Heat is an ingredient!

And carefully measuring how much you add is the key to baking success for students and their families.

Use a digital thermometer to measure your ingredient and process temperatures...

Cutting in Butter 35 to 40°F
Creaming Butter 68 to 70°F
Dry Blend Yeast (Water Temp) 120 to 130°F
Blooming Yeast (Water Temp) 105 to 115°F

Use a digital thermometer to verify your doneness temperatures...

Cheesecake 145 to 150°F
Quiche/Custard/Cream Pie 160 to 165°F
Brioche 180 to 190°F
Bagels 185 to 195°F
Sourdough 190 to 210°F
Yeast Breads 190 to 210°F
Rich Cake 200 to 205°F
Muffins 205 to 210°F
Light Cake 205 to 210°F

How to take a temperature
1. Place the probe tip in the center of what you’re measuring
2. If powder or liquid, gently stir
3. If solid, push past center and pull back slowly
4. Look for the lowest number on the display

Now you have a chance to get the top-ranked affordable digital thermometer at half off...

ThermoPop®
4.8 out of 5 stars ★★★★★
2,208 Ratings

- Fast: Readings in just 3 to 4 seconds
- Guaranteed Accurate: ±2°F
- Durable and Splash-proof: IP66 Rating
- Easy to Read: Huge Backlit Display
- Fun Design: Grip with Either Hand
- 4.5” Probe: Keep Your Hand Away from the Heat
- Designed in Utah by ThermoWorks

$35.00  $17.50 (plus shipping)
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Go to ThermoWorks.com/ThermoPop and use Discount Code STUDENTOFFER22 at checkout...

Take it from the experts...

Cook’s Illustrated/America’s Test Kitchen calls it “dead accurate and extremely fast” that “makes the best of its size with a grippy, ergonomic design that’s reasonably secure and easy to push and pull out of dense foods.” They awarded it...

Best Inexpensive Digital Thermometer

Good Housekeeping says “For anyone looking for a simple, easy-to-use instant-read thermometer, the colorful ThermoWorks ThermoPop Thermometer...features big digits, a rotating head so you can check temps from any angle, and a thin tip.” Awarded...

Easiest-to-Use Thermometer

Learn More!
www.thermoworks.com
www.homebaking.org
Baking Food Safety Lesson
For Home, Classrooms, Community or Out-of-School Programs
Prepared by Sharon Davis, Family & Consumer Sciences Education, HomeBaking.org

Leader Objectives: Guide participants to
• Define recipe’s raw ingredients
• Identify risks if raw ingredients/batter eaten
• List best baking food safety practices (Checklist)
• Insert food safety steps in the Mug Muffin recipe.
• Identify on temperature chart the target internal mug muffin doneness temperature
• Cool, handle and eat or package baked goods away from raw flour, eggs, batter or dough

Lesson Steps: Focus on baking food safety.

Step 1. View Did You Know flour safety video.
Critical Thinking Q: Grain is cleaned thoroughly on the farm, and in the mill. What’s the difference between raw, clean, and baked? (A: Clean is still raw and can carry harmful bacteria. Temperatures that kill bacteria aren’t yet reached until flour is fully baked.)

Step 2. Read the Blueberry Mug Muffin recipe.
Serves 2. Source: landolakes.com/recipe/

Ingredients
2 Tablespoons (1 oz/28g) butter
⅛ cup (1 oz/28g) all-purpose flour (may be half whole wheat flour)
2 Tablespoons (0.8 oz/24g) brown sugar
⅛ teaspoon each baking powder and ground cinnamon
¼ teaspoon ground nutmeg
1 large egg yolk (1/2 oz/14g) – discard white
1 Tablespoon (0.5 oz/14g) milk
1 teaspoon vanilla
1 Tablespoon blueberries (fresh, frozen or dried)

Instructions
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. Mix well 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 (Temperature will rise at least 5° F. as it stands.) Use chart to determine target internal temperature. Do not over cook. Cool slightly.
3: Optional: Drizzle with 2 Tablespoons powdered sugar mixed with ¼ teaspoon lemon juice or water. Serves 1-2.

Nutrients: One serving, 570 calories, 28mg fat, 245 mg cholesterol, 460 mg sodium, 71g carbohydrates, 2 g dietary fiber, 7 g protein

Step 3. Prepare Mug Muffin recipe. Have bakers prepare Blueberry Mug Muffin. Critical Thinking Q: What food safety steps did you use? (A: 1) At start: wash hands, counters; again after mixing and before handling or eating muffin (2) returned eggs, flour or other perishable ingredients to storage; (3) tested for doneness at center (photo right)- Is 203°F at center done and food safe? (See Chart on Baking Food Safety 101)

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.

Computer Lab
1. Explore baking food safety sites.
2. Create a One-Page Map of food safety resources with words, titles, links, drawings, or images.
3. Share with group, family.

Baking Food Storage

Home Baking Association

Safe Recipe Style Guide and Student Activities
Re-write recipes with food safety in mind. https://www.saferecipeguide.org/

North American Millers’ Association
View How Flour is Milled and Flour Food Safety videos. https://namamillers.org/consumer-resources/

Partnership for Food Safety Education
Learn what food-borne illness is, how it happens, and how to prevent it. www.FightBac.org

FDA Food Recalls, Safety Alerts
https://www.fda.gov/safety/recalls-sites.

Lesson Supply list:
- Sink, aprons, hair ties
- Microwave oven(s)
- Microwaveable straight-sided 14 oz mugs*—One per team or recipe
- Mug Muffin Ingredients for each lab team
- Food thermometers
- Toothpicks
- Fork for stirring
- Spoons (for sampling)
- Napkins
- Copy Baking Food Safety 101 one per person; pencil or pen

*Control mug size and shape or compare variable size results.

Chillicothe, Missouri High School

View Did You Know Video
Wheat Flour Food Safety
https://namamillers.org/consumer-resources/

Baking student “temps” mug muffin at 203°F.
https://www.thermoworks.com/home-baking-association

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