

Activity 2

Wheat to Bread (The Homemade Way for ECS)

by Darlene Waldie and Brigette Aubin

- Study Question:** What grains are in our bread?
- Activity:** In three separate tasks, the children will undertake to discover what bread is, what bread is composed of, and how it is made.
- Curriculum Fit:**
- ECS/Kindergarten - Science**
- Some products change when they are mixed with others (e.g., yeast plus sugar and water changes the yeast and makes bread rise.).
- ECS/Kindergarten - Language Arts**
- Discussion of the bread-making process - vocabulary.
- ECS/Kindergarten - Health**
- Bread is good for you. Learning to co-operate and share.
- ECS/Kindergarten - Math**
- Measuring.
- Grade One - Revised Science Program**
- Use materials to achieve a given purpose. (Identify purpose and materials to be used.)
- Agriculture Concept:** Farmers grow wheat and other grains that we can make into bread and other food products.
- Purpose:**
- To make the students aware of how bread is made by giving them the hands-on experience in the “wheat-to-bread” process.
 - To have children realize that farm products are important to our everyday life.
- Material Required:**
- Task One: magazines, newspapers, flyers with pictures of foods containing grain, paper, glue, scissors.
 - Task Two: Grinder (electric or hand), and wheat.
 - Task Three: Ingredients for a bread recipe (see Teacher Resources), cooking facilities, parent and or other kitchen help, bread pans, measuring spoons, mixing bowls, large bowl, large plastic sheet to knead on (although this is not essential).
- Time Required:** Three lessons (time allotment will vary with children’s attention span.) The lesson would be best taught in sequence.

Background — For the Teacher

TASK TWO: Millers All

TASK ONE: Did You Get Your Grain Today?

Children explore the huge variety of foods containing grains.

Wheat flour is the main ingredient in our everyday bread. Both white and brown flour come from wheat. White flour has a bleaching agent added to it. Enriched flour has thiamine, riboflavin, niacin and iron added to it.

Bread flours are milled from blends of hard spring or winter wheat here in the north.

Duram wheat is often used for macaroni or pasta products.

Other grains can be used in bread. The most common are rye, cornmeal, and flax. Sesame seeds, poppy seeds and sunflower seeds may also be added for variety.

Procedure: Task One

Preparation

1. Have a large variety of pictures of food that contain flour or grain (buns, bread, pie, brown bread and other types, soda cracker, Ritz crackers, graham crackers, etc.) paper and glue. If the class is large divide it into as many small groups as you have helpers.

Introduction

2. What did you eat for breakfast this morning? Discuss. Choose a picture out of a bag of pictures. Let's take turns telling what we know about our pictures.

Activity

3. Children tell about their pictures and glue them onto a "Breads and Cereals" collage.

Conclusion

4. Wheat is found in many products.



In this task the students will have the hands-on experience of grinding their own flour. This activity will provide the students with an opportunity to observe first-hand and describe the characteristics of flour.

In terms of agricultural relevance, the students will realize that much of a farmers' wheat is ground into flour after being shipped to the flour mills.

NOTE!

If an electric grinder is used, make sure that the stones in it are properly adjusted - not so loose that the flour is too coarse (hard on a child's digestive tract) and not too tight or you may find a bit of grit in your flour.

If the machine is a hand grinder it will take longer for the children to grind the wheat.

If neither is available a coffee grinder may be used.

Procedure: Task Two

Preparation

1. Have ready to use wheat, grinder and a container to put flour in.

Introduction

2. Distribute a bit of wheat to each child. A entire head and stock of wheat would be best. Discuss the wheat. What is wheat used for? What color is it? What shape is it? Is it soft or hard? What does it taste like? If you break it open, what do you see in side? What do you think the insides of wheat are used for?

Activity

3. Let the children take turns grinding wheat in a "centre". Make sure there is adult supervision while grinding is taking place.

Conclusion

4. Flour comes from wheat. Consider having the students compare the flour they produced at their grinding centres with a variety of flour types bought in the store. How are they different and how are they the same?

TASK THREE: Making Bread

This activity gives the students hands-on bread-making experience, and allows them to answer for themselves “How is bread made?”. It introduces the children to the science of measuring, as well as direction-following, kitchen cleanliness and safety. At the same time it teaches them that bread can be made using flour and yeast in one’s home and does not have to be bought in the store.

NOTE!

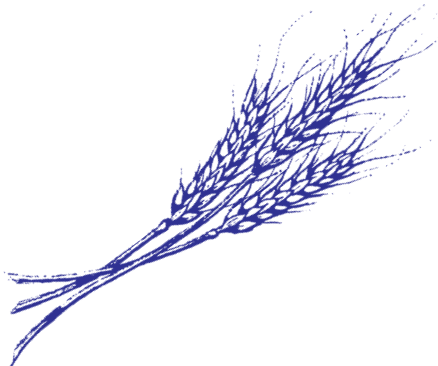
Before you undertake this activity, ensure that no one in the class has any allergies to products.

NOTE!

Organization really helps this project go smoothly. Try to have a parent help who is comfortable with a group of children and who is an experienced bread-maker. Have the area where you are going to be baking set up ahead of time and the ingredients set out and ready. A chart with the recipe on it on the wall is handy and easy for all to see.

NOTE!

Start baking process first thing after opening exercises, etc. so that the bread has time to rise and bake and the children have time to sample it (especially if yours is a half-day class).



