

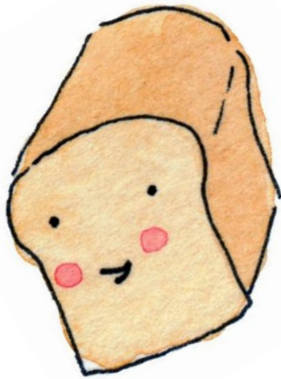
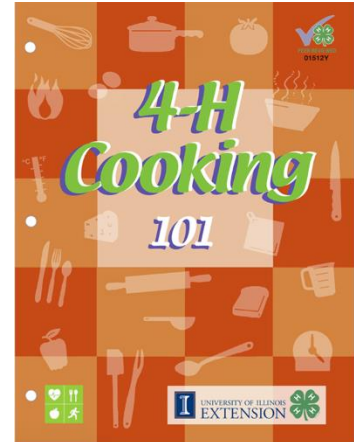
## *Session Two Outline: Experiment with Kneading*

### **Introduction**

The activity teaches individuals to knead which is an important part of making yeast breads and helps understand how kneading affects yeast breads

### **Goals**

Be able to determine how kneading affects the texture, volume, and taste of your yeast breads



### **Learning outcomes**

- Demonstrate the knowledge and ability to knead in order to get desired texture, volume, and taste of the bread
- Through cooking, creativity skills are enhanced as a person tries to be innovative with their recipes and presentation of the food
- The activity enhances measuring skills, and analyzing skills

### **Activity: Experiment with Kneading**

Encourage participants to knead in order to make a basic bread to understand and see how kneading affects the texture, volume, and taste of yeast breads

### **Material list:**

1. Ingredients and equipment to prepare one recipe of Basic Bread
  - 1 ¼ cups water, heated to 100 to 110 degrees F
  - 1 package yeast
  - 1 tablespoon sugar
  - 1 teaspoon salt
  - 1 teaspoon vegetable oil
  - 3 to 4 cups all-purpose or bread flour
2. 3 small mixing bowls
3. Nonstick cooking spray
4. 3 clean and damp dishtowels
5. 3 small baking plans



**Activity Instructions:**

1. Prepare Basic Bread Recipe, but before kneading bread, divide it into 3 equal portions

- Place water in micro-wave safe bowl and heat in microwave for 1-2 minutes. Remove from microwave and check temperature with food thermometer
- Pour warm water into large mixing bowl and sprinkle yeast over water. Stir sugar and allow mixture to stand 1 to 2 minutes. Add salt and oil.
- Add 2 cups flour to the mixture and stir until smooth. Add enough flour to make dough that is soft, but stiff enough to handle
- Turn dough out onto a lightly floured surface and knead until dough is smooth, elastic, and doesn't stick to surface or hands, about 8-10 minutes

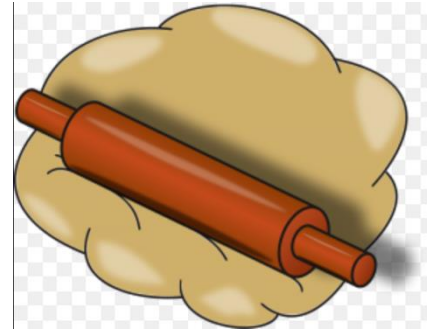


- Place dough in a mixing bowl lightly coated with nonstick cooking spray. Coat top of dough with nonstick cooking spray. Cover the bowl with damp, clean dishtowel and let dough rise until double the size
- Lightly coat 9"x5" loaf pan with nonstick cooking spray
- Punch down dough, turn out on a floured surface, and shape into a loaf. Place in prepared loaf pan. Cover and let rise until double in size
- Bake at 400 degrees F for 30-40 minutes. Bread is done when the crust is golden-brown and the loaf has a hollow

sound when tapped on the top crust

- Cool bread in pan for about 5 minutes; remove from pan and cool to room temperature on cooling racks
  - The recipe yields 1 loaf, 20 slices
  - Nutrition Facts per Slice: 95 calories, 1 g fat, 117 mg sodium, 18 g carbohydrates, 1 g fiber, 3 g protein, 4 mg calcium
2. Lightly coat 3 small mixing bowls with nonstick cooking spray. Label bowls #1 through #3
  3. In bowl #1, place one portion of un-kneaded dough. Lightly coat dough with nonstick cooking spray, cover bowl with dishtowel, and set in warm place until dough has doubled in size

4. Knead one portion of dough for 4 minutes. Place dough bowl #2. Lightly coat dough with nonstick cooking spray, cover bowl with dishtowel, and set in warm place until dough has doubled in size
5. Knead last portion of dough for 10 minutes. Place in bowl #3. Lightly coat dough with nonstick cooking spray, cover bowl with dishtowel, and set in warm place until dough has doubled in size
6. When each portion of dough has doubled in size follow the directions in Basic Bread recipe for shaping, rising, and baking bread. Remove load from baking pan, place on cooking rack, and label with #1, #2, and #3.



7. When completely cooled, compare the three loaves of bread and record what you observe

**Observations and discussion:**

- What do you observe about the volume of each loaf of bread?
  - Use a bread knife to slice each loaf in two. What do you observe about the texture of each loaf?
  - Taste each loaf. Do you taste any differences between the loaves?
- What effect, if any, does kneading have on the volume of bread?
  - What effect, if any, does kneading have on the texture of bread?
  - What effect, if any, does kneading have on the taste of bread?
  - How will you apply this information when making bread in the future?

**Teaching Notes:**

- Youth can work together in groups of 3 – to make dough – then when divided into 3 parts each youth can knead their portion of the dough to finish the experiment.
- Recipe for Bread in the Bag – included here can be substituted for the recipe above – doing the mixing in a plastic gallon food storage bag keeps the mess a little more confined!
- Rising – a warm, dry place is ideal. If needed you can create a place for rising by boiling water in low, flat pan (like a 9 x 13 sheet cake pan) and put it in an area and place a few of the bowls of covered dough around it and cover the entire area with a towel.

## **BREAD IN A BAG**      Makes 1 Loaf

2 cups all purpose flour  
1 package rapid rise yeast  
3 tablespoons sugar  
3 tablespoons nonfat dry milk  
1 teaspoon salt  
1 cup hot water (125 to 130°F)  
3 tablespoons vegetable oil  
1 cup whole wheat flour

Combine 1 cup all-purpose flour, undissolved yeast, sugar, dry milk and salt in 1 gallon, heavy duty freezer bag with zipper lock. Squeeze upper part of bag to force out air. Shake and work bag with fingers to blend ingredients.

Add hot water and oil to dry ingredients. Reseal bag. Mix by working bag with fingers. Add whole wheat flour; reseal bag and mix thoroughly. Gradually add enough remaining all purpose flour to make stiff dough that pulls away from bag.

On floured surface, knead dough 2 to 4 minutes, until smooth and elastic. Cover dough; rest 10 minutes.

For Loaf: Roll dough to 12 x 7 inch rectangle. Roll up from narrow end. Pinch edges and ends to seal. Place in oiled 8 ½ x 4 ½ x 2 ¼ inch glass loaf pan; cover. Let dough rise in warm place until double in size.

**OR** Place large shallow pan on counter; half filled with boiling water. Place baking sheet over shallow pan; let dough rise 20 minutes or until double in size. To BAKE - 350° for 25 minutes or until done.

**OR**

For Pretzels: Divide into 12 pieces. Roll into a “snake”. Twist and turn to form a pretzel. Brush with egg white and sprinkle with coarse ground salt.

(**OR** – after forming bread place in the pan and cover loosely with wax paper to be taken home and baked in the next few hours.