

MealTime Memo

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CULINARY MATH: CONVERSIONS & ADJUSTMENTS



Whether you're making a snack for six children or lunch for sixty, good culinary math skills are essential and make cooking easier, more accurate, and less stressful. This Mealtime Memo explains how to convert recipes and adjust ingredient amounts to keep your food consistent and accurate every time.

Why Culinary Math Matters

You may not think about math when you put on your apron, but it's part of every task in the kitchen. From doubling a recipe to measuring ingredients accurately, culinary math is essential to a successful kitchen. Practicing this skill ensures every serving meets meal requirements.

Recipe Too Big? Too Small? Scale It!

Ever found a great recipe, but it makes 50 servings when you only need 10? No problem! You can adjust the recipe using a few easy calculations known as the **factor method**.



What's the Factor Method?

This is a simple two-step way to make a recipe bigger or smaller, so you get the correct number of servings:

- 1. Step 1: Find the Scaling Factor**
Divide the number of servings you **need** by the number of servings the recipe **makes**.
- 2. Step 2: Multiply Each Ingredient by the Factor**
Multiply each amount in the recipe by the scaling factor.





Example: Scaling Up

You **need** 25 servings, but the recipe **makes** 6.

- **Step 1:** $25 \div 6 = 4.16$ (this is your factor)
- **Step 2:** Multiply each ingredient by 4.16.
- Ex: 1 pound (lb) chicken $\times 4.16 = 4.16$ lbs (round up to 4.25 pounds or 4 lb 4 oz)

Example: Scaling Down

You **need** 6 servings, but the recipe **makes** 25.

- **Step 1:** $6 \div 25 = 0.24$ (factor)
- **Step 2:** Multiply each ingredient by 0.24.
- Ex: 3 cups of milk $\times 0.24 = 0.72$ cups (round up to $\frac{3}{4}$ cup)

Make All Ingredients the Same Unit

Once you've calculated the factor, make sure your ingredient amounts use the same unit before multiplying.

- For example: 5 lb 8 oz equals 5.5 pounds (16 oz in a pound—8 oz is half a pound)

Using the same unit makes it much easier to adjust the recipe.

Smart Measuring Means Less Guessing

After you adjust a recipe, you might end up with an amount that takes many small measurements.

Choose the measuring tool that gets you closest to the amount with the least effort.

Fewer scoops mean fewer mistakes!

For example, 12 tablespoons equal $\frac{3}{4}$ cup.

The **Culinary Measurement Conversions** chart has common conversions. Both resources below include conversion charts.

Culinary Measurement Conversions		
Unit	Equivalents	
1 tablespoon	3 teaspoons	$\frac{1}{2}$ fluid ounce
$\frac{1}{8}$ cup	2 tablespoons	1 fluid ounce
$\frac{1}{4}$ cup	4 tablespoons	2 fluid ounces
$\frac{1}{3}$ cup	5 tablespoons + 1 teaspoon	2 $\frac{3}{4}$ fluid ounces
$\frac{1}{2}$ cup	8 tablespoons	4 fluid ounces
$\frac{2}{3}$ cup	10 tablespoons + 2 teaspoons	
$\frac{3}{4}$ cup	12 tablespoons	6 fluid ounces
1 cup	16 tablespoons	8 fluid ounces
1 pint	2 cups	16 fluid ounces
1 quart	2 pints	32 fluid ounces
1 gallon	4 quarts	128 fluid ounces
1 pound	16 ounces	

Culinary math doesn't have to be hard. With a few simple tricks and some practice, you can adjust recipes and convert measurements with confidence. Don't let tricky serving sizes stop you from using your favorite recipes—convert, scale, and serve with accuracy!



Additional Resources

Want more tips and tools? Check out the ICN's resources for information on basic culinary math skills, scaling recipes, conversion charts, and calculating food costs.

Helpful Tips!

- [Step-by-Step Recipe Standardization Guide for the CACFP](#)
- [Basic Culinary Math for School Nutrition Professionals](#)

References

Institute of Child Nutrition. (2016). *Basic culinary math for child nutrition professionals*. <https://theicn.org/icn-resources-a-z/basic-culinary-math-for-school-nutrition-professionals/>

Institute of Child Nutrition. (2024). *Recipe standardization guide for the child and adult care food program*. <https://theicn.org/resources/2539/step-by-step-recipe-standardization-guide-for-the-cacfp/127246/step-by-step-recipe-standardization-guide-for-the-cacfp.pdf>

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