

# Tortilla in a Bag

**Skills:** Science (changes in matter, measuring), Language Arts (reading, writing, oral language), Social Studies (geography, world culture, natural resources)

**Objective:** Students will follow instructions to make tortillas in a bag and learn about breads around the world.

## Background

Bread may be the ancestor of all prepared foods. The first bread was made in Neolithic times, nearly 12,000 years ago. It was probably made by crushing grain and mixing it with water. The dough was then baked in the sun or laid on heated stones and covered with hot ashes. The Hopi of New Mexico still make a traditional bread, called “piki bread,” by mixing juniper ash with cornmeal and spreading it on a hot stone. Then they lift the paper-thin layer from the stone by rolling it like a jelly roll.

Bread can be unleavened or leavened with yeast. When flour comes in contact with water and remains idle for a period of time, it begins to rise. In modern processes, yeast is added to aid in the rising, but even without yeast, dough will begin to ferment, and the resulting gases will cause the dough to rise. The Egyptians were the first to discover that this process would produce a light, expanded loaf. The Egyptians also invented a closed oven in which to bake the bread.

The ancient Hebrews were in such a hurry to get away from their Egyptian captors that they made their bread without leavening. Today Jewish people celebrate Passover, their escape from the Egyptians, with unleavened bread—matzo. Bread without leavening also represents truth in Jewish tradition, because bread that is unleavened retains the true flavor of the grain from which it is made.

Traditionally, people made bread from whatever grain grew best in the area where they lived. Wheat, rye, corn, barley, millet, kamut and spelt are some of the grains used around the world. Wheat flour is preferred because of its gluten content. Gluten is what gives bread its elastic quality.

Bread is such a powerful food that ancient Egyptian governments controlled its production and distribution as a means of controlling the populace. In France the shortage of bread helped start the French Revolution.

Wheat originated in the Middle East and came to our continent with European settlers. Before that, maize was the grain used for bread-making in the Americas. Maize is what we now call corn, but the word “corn” actually means any kind of grain. For centuries, maize was used to make a flat bread

P.A.S.S

Grade 4

**Reading**—1.4; 3.2,3; 5.2

**Writing**—1.5,6; 2

**Oral Language**—1.1,2,3;  
2.1,2,5; 3.1,2

**Math**—4.4;5.1

**Science Process**—1.1,2;  
3.1,2,3; 4.3,4; 5.2,4

**Social Studies**—1.1; 2.1,2;  
3.2; 4.2

## Materials

assorted breads, especially flat breads like tortillas, pita bread and any others you can find in the grocery store

assorted grains and flour made from different kinds of grains

dictionaries

world map

ingredients for tortillas  
(See recipe—storage bags  
flour, baking powder\*,  
shortening, hot tap water, salt)

that we know as tortillas. According to Mayan legend, tortillas were invented by a peasant for his hungry king. The first tortillas were made over 12,000 years ago. Today they are also made with wheat.

Among native Mexicans, tortillas are commonly used as eating utensils. In the Old West, cowpokes realized the versatility of tortillas and used tortillas filled with meat or other foods as a convenient way to eat around the campfire.

The average American eats 199 tortillas each year. In 2000, Americans consumed about 85 billion tortillas (not including tortilla chips).

Flour tortillas are a low-fat food and contain iron along with other B vitamins. They have about 115 calories with 2-3 grams of fat per serving. Corn tortillas are a low-fat, low-sodium food and contain calcium, potassium and fiber. An average serving contains about 60 calories with 1 gram of fat.

## Science

1. Bring a variety of leavened and unleavened breads to class, and have students compare and contrast. Ask if anyone knows what makes flat (unleavened) breads different from leavened breads. Experiment with leavening. Mix one batch of dough using water, flour and yeast and another batch using flour and water only. Have students hypothesize what will happen with each batch, then observe them over several hours and record their observations.
2. Make Tortillas in a Bag (See recipe on Student Worksheet B).
3. The tortilla recipe included with this lesson calls for baking powder, which provides a small amount of leavening. Have some of your students make the tortillas with leavening and some make them without. Compare texture, flavor, appearance, etc.
4. Substitute whole wheat flour for white flour in the tortilla recipe, and have students compare flavor, texture, appearance, etc.

## Social Studies

1. Read and discuss background and ask students to list some of the reasons people in different parts of the world eat different kinds of food. Why do people in different families eat different kinds of foods?
2. Hand out the student worksheet, "Breads Around the World," and have students work in groups or individually to complete it.
3. On a map of the world, have students place map pins showing where the different breads described on the worksheet originated.
4. Have students research to find the origins of the following grains used in bread making: wheat (Middle East), rye (southwestern Asia), corn (Americas), barley (Ethiopia), millet (Africa or Asia), kamut (Egypt or Asia Minor) and spelt (Middle East).

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## Language Arts

1. Brainstorm the different kinds of bread, and have students name their favorites. Write the kinds of bread on the chalkboard.
2. Show students some of the different kinds of breads and grains you have brought to class, and ask students to name them if they can.
3. Have students write instructions for making tortillas to share with their parents or another class or have them share the instructions orally.
4. Have students write invitations to parents for a multicultural night, and serve a variety of breads from around the world. Assign students to report on the origins of the different kinds of breads.

## Extra Reading

Albyn, Carole Lisa, *The Multicultural Cookbook for Students*, Oryx, 1993.

Paulsen, Gary, *The Tortilla Factory*, Harcourt, Brace, 1995.

Brooks, Felicity, Bond, Shirley, Cook, Janet, Evans, Cheryl, Gower, Teri, Smith, Guy, Lyon, Chris Lyon, *Living Long Ago: Food and Eating*, Usborne (Grades K-3).

Morris, Ann, and Ken Heyman, *Bread, Bread, Bread*; HarperTrophy; 1993.

## Vocabulary

**barley**— a cereal grass with flowers in dense spikes; also : its seed used especially in foods (as soups and cereals), or as feed for livestock

**bread**—a baked food made of flour or meal

**fiber**— mostly indigestible material in food that stimulates the intestine to move its contents along

**gluten**—a tough elastic protein substance in flour especially from wheat that holds together dough and makes it sticky

**kamut**—an ancient relative of durum wheat

**leavened**— raised (dough) with a leaven, or material (as baking powder) used to produce a gas that makes dough or batter rise and become light

**maize**—Indian corn

**rye**—a hardy annual cereal grass widely grown for grain and as a cover crop

**spelt**—a kind of wheat

**tortilla**—a thin round of unleavened cornmeal or wheat flour bread

**unleavened**—made without leavening.

**wheat**—a cereal grain that can be made into a fine white flour used mostly in breads, baked goods (as cakes and crackers), and pasta as (as macaroni or spaghetti) and that is used in animal feeds

**yeast**—a one-celled fungus that produces alcohol during the process of fermentation; a commercial product containing living yeast cells that is used mostly as a leaven especially in baking bread