



Making Pretzels

Overview

People use plants for food. This lesson provides students with a first-hand experience about a familiar food (pretzels) that is made from wheat grains.

Suggested Grade Level

PreK - 1

Estimated Time

60 minutes

Objectives

Students will be able to:

1. describe an example of how people use plants for food.
2. demonstrate that plants provide food products by grinding wheat seeds into flour and using the flour to make pretzels.

Materials

1. Half pound of wheat seeds (often called wheat berries) from a health food store or bulk food department of the supermarket. (If unavailable, use the amount of whole wheat flour listed in the recipe and explain how wheat is ground into flour.)
2. Other ingredients listed in the recipe on page T-4.
3. Electric coffee grinder, hand cranked meat grinder, food processor (metal blade), or mortar and pestle, measuring cups, large mixing bowl, long handled wooded spoon, clean table to roll out dough, 2 baking sheets, and access to a baking oven.
4. Stalk of wheat from a florist or craft store (optional)
5. Activity Sheet A

Background

Although most young children can recognize a plant's roots, stems, leaves, flower buds, fruits, and seeds, they may not understand the function of all these parts. Likewise, few children can identify the plant sources of common foods, fibers, and building materials.

Children usually define plant parts according to their shape and position rather than their function. Emphasize that people eat many different parts of plants.

You can either accept the way children classify foods or explain the scientific classification. For example, many children will call potatoes “roots” because they grow underground, although potatoes are really underground stems that store food.

The following are examples of foods that are seeds: barley, buckwheat, corn, popcorn, oats, rice, wheat, peas, chick peas, lentils, dried beans, peanuts, soybeans, almonds, chestnuts, coconuts, hazelnuts, pecans, pine nuts, pistachios, cashews, walnuts, sesame, sunflower, anise, caraway, dill, nutmeg, peppercorns, cacao (cocoa, chocolate), carob, coffee, vanilla.

Activity

1. Read the following story:

We Eat Wheat

In the fall, a farmer planted wheat seeds. (Pass one wheat seed to each child.) All winter, the seeds lay in the ground. During the winter and spring, rain fell and soaked into the ground. When the weather got warmer, the seeds spouted and wheat plants began to grow. (Show picture 1. T-5) More rain fell, and the roots of the young wheat plants grew into the ground. Water went into the roots and up the wheat plants’ stem into the green leaves. Air went into tiny openings in the leaves. The wheat plants did something that we can’t do. With the water, the air, and the energy from sunlight, the plants made food that they used to help them grow taller and taller. (Show picture 2. T-5)

In the summer, the wheat plants used some of their food to make seeds like the ones in your hands. Then the wheat plant looked like this. (Show picture 3. T-5, or a wheat stalk with ripe grain.) Look carefully. How many seeds would you guess are on one plant? Measure half a teaspoon of wheat seeds to show about how many wheat seeds are in one head of wheat.

The farmer cut down the ripe wheat plants with a big machine called a combine. (Show picture 4. T-5) The wheat seeds were knocked off the plants and stored in big tower called a grain elevator. A train pulled a clean freight car in front of the grain elevator and the wheat seeds were sent down a chute into the freight car. The train took the wheat to the factory. At the factory, a machine ground the wheat seeds very finely into flour. The flour was put in bags and taken to grocery stores.

What might happen next? (We could buy the flour.)

What could we make with the flour? (Pancakes, pizza crust, bagels, cake, bread, pretzels.)

2. Tell the students that they will use flour and other ingredients to make pretzels. While the pretzels bake, the class can continue to make up the story about wheat. Place the wheat seeds in the grinder and give everyone a turn grinding them to make flour. Use the freshly ground flour and additional flour to make pretzels.
3. While the students are eating their pretzels, ask them to complete the story about the wheat plant. One variation might be as follows: Our teacher went to the grocery store and bought a bag of flour. The flour came from wheat seeds that a farmer grew. We mixed the flour that we ground ourselves with the flour from the store. We measured some flour and mixed it some other ingredients. We kneaded the dough and rolled it into ropes. Each of us made a pretzel from a piece of the dough. We baked the pretzels and ate them. They tasted good. We were eating the seeds of the wheat plant. The food the wheat plants made and stored in their seeds are food for us. When we ate the pretzels, the wheat became part of us!
4. The students could draw pictures and write stories to explain how they ground the wheat seeds and baked pretzels.
5. Students may use Activity Sheet A to tell stories about making pretzels and/or color and cut out to make sequencing cards.

