Lesson Plan: Foundations of Baking - Measure Twice, Bake Once!

Materials Needed

For the Lesson:

- Computer or tablet with internet access (for watching short video clips)
- Notebook or paper for a "Baker's Journal"
- Pen or pencil
- Kitchen fire extinguisher (for safety discussion)
- Oven mitts

Kitchen Equipment:

- Electric mixer (stand or hand-held)
- 2 large mixing bowls
- 1 small bowl
- Whisk
- Spatula
- Set of dry measuring cups (1/4, 1/3, 1/2, 1 cup)
- Set of measuring spoons (1/4 tsp, 1/2 tsp, 1 tsp, 1 Tbsp)
- Liquid measuring cup (glass or plastic with a spout)
- 2 baking sheets
- Parchment paper or non-stick spray
- Cooling rack
- Cookie scoop or two spoons

Ingredients for "Perfect Practice" Chocolate Chip Cookies:

- 1 cup (2 sticks) unsalted butter, softened
- 3/4 cup granulated (white) sugar
- 3/4 cup packed light brown sugar
- 2 large eggs
- 1 Tbsp vanilla extract
- 2 1/4 cups all-purpose flour
- 1 tsp baking soda
- 1 tsp salt
- 2 cups semi-sweet chocolate chips
- *Optional:* 1 cup chopped nuts (walnuts or pecans)

---

1. Learning Objectives

By the end of this lesson, the student will be able to:

- Accurately measure dry and liquid ingredients using the correct techniques and tools.
- Explain the difference between measuring by volume (cups) and weight (grams) and why precision matters in baking.
- Identify and demonstrate at least three critical kitchen safety rules, including oven safety and preventing cross-contamination.
- Successfully follow a recipe from start to finish to produce a baked good.

---

2. Curriculum Connections

- **Life Skills:** Practical application of cooking, kitchen hygiene, safety awareness, and following multi-step directions.
- **Mathematics:** Understanding and using fractions (cups, teaspoons), measurement, and sequencing.
- **Science (Chemistry):** Introduction to chemical reactions in cooking (e.g., leavening with baking soda, emulsification of fats and liquids).

3. Lesson Activities (Approx. 90 minutes)

Part 1: The Science of Safety & Precision (20 minutes)

1. **Introduction & Discussion (5 mins):**

   Start with a question: "Why is baking more like science than regular cooking?" Guide the conversation to the idea that baking relies on specific chemical reactions, and the ingredients are the chemicals. An incorrect amount can ruin the experiment!

2. **Kitchen Safety Tour (10 mins):**

   Walk through the kitchen and identify potential hazards. Focus on:

   - **Fire Safety:** Locate the fire extinguisher. Discuss what to do in case of a small kitchen fire (e.g., smothering a grease fire vs. using water). Explain oven safety: always use oven mitts, open the oven door away from your face to let steam escape, and never leave a hot oven unattended.
   - **Food Safety:** Discuss hand washing. Explain cross-contamination, especially with raw eggs. Designate a spot for "dirty" tools (like the bowl with raw egg) to keep them separate from clean surfaces.
   - **Appliance Safety:** Review how to use the mixer safely (keep hands and utensils away from moving beaters, turn off before scraping the bowl).

3. **Measuring Masterclass (5 mins):**

   Demonstrate the correct way to measure the two main types of ingredients for today's recipe:

   - **Dry Ingredients (Flour):** Show the "scoop and level" method. Use a spoon to fluff up the flour in its container, then spoon it into the measuring cup until it's overflowing. Use the back of a knife to level it off. Explain why packing flour results in dry, tough cookies. For brown sugar, demonstrate the opposite: pack it firmly into the cup.
   - **Liquid Ingredients (Vanilla):** Use a liquid measuring cup on a flat surface. Bend down to view the measurement at eye level. Explain why this is more accurate than holding it up in the air.

Part 2: Hands-On Baking Lab (50 minutes)

1. **Preparation (Mise en Place) (10 mins):**

   Guide the student to preheat the oven to 375°F (190°C) and line two baking sheets with parchment paper. Have them wash their hands. This is the perfect time to practice "Mise en Place" (a French term for "everything in its place"). Have the student read the recipe and gather all the necessary equipment and ingredients before starting.

2. **Student-Led Measuring (15 mins):**

   The student takes the lead. Their task is to measure all ingredients according to the recipe,

using the techniques just discussed. You act as the "Lab Supervisor," observing and offering guidance. Ask probing questions as they work:

- "Which measuring cup will you use for the flour?"
- "Show me how you'll make sure you have the right amount of brown sugar."
- "Why is it important that the butter is 'softened' and not melted?" (This touches on the science of creaming).

3. **Following the Procedure (25 mins):**

   The student will now follow the recipe steps to mix the cookie dough. Encourage them to read each step carefully before acting.

   - **Step 1:** Cream together the softened butter, granulated sugar, and brown sugar until light and fluffy.
   - **Step 2:** Beat in the eggs one at a time, then stir in the vanilla.
   - **Step 3:** In a separate bowl, whisk together the flour, baking soda, and salt.
   - **Step 4:** Gradually add the dry ingredients to the wet ingredients, mixing on low speed until just combined. Do not overmix!
   - **Step 5:** Stir in the chocolate chips (and nuts, if using).
   - **Step 6:** Drop rounded tablespoons of dough onto the prepared baking sheets.
   - **Step 7:** Bake for 9-11 minutes, or until the edges are golden brown. Let them cool on the baking sheet for a few minutes before transferring to a wire rack.

Part 3: Assessment and Reflection (20 minutes, includes cooling time)

1. **Clean-Up & Discussion (10 mins):**

   While the first batch bakes, work together to clean up. This reinforces the "clean as you go" rule. Discuss the results. What went well? What was challenging? What did they observe about the dough before and after baking?

2. **Taste Test & Analysis (5 mins):**

   The best part! Analyze the final product. Is it chewy? Crispy? What do they think made it that way? This is a tangible assessment of their ability to follow the recipe.

3. **Baker's Journal Entry (5 mins):**

   Have the student write a short entry in their "Baker's Journal." Prompt them with:

   - **Title:** Perfect Practice Chocolate Chip Cookies
   - **What I learned:** 1-2 sentences about measuring or safety.
   - **My Results:** How did the cookies turn out? What would I do the same or differently next time? (e.g., "Next time I will add more chocolate chips," or "I will make sure not to overmix the flour.")

4. Differentiation and Extension

- **For Support:** If the student feels overwhelmed, pre-measure one or two ingredients for them. You can also work side-by-side, with each of you completing a step simultaneously. Use painter's tape to mark the fill line on the liquid measuring cup for easier viewing.
- **For Challenge (Extension Activity):** Encourage the student to research and answer one of the following questions in their Baker's Journal:
  1. What would happen if we used melted butter instead of softened butter?
  2. What is the role of the eggs in this recipe? What if we added an extra yolk?
  3. Research the difference between baking soda and baking powder. Why did this recipe

call for baking soda?

5. Assessment Methods

- **Formative (During Lesson):**
  - Observe the student's technique for measuring ingredients.
  - Ask questions during the process to check for understanding of safety and measurement principles.
  - Review the student's ability to keep their workspace organized and clean.
- **Summative (End of Lesson):**
  - The quality of the final product (the cookies) serves as a performance-based assessment of their ability to follow the recipe.
  - The Baker's Journal entry demonstrates their reflection and comprehension of key concepts.
  - A final verbal quiz: "Tell me the three most important safety rules we talked about today."