

Making Whole Grain Bread

Age/Grade Range

- Ages: 12-18+

Group Size

- In pairs or groups of 3
- Maximum 12 children

Time

- Set-up: 10 minutes
- Activity:
 - 1 hour + 20 minutes active time
 - 30min- 1 hour + 30min- 1 hour + 1-2 hours waiting time

Materials

- Grain mill
- Whole grain wheat
- Ingredients
 - 1 ¼ cup warm water
 - 2 tsp yeast (one packet)
 - 1 tbsp honey (or sugar)
 - 2 tbsp vegetable oil or melted butter
 - 2 ½ to 3 cups flour
 - 1 tsp salt
- Loaf baking pans
- Mixing bowls
- Oven mitts
- Large mixing spoon
- Measuring cups and spoons
- 2 cup liquid measuring cup
- Cooling racks

Set Up

1. Attach grain mill to a secure table or counter top. Select fine grind for bread flour.



NWT SCIENCE FOCUS

Topic

- Local Food Production

Objective

- Learn to make your own food
- Learn to make bread using whole grain wheat and a hand crank grain mill.



2. Set up cooking stations. Each group can make their own individual bread, or it can be set up that each group has a single task in the bread making process (grind grain, mix ingredients, kneading dough, etc).

Activity Directions

1. To grind grain, add wheat grain to the hopper and place bowl under spout to collect flour. Turn crank to grind the grain. Grind until you reach your desired amount.
2. In a 2-cup liquid measuring cup, add warm water, yeast, honey and oil. Stir gently and set aside for 5 minutes, or until yeast proofs (lots of foamy bubbles on top of water).
3. In a large bowl, add 2 cups flour and salt. Stir to combine.
4. Add the proofed yeast mixture to the dry flour. Stir to combine. Dough will be gooey and sticky.
5. Add more flour, $\frac{1}{4}$ cup at a time and fully incorporating into dough, until the dough soft and elastic (no longer sticky).
6. Remove dough from bowl onto a clean, lightly floured surface. Knead dough until it is smooth and elastic (should not stick to surface when all flour is incorporated), adding more flour to surface as needed.
7. Place dough ball into a clean, greased bowl. Cover bowl with a clean towel. Set aside in a warm place away from any cold drafts. Allow dough to rise for 30 minutes to 1 hour or until doubled in size.
8. Once dough has doubled in size, Punch down the dough, then remove dough from bowl onto a clean, lightly floured surface. Knead dough until smooth and elastic again. Shaped dough into roughly the size of your loaf pan.
9. Place dough into your greased loaf pan and cover with a clean towel. Set aside in a warm place away from any cold drafts. Allow dough to rise for 30 minutes to 1 hour or until doubled in size again.
10. Preheat oven to 375 degrees F (190 degrees C).
11. Bake bread in preheated oven until golden brown, about 35 minutes.
12. Remove from oven and loaf pan and allow to cool for 1-2 hours, at least before cutting.

Additional Information

- The main benefit of grinding your own flour is that it is so much more nutritious than commercially milled flour. When grain is milled commercially, they remove the wheat germ, so that the flour can have a longer shelf life. In white flour, the bran and fiber are removed. Removing the wheat germ, bran and fiber removes 28 of the 30 known vitamins and minerals in wheat grain.
- It is best to grind the flour just before you are going to use it, so the nutrients are retained. Refrigerate or freeze any leftover flour for later use.

