**Course:** Family and Consumer Sciences

**Audience/age group:** Grades 6-8

**Unit:** Foods

**Lesson topic:** Measuring and equivalents

**Lesson description:** This lesson will focus on measuring while cooking/baking and using math strategies to convert recipe size correctly.

**Time Frame:** 40 minutes (1-2 days)

**Learning goal/objective:** Identify cooking terminology related to abbreviations, measuring techniques, and converting recipes.

Demonstrate how to measure dry and liquid ingredients.

**Nebraska standards:**

HSE.MS.6.3 Identify cooking tool, utensil, and small appliance use and safely demonstrate their functions.

HSE.MS.6.6 Identify and practice kitchen safety steps while preparing foods in the kitchen.

HSE.MS.6.8 Identify recipe parts & discuss the importance of each including measuring, abbreviations, conversions, and cooking methods.

**Lesson:**

1. **Set activity:** Have students complete the review at the top of the “Measuring Techniques” worksheet. Students should match the abbreviation with the meaning. This will get students thinking about previous knowledge they have as it relates to measurement in foods.
   * **Guiding Questions:**
     + Were you able to recall the abbreviations and their meanings?
     + Have you see these abbreviations before? Where?
2. **Activity #1:** Students should follow along with a guided PowerPoint regarding how to measure certain ingredients. Students should match the measurement technique to the ingredients. If this is the first time teaching measurement to students, the measurement techniques should be demonstrated. However, if this is a review it can be summarized with an explanation and matching.
   * **Guiding Questions:**
     + What experience do you have with cooking/baking and measurement in the kitchen?
     + Have you measured any of these ingredients before? Did you follow these same strategies?
     + Is math used when measuring ingredients in cooking and baking? What are some examples of when math is used?
       - Some examples include….doubling or cutting in half a recipe, calculating time and temperature if adjusting a recipe, calculating nutrition information, calculate cost of a recipe, etc.
3. **Activity #2:** To continue learning about measuring ingredients, have students complete the “Match the Tool” activity. Students will match the ingredient and correct measurement tool. The teacher should walk around and monitor as students complete this activity. This should be used as a formative assessment tool to see what students are or are not understanding about measuring ingredients. If students are successful at matching the ingredient with the measuring tool, the class can move onto equivalents, otherwise continue working on how to measure.
4. **Activity #3:** A large part of cooking or baking is adjusting recipe size. Therefore, students need to know equivalents. For example if a recipe calls for ¼ cup of sugar (and students are cutting the recipe in half), they need to know that ¼ cup is equivalent to 4 tablespoons, concluding that they need 2 tablespoons for the new recipe.
   * **Guiding Questions:**
     + What is an example of a time you would need to adjust the recipe size?
     + What math skills are needed to adjust a recipe size?
     + Adjusting recipe size requires changing fractions. How do you multiply, divide, add, or subtract fractions?
       - This is an opportunity for the FCS teacher to review mathematics using fractions. Please communicate with a math teacher in your building to ensure that correct terminology and strategies are used. Then work through a couple of example problems.

Have students practice doubling and cutting a recipe in half using the chocolate chip recipe on their worksheet. You can work through a couple ingredients together or have students do it independently. This is another resource that can be used as a formative assessment to assess how students do with converting a recipe size.

1. **Activity #4:** Finally, have students complete the measurement lab. Divide students into groups (cooking groups) to practice measuring skills and evaluate how they do measuring a recipe in full and cutting the same recipe in half.
   * First, have students measure the eight ingredients with the amounts listed. Have students put ingredients #1-4 in a bowl, and #5-8 in a custard cup.
   * Then, have students cut the recipe in half and measure again.
   * The teacher should check that measurements are correct and that proper measurement techniques are used. Complete the lab evaluation form to give students a grade.
2. **Closure:** Discuss as a class:
   * How did your group do measuring the ingredients with original amounts, and then cut in half?
   * What strategies did you use to divide ingredient amounts?
   * Did your group correctly measure all of the ingredients?
   * Today, the class used math and fractions to learn how to divide and expand a recipe. Can you think of another example when math and fractions are used in the kitchen?

Collect worksheets and lab evaluation forms.

Assessment:

* Formative assessment: Measuring worksheet
* Summative assessment: Measurement lab

Supplemental Information:

N/A