

WHEAT SCIENCE

Making Bread in the Classroom

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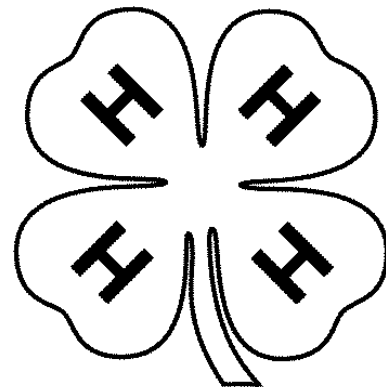
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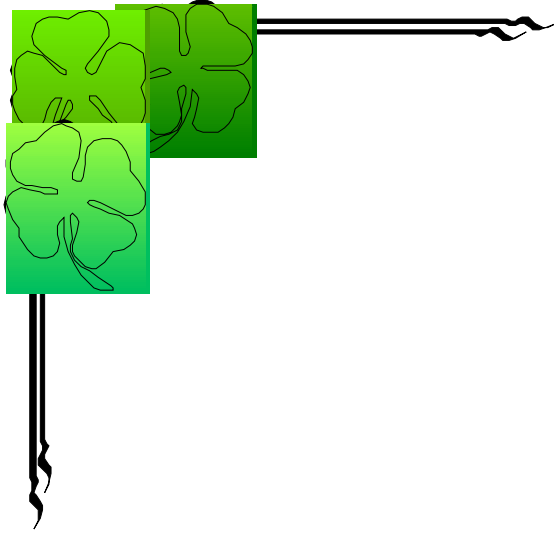
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WHEAT SCIENCE

Making Bread in a Bag

Kansas is one of the largest wheat producing states. Nearly one fifth of all wheat grown in the United States is grown in Kansas; an average of 364 million bushels each year. If all the wheat grown in one year could be placed on a train, that train would stretch from western Kansas to the Atlantic Ocean. About half the wheat grown each year is exported to countries around the world.

Wheat is a storehouse of nutrients essential to the human diet. It contains complex carbohydrates, protein, B vitamins, and fiber. One 60 pound bushel of wheat provides about 42 pounds of flour, which is enough to make 70 one-pound loaves of bread. The U.S. Department of Agriculture recommends that children include about 9 servings of grain food products in their diet each day.

How is wheat grown and processed into food?

Why is wheat production important in Kansas?

OBJECTIVES

- ✓ Students will be able to describe the complete process of growing wheat and turning it into food
- ✓ Students will be able to describe how grain foods fit into the food guide pyramid and why they are important in the daily diet
- ✓ Students will work in groups of four to make individual loaves of bread

MATERIALS

Each group of four students will need:

- One Wheat Science kit (*Kits are available at cost from the Sedgwick County Extension Office. Please contact the 4-H Department at 660-0100 for more information*)
- One “Modern Marvels: Bread” DVD
(*Can be borrowed from the Sedgwick County Extension Office*)

OR

- | | |
|---|--------------------------------|
| * One two-gallon heavy duty freezer bag | * 4 cups all-purpose flour |
| * 2 packages of dry yeast | * 2 1/2 cups warm water |
| * 4 teaspoons sugar | * 3 3/4 cups whole wheat flour |
| * 2 cup nonfat dry milk | * 1 Tablespoon salt |
| * 2 Tablespoons vegetable oil | * 4 individual loaf pans |
| * Non-stick vegetable spray | * Permanent Markers |
| * Measuring cups and spoons | * Access to ovens for baking |

PREPARATION ACTIVITIES

- Contact school kitchen personnel, parents or community members to schedule the use of the kitchen for baking.
- Contact room parents or other adult volunteers to assist student teams with bread-making. You will need one adult for each four-student group.
- Reserve a TV/DVD player to use during the first 45 minutes of the activity.
- Cover the work area with bulletin board, brown or butcher paper. Tape the paper in place with *two or three* strips of tape (too much tape impedes cleanup after the activity)
- Have the children wash their hands thoroughly before beginning the activity.
- Assign the children to groups of four with an adult chaperone. Remind the chaperones that the children will be completing the activity; the adults are to provide supervision *only*.

PROCEDURAL STEPS

- This activity takes about 2 ½ hours from start until the bread is baked, cooled and ready to take home. The dough preparation takes about one hour; the remaining 1 ½ hours can be used for regular classroom instruction while the bread is rising, baking and cooling.
- Distribute the bread kits or ingredients to the work groups. Identify each ingredient before the activity begins. Use a permanent marker to write the name of each child on the bottom of a bread pan and set the pans aside.