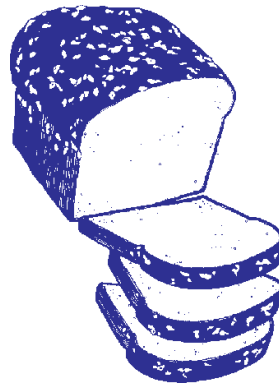
Procedure: Task Three

Preparation

1. If you have a large ECS class, divide it into at least two groups so that children can have a greater opportunity to participate. Have needed ingredients and utensils laid out and a spot for each child to have “kneading” space. (If this is not feasible let 2 or 3 take turns kneading each portion of the dough.)

Introduction

2. “Before we start to make bread today we must wash our hands.” Do that. Explain to the students how important a clean kitchen is. Discuss with them food safety and proper kitchen hygiene.



3. a) Go to the kitchen. Introduce the materials to be used for baking. Have the students discuss where each ingredient comes from. Have them recognize that flour is the main ingredient and that the flour is grown from wheat on the prairie provinces.
3. b) Explain why we must carefully measure the materials used for baking. Elicit from the students the following ideas about baking:
 - We need to measure so that we have the right amount of dough as well as the right size and number of loaves.
 - We must also measure so that the bread will rise and so that it will taste the way that we want it to.

Activity

4. Follow the recipe involving children in the measuring, kneading and shaping of the bread. Let the bread rise. Have children help clean up as much as possible, then go to a different activity.

Conclusion

5. Eat the bread for snacktime!

Discussion Questions

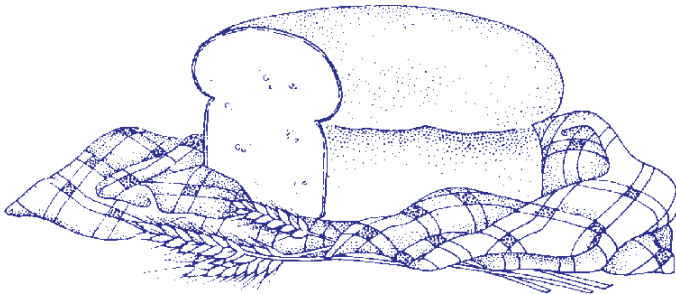
1. What are some ingredients/materials in bread?
2. What is the difference between white and brown bread?
3. What is the difference between bread and buns?
4. How do we get flour?
5. Where does wheat come from?
6. Why is the farmer important to us?
7. What are some other grains the farmer grows?
8. Did you get grain today?
9. How did you get it?

Evaluation Strategy

1. The ability to follow directions.
2. Group participation and cooperation.
3. The student's general understanding of the topic.

Related Activities

1. Make butter by shaking whipping cream in a jar until it turns to butter. Add a little salt after rinsing away the liquid left in the jar. Use the homemade butter on the bread.



TEACHER RESOURCE

100% Whole Wheat Bread - Recipe

Yield: 2 loaves.

Ingredients

1 1/2 cups milk 375 mL
1/3 cup light molasses 75 mL
2 tsp. salt 10 mL
1/4 cup butter or margarine 50 mL

1 package traditional yeast 7 gm.
1/2 cup warm water (about 110 degrees) 125 mL
5 1/2 to 6 cups whole wheat flour 1375 mL to 1500 mL
melted butter or margarine

Directions

Combine milk, molasses, salt and butter in a saucepan and heat to about 100 degrees Fahrenheit.

Dissolve yeast in water (5 to 10 minutes) in a large bowl. Add the milk mixture to the yeast mixture. Add approximately 5 cups of flour, 1 cup at a time to make a stiff dough. Knead on a floured surface at least 10 minutes. Add flour as you need it to prevent sticking.

Divide dough into halves and shape into loaves. Let loaves rise until almost doubled covered in a warm place. Carefully brush with butter before baking. Bake in 375 degree oven for about 30 minutes or until loaves sound hollow when tapped. Remove from pans and let cool on racks.



TEACHER RESOURCE

Whole Wheat Bread - Recipe (using a combination of white and whole wheat flour)

Yield: 4 loaves

Ingredients - Step 1:

2 packages active dry yeast 7 gm each
1 cup lukewarm water 250 mL
2 tsp. sugar 10 mL

Ingredients - Step 2:

1 1/2 cups milk 375 mL	2 1/4 cups lukewarm water 525 mL
1/2 cup lightly packed brown sugar 100 mL	7 cups whole wheat flour 1750 mL
2 tblsp. salt 30 mL	4 to 5 cups all-purpose flour 1000 to 1250 mL
1/2 cup shortening 125 mL	

Directions - Step 1:

Dissolve sugar in lukewarm water. Sprinkle yeast over the water and let stand for 10 minutes. Then stir briskly with a fork.

Directions - Step 2:

Scald milk, then pour into a large bowl and add brown sugar, salt and shortening. Stir until the shortening melts then add lukewarm water. Cool this mixture until lukewarm.

Add softened yeast to lukewarm milk mixture. Stir.

Gradually beat in whole wheat flour. Add 4 to 5 cups all-purpose flour. Work in last of the flour with a rotating motion of the hand.

Turn dough onto a lightly-floured board and knead 8 to 10 minutes.

Shape into a smooth ball. Place dough in a lightly greased bowl; grease the top slightly. Cover and let rise until almost double in bulk - about 1 1/4 hours. Keep the dough in a warm place (80 degrees F is ideal).

Punch down the risen dough and turn onto a lightly floured or greased board. Cut into four equal pieces and form each into a smooth ball. Cover and let rise for 15 minutes.

Shape each ball of dough into a loaf. Place in the greased pans and grease the tops. Cover and let rise until almost doubled in bulk.

Bake at 400 degrees F for 30 to 35 minutes.