Oklahoma 4-H Youth Development

Food Science
4-H Exhibit Preparation

Level IV
15-19 years old

Baked Goods Recipes

2012

Check It Out... Level IV Food Science

There are 15 Lessons/ Activities in the Level IV Food Science Project manual. Each lesson will assist you in developing your knowledge and skills in this project area.

4-H members are encouraged to select lessons and work their way through each set. Your goal is to apply the information to your daily life - through meal planning, preparation and food selection.

Lessons include:

1. Modifying Recipes
2. Specialty Yeast Breads—Flatbreads
3. Bread, Shaping and Sculpting
4. What's Nice About Rice?
5. Vegetables as a Main Dish
6. Canning Vegetables—It's a Snap!
7. Fruit Tarts
8. Jellied Fruit, It's So Easy!
9. Milk—Food for the Future
10. Outdoor Cooking, Grating Grilling
11. Meat is Losing its Marbles
12. Fixing Fish Fast
13. Smart Substitutions
14. Homemade Cakes: A Balancing Act
15. A Final Fiesta

For what is the **Health** trained: *To resist disease ; To enjoy life; and To make for efficiency.*

The Value of Exhibiting Project Work

- Teaches youth to appreciate high standards
- Teaches youth to observe closely
- Teaches youth to develop their reasoning ability
- Teaches youth to make sound and systematic decisions
- Teaches youth to improve their own work
- Teaches youth to develop the ability to concisely express thoughts

Excerpt from:
Volunteer Development Series 4H•VOL•107
Judging—A Teaching Technique

Baked Products Sample Score Card

Yeast Bread		**Cakes**	
1. Shape	10%	1. Shape	20
2. Color	10%	2. Crust	10
3. Volume	10%	3. Volume	10
4. Crust	10%	4. Crumb	25
5. Crumb	20%	5. Flavor	35
6. Slice	10%	7. Flavor	30%

4-H'ers may use any recipe that fits the exhibit requirements according to the age group listed in the current State Fair Catalog. Bread machines may be used to mix and bake a yeast bread exhibits, but the dough must be made from scratch - no mixes. Exhibits are being judged on the quality standards listed for the product.

Purpose for Judging

"TO MAKE THE BEST BETTER" is the 4-H motto. How do we know what is best? How can we learn to make it better unless we learn standards and develop the ability to make sound decisions? Every experience, which helps us make wise decisions, enriches our lives. Good judgment is based on proper information and the ability to make wise decisions.

Any time a 4-H member exhibits a "project" they are asking to have "what they learned" evaluated through the product being exhibited.

Project work requires practice, just like an athlete must practice their technique.

Food Science Exhibits

- One-half loaf or portion of breads from another culture. Include a one page story on how this bread fits into that culture and its nutritional contribution.
- One-half of one 8" layer Un-iced shortening type cake (no angel food or chiffon)

Recipes in this handout are from the food science manuals. 4-H'ers may use these recipes or any other that fits the exhibit requirements. Cakes must be made from scratch using shortening mixing method (no mixes). Bread machines may be used to mix and bake bread. Dough must be made from scratch, no mixes.

Exhibit will be disqualified if specifications are not followed.

Difficulty	Reason Why
Domed or cracked surface and/or tunnels	• batter over mixed • wrong type of flour or too much • too little baking powder/soda or sugar • oven temperature too hot
Cake Sinks in the center	• batter over mixed • too much fat and/or sugar or leavening • not enough liquid • oven temperature too low
Cake didn't rise (compact texture)	• improper mixing • butter and eggs wrong temperature • too much or too little fat • too little baking powder or baking powder is too old • oven temperature too hot • wrong pan size
Top crust is too dark or hard	• over baked • wrong oven temperature • too much sugar, baking powder/baking soda
Coarse grain and dry	• oven temperature too low • too much baking powder/baking soda • too little liquid
Cake falling apart	• to much baking powder/baking soda, sugar, or fat • Improper mixing • oven temperature too low

Source: www.joyofbaking.com/ButterCakeTroubleshooting.html 2012

Quality Standards for Cake

Size: Uniform

Shape: Slightly mounded and circular

Texture: Tender and crisp

Color: Light golden color with slightly darker edges.

Appearance: Free from excess flour on bottom and edges.

Flavor: Pleasing; ingredients well blended.

Scoring: Excellent—Blue; Good—Red; and Needs to be Improved—White

Source: Sugar Cookies Judging Criteria Sheet No. 598, April 1986/2000

Recipe Cake

Lesson 14, "Homemade Cakes: A Balancing Act" in Level IV Food Science provides excellent information on techniques necessary for the "ideal cake."

Ingredients Needed:

1/2 cup shortening
1 cup sugar
2 eggs
2/3 cup milk
1 teaspoon vanilla
2 teaspoons baking powder
1 1/2 cup plus 1 Tablespoon flour
1/4 teaspoon salt

Serving size and nutritional information located on page 3.

You be the Judge

Evaluate your cake—page 192 Food Science< Level IV

1. Cream shortening and sugar.
2. Add well beaten whole eggs (White cake uses 3 egg whites instead of whole eggs.)
3. Add flavoring to milk.
4. In a separate bowl mix dry ingredients -flour, baking powder and salt
5. Add flour mixture and liquid alternately to sugar and shortening—about one-third each time, beating well between each addition. Beat until mixture is smooth.
6. Pour half of the batter into two-well-greased and floured 8-inch cake pans.
7. Bake in preheated oven at 350ºF. for 20-25 minutes.

Variations: There are 4 variations of this recipe listed in Homemade Cakes: a Balancing Act.

Source: Oklahoma 4-H Food Science, Level IV, No. 188, August 1987

Read recipes and directions carefully before starting.

Look up terms and procedures you do not understand.

Serving Size and Nutritional Information for all Recipes

Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on

Cake—page 2

16 Servings - Amount Per Serving
Calories 164.3
Total Fat 7.3 g
- Saturated Fat 2.9 g
- Polyunsaturated Fat 0.9 g
- Monounsaturated Fat 3.1 g

Cholesterol 24.7 mg
Sodium 109.4 mg
Potassium 38.9 mg
Total Carbohydrate 22.5 g
- Dietary Fiber 0.3 g
- Sugars 13.0 g

Protein 2.3 g
Vitamin A 1.0 %
Vitamin B-12 0.9 %
Vitamin B-6 0.9 %
Vitamin C 0.0 %
Vitamin D 2.1 %
Vitamin E 0.4 %
Calcium 5.0 %
Copper 0.9 %
Folate 6.0 %
Iron 3.9 %
Magnesium 0.8 %
Manganese 5.0 %
Niacin 3.6 %
Pantothenic Acid 0.6 %
Phosphorus 3.8 %
Riboflavin 4.7 %
Selenium 5.8 %
Thiamin 6.3 %
Zinc 1.1 %