Adapted from Project LEAP: Learning about Ecology, Animals, and Plants, College of Agriculture and Life Sciences, Cornell University, Ithaca, NY 14853

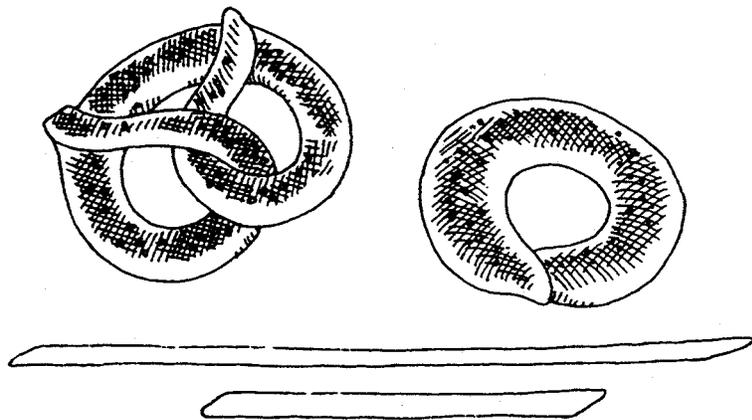
Soft Pretzels

4 cups all-purpose flour
4 cups whole-wheat flour
2 packages active dry yeast
2 teaspoons salt
2 2/3 cups very warm water (120° to 130°)
6 tablespoons vegetable oil
2 tablespoons honey or sugar
2 tablespoons poppy or sesame seeds

Directions

1. Preheat oven to 425 degrees .
2. Lightly grease 2 baking sheets.
3. Stir together 2 cups all-purpose and 2 cups whole wheat flour, yeast, and salt.
4. Add water, vegetable oil, and honey, and beat 3 to 4 minutes with spoon.
5. Add 2 cups whole-wheat flour and enough additional all-purpose flour to make a soft yet manageable dough. Knead 8 to 10 minutes until smooth, adding more flour if necessary.
6. Divide dough into 24 equal portions and roll each into a 15-inch rope with slightly tapered ends. (See illustration below)
7. Roll lightly in seeds and shape into a pretzel and pinch ends to top to keep together.
8. Place on greased baking sheets and bake for 15 to 20 minutes.

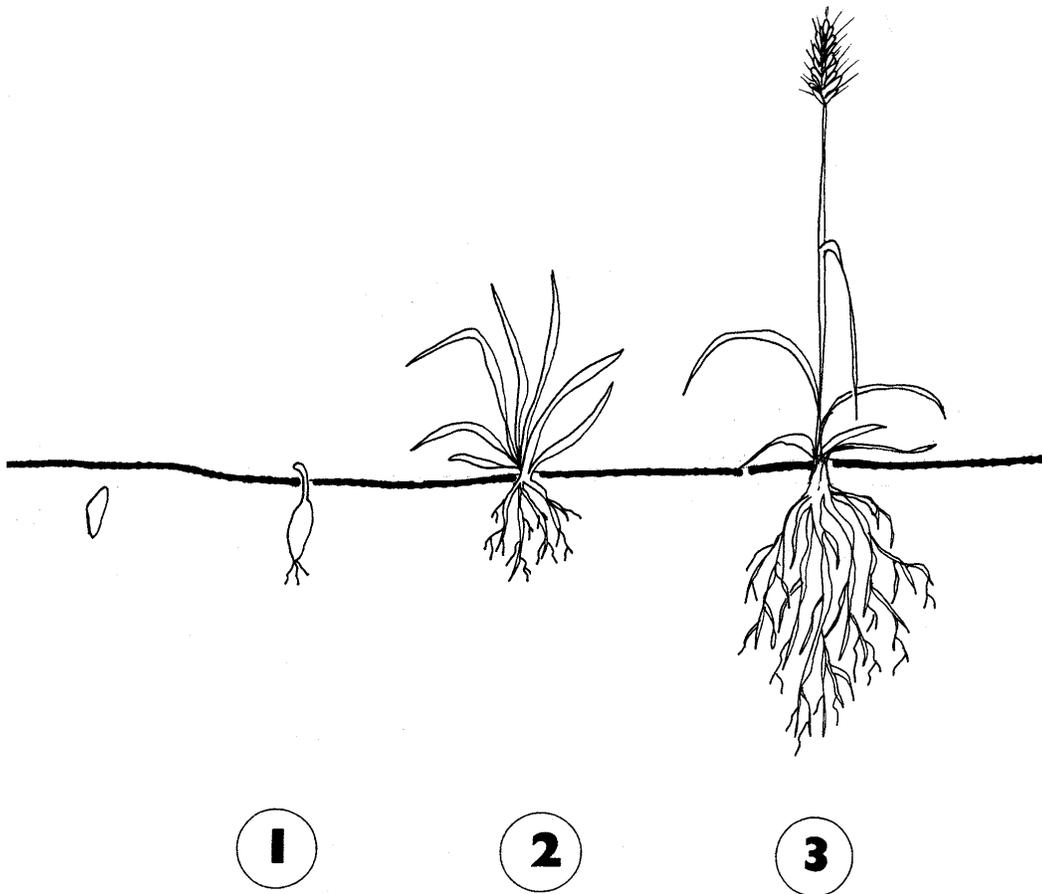
Yield: 24 pretzels



From Patricia F. Thonney and Carol A. Bisogni, "Now You're Cooking." Ithaca: Division of Nutritional Sciences, Cornell University, 1988. Reprinted with permission.

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Stages in the Growth of Wheat



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