

APPLIED MATH

Kitchen Measurement - Unit Breakdown

Lesson 1: Kitchen Conversions & Serving Conversions

- Learn abbreviations for kitchen units up to a gallon
- Convert between pounds & ounces, cups & ounces, teaspoons & tablespoons, etc.
- Double, triple, & halve measurements given teaspoons, tablespoons, & fractions of a cup

Lesson 2: Recipe Conversion - from 4 servings to 2

- Use a real recipe to cut the yield in half & find new amounts for all ingredients
- Compute the number of grams of fat, protein, & carbohydrate a teenager should consume daily
- Calculate the percentage of calories, fat, cholesterol, protein, sodium, & carbs found in the given recipe
- Research 2 activities & the amount of calories they burn, then calculate how long the activity would need to be done to burn off the calories from the given recipe

Lesson 3: Recipe Conversion - from 4 servings to 10 and from 16 servings to 4

- Use the same recipe from lesson 2 to increase the yield & find new amounts for all ingredients
- Determine the most efficient way to measure increased ingredient amounts
 - Ex: 10 tablespoons = $\frac{5}{8}$ cup = $\frac{1}{2}$ cup plus 2 tablespoons
- Use a new recipe to divide the yield by 4 & find new amounts for all ingredients
- Determine what size products to buy

Lesson 4: Meal Math

- Serving Conversions
 - All "Meal Math" lessons will use the same 3 recipes from online cookbooks
 - Read 3 recipes & convert yields to 4 servings & find new amounts for all ingredients
- Ingredients List
 - Compile a total ingredient list from the 3 recipes
 - Use an online grocery store to research appropriate size products & prices then calculate a total grocery bill & an adjusted bill if staple ingredients aren't purchased
- Nutrition Facts
 - Research the percentage & amounts of calories, fat, saturated fat, sodium, protein, & carbohydrates that are recommended daily for teens
 - Calculate the percentages of each category that this meal of 3 recipes provides
- Doughnut Charts
 - Use Google Sheets to create doughnut charts showing the % breakdown of fat, protein, & carb calories from the 3 recipes

- **Fast Food Nutrition Facts**
 - Conduct online research to find amounts & then calculate percentages for the same nutrients as the earlier lesson but for fast food
 - Compare the doughnut charts listed on the websites with the ones made for the 3 recipes
 - Compare & contrast the health contents of the 3 recipes & fast food
- **Recipe Makeover**
 - Examine Nutrition Facts labels
 - Compare the calorie, fat, saturated fat, & sodium contents of original & lighter versions of 5 ingredients then calculate the % decrease the lighter versions have on the nutrition facts of the original 3 recipes
 - Compare the healthier versions of the 3 recipes to the health contents of fast food

Lesson 5: Concentrate Weed Spray

- Given only information from the label, calculate the amount of concentrate that is needed to mix with water to form the correct solution for a hand-trigger sprayer, then determine the most efficient way to measure that with standard kitchen measuring utensils
- Calculate the number of applications that can be mixed from 1 bottle