Little Red Hen, multiple authors

Bread is for Eating, David Gershator (Henry Holt and Co., 1998)

Bread, Bread, Bread, Ann Morris (HarperCollins, 1993)

Everybody Bakes Bread, Norah Dooley (Carolrhoda, 1995)

Bread Comes to Life: A Garden of Wheat and a Loaf to Eat, George Levenson (Tricycle, 2008)

Wheat, the Golden Harvest, Dorothy Hinshaw Patent (Dodd Mead, 1987)

From Grain to Bread, Ali Mitgutsch (Carolrhoda, 1981)

Winter Wheat, Brenda Z. Guiberson (Henry Holt & Co., 1995)

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Wheat, Elaine Landau (Children's Press, 2000)

The Biography of Wheat, Jennifer D. B. Lackey (Crabtree, 2007)

The Science of a Loaf of Bread, Andrew Solway (Gareth Stevens, 2009)

BOTANICAL FACTS

Family: **Poaceae**

Genus: **Triticum**

Species: **(multiple)**

Wheat was first planted in crops by humans in 67,000 B.C. in the Fertile Crescent or Nile Delta part of the world, probably in Turkey. It originally came from a wild grass. Wheat was a great crop because it could be planted in drier soil, it could be planted in very large amounts, it pollinated itself, and it stored well after it was harvested. This means that it could feed people for many months! Wheat first spread from the Fertile Crescent to be grown in places like Greece and India, Egypt, Germany and Spain, England and Scandinavia, and then China.

Each of the main varieties of wheat has different amounts of protein, carbohydrates, and water. This means that each kind is better for baking some foods than others! Durum wheat is best for making into semolina flour

for pasta or couscous. It is also left whole or cracked to make bulgur. You can eat that as a hot cereal like oatmeal or cook it like rice to eat with stew or in recipes like tabbouleh. Soft red winter wheat has less protein, so it makes great cakes, muffins and pies. Soft white also makes great pastry. Bread can be made from hard red spring or hard red winter wheat, and hard white is used for brewing and bread. There are other ancient varieties of wheat, with names like emmer (farro), einkorn, and spelt.

Find a worksheet diagram of wheat plant parts and vocabulary words here: Have students complete a diagram of the wheat plant, found here: <http://oklahoma4h.okstate.edu/aic/lessons/primary/wheat2.pdf>
Source: <http://en.wikipedia.org/wiki/Wheat>

STUDENT SLEUTH

1. In what part of Asia did people first grow wheat nearly 10,000 years ago? (the Fertile Crescent)
2. When we grind a bushel of wheat, would it give us more white flour or more whole wheat flour? (whole wheat)
3. Most kinds of wheat grown between ___ and ___ feet tall. (2-4)
4. What are the three main parts of wheat? (bran, germ, endosperm)
5. How many kernels of wheat are in a pound? (15,000-17,000)
6. This kind of wheat is planted in the fall and harvested in the spring. (hard red winter)
7. What kind of wheat is used to make most pasta? (durum)

Students can investigate the answers here: <http://oklahoma4h.okstate.edu/aic/lessons/extras/facts/wheat.html>

ADVENTUROUS ACTIVITIES

WRITING

Take inspiration from the “amber waves of grain,” line in “America the Beautiful” and have students write a song or poem about whole wheat foods or the wheat process. Fortunately for young poets, lots of words rhyme with “wheat”! For younger students, create a collective poem or fill-in-the blank poem involving words that rhyme with wheat.

SOCIAL STUDIES & WRITING

From pitas to tortillas to baguettes to chapatis, most cultures have some form of bread. Use books like *Bread, Bread, Bread* or *Everybody Bakes Bread* to introduce students to the wheat products eaten across the world (or, simply introduce the topic and begin to brainstorm). Assign students an item or a country to research. Post their paragraphs and printed pictures on a world map.

SCIENCE

Learn about the bread-making process by making whole wheat pretzels in class. Students can practice using measuring spoons and cups, learn about cooking techniques, and understand the science of how yeast helps it rise. Each student can roll and shape her/his own pretzel. Coordinate with your school’s kitchen manager

about a good time to borrow pans, preheat the ovens, and bake the pretzels. For a recipe, see <http://forces.si.edu/main/pdf/PreK-1-MakingPretzels.pdf>.

STUDENT ADVOCATES

Teach students about the difference between refined flour (like white or all-purpose) and whole wheat flour. Whole wheat flour uses all parts of the grain, while refined flour separates out the outer layers that contain many of the nutrients (and make it less shelf-stable). Bring in samples of white flour, whole wheat flour, wheat germ, and wheat bran. Have students investigate the texture and color differences, and record the nutrition information (if packaging is available). Important points: Foods that are labeled with “multi-grain,” “stone-ground,” “100% wheat,” or “cracked wheat,” are usually NOT whole-wheat products. Make sure it says the word “WHOLE.”

Don’t rely on color to tell you if a food has whole wheat. Bread can be brown because of molasses or other ingredients. Read the ingredient list to be sure.

Assign students to bring in empty food packages that contained whole wheat and wheat products. Have them separate them into groups of those that have “whole wheat” or “whole grain” listed in the top two ingredients and those that don’t. Record the difference in fiber and nutrient values.

A description of the bran, germ, and endosperm: <http://www.wheatfoods.org/AboutWheat-what-is-wheat/Index.htm>

A high-quality image of a wheat kernel: [http://www.wheatfoods.org/HighResolution-Kernel-of-Wheat-Diagram.64.8.htm?Id2=14&~="](http://www.wheatfoods.org/HighResolution-Kernel-of-Wheat-Diagram.64.8.htm?Id2=14&~=)

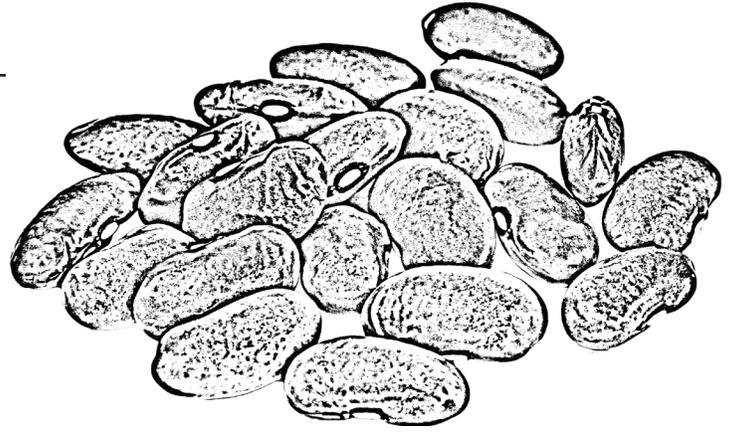


HEAL IS A collaboration between Seattle Public Schools nutrition services, health education, physical education and risk management departments.



Name _____

Beans



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