



Baking Food Safety Lesson

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Leader Objectives: Guide participants to

1. Define *raw ingredients* and why fully baking is essential.
2. Assess your baking food safety practices, Checklist.
3. Locate reliable consumer food safety resources.
4. Add the food safety steps in all baking recipes.
5. Use internal food temperatures and visual cues to assure products are fully cooked (minimum 165° F)
6. Cool baked goods separate from raw flour, batter.
7. Wash hands to handle, package or serve baked goods.

Lesson Steps:

Step 1. View *Did You Know* flour food safety video.

<http://www.namamillers.org/flour-food-safety-video/>

Critical Thinking Q: Grain is *cleaned* in the field by combines as it is harvested. Millers *clean and temper* grain at the flour mill. What's the difference between being "raw and clean" and "fully baked or cooked"? (A: Grain and flour are clean, but still raw and can carry harmful bacteria. Temperatures that kill bacteria (165°F minimum) aren't reached until ingredients are fully baked or cooked.)

Step 2. Read the Blueberry Mug Muffin recipe.

Critical Thinking Q: State food safety steps needed in the recipe's steps. (EX: 1) wash hands, counters, and again in step 3) before handling baked items; 2) don't lick bowl; scrape and wash tools; return eggs to refrigerator and flour to cupboard; 3) test muffin at center for doneness after 5 minutes—165 ° F. minimum or consult Temperature Chart <http://homebaking.org/PDF/bakingfoodsafety101.pdf>)

Blueberry Mug Muffin

Adapted from original recipe at landolakes.com/recipe/

Ingredients --

- 2 Tablespoons unsalted butter
- ¼ cup all-purpose flour (may be half whole wheat flour)
- 2 Tablespoons brown sugar
- ½ teaspoon *each* baking powder and ground cinnamon
- ¼ teaspoon ground nutmeg
- 1 large egg, yolk only
- 1 Tablespoon milk
- 1 teaspoon vanilla
- 1 Tablespoon blueberries (fresh, frozen or dried)

Directions--

- 1) In small bowl or cup use fork to blend dry ingredients. Place butter into large (12 oz. or larger) coffee mug. Microwave until butter is melted, about 30 seconds. Add blended dry ingredients, yolk, milk and vanilla. Stir to blend with fork. Add blueberries, stirring just until distributed.
- 2) Microwave 60-90 seconds or until muffin pulls away from sides and top is dry. Take temperature at center – 165 ° F. minimum. (Temperature rises 5° to 10°F. as muffin stands) Do not over cook. Cool slightly before enjoying.
- 3) **Wash hands.** Optional: Drizzle with 2 Tablespoons powdered sugar mixed with ½ teaspoon lemon juice or water. Nutrients: One recipe provides 570 calories, 28mg fat, 245 mg cholesterol, 280 mg sodium, 71g carbohydrates, 2 g fiber, 7 g protein

Critical Thinking: Use Temperature Chart and food thermometer to test muffin at center after cooling 5 minutes for optimum product doneness. Use Checklist to assess Baking Food Safety practices.

Computer Lab One-Pager Assignment

1. Go to FightBac.org
2. Draw and write a Food Safety Plan one-pager that includes: title, who, what, where and how you'd apply three food safety goals at school, or a favorite activity. Use 3 images, 10 to 50 words.
3. Share w/ class or group. + + + + +

Baking Food Safety Sites Baking Food Storage

Storing ingredients, batter, dough, and baked goods. <https://www.foodsafety.gov/keep/types/index.html>

Home Baking Association

How to bake glossary, guides HomeBaking.org

International Food Information Council

Consumer surveys Learn more about baking ingredients, field-to-table Foodinsight.org

North American Millers' Association

View *How Flour is Milled* (Kids Zone) and *Did You Know* videos namamillers.org

Partnership for Food Safety Education

Access Baking Food Safety Infographic, and Pumpkin Chocolate Chip Cookie Video and Recipe, The Story of Your Dinner, FightBac.org

Recalls, Market Withdrawals, & Safety Alerts

Visit this reliable food recall resource <https://www.fda.gov/Safety/Recalls/default.htm>

Step 3. Teams prepare Blueberry Mug Muffin recipe.

Family & Consumer Sciences Competencies, 2018, 3.0 (Access complete resource: www.nasafacs.org) **Consumer and Family Resources**, 2.1.3 –Analyze decisions made for providing safe and nutritious foods for individuals and families.

Family and Human Services, 7.4.1—Investigate health, wellness, and safety issues of individual and families.

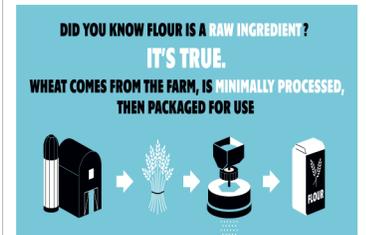
Food Production and Services, 8.2 –Demonstrate food safety and sanitation procedures.

Nutrition and Wellness, 14.4—Evaluate factors that affect food safety from production to consumption.

Did You Know?

Flour Food Safety

North American Millers Association
Canadian National Millers Association



SO YOU SHOULD NEVER EAT RAW FLOUR!



"Fully cooked" Take an internal temperature <http://homebaking.org/PDF/bakingfoodsafety101.pdf> 165°F is minimum to kill food borne illness bacteria.

Lesson Supply Checklist:

- Sink, aprons, hair ties
- Microwave oven(s)
- Microwaveable mug One per team of two
- Mug Muffin ingredients –1 recipe per team
- Food thermometers
- Toothpicks
- Fork for stirring
- Spoons (for sampling)
- Napkins
- Copy *Baking Food Safety Checklist*, one per person; pencil or pen

EXTRA: No microwave? Prepare ingredient kits for *Microwave Chocolate Cake-in-a-Mug* to take and bake at home. *Identify safety steps together and cake's internal temperature to be "fully cooked."* Recipe: chsugar.org