

Fractions Baking Project

This week, you get to bake a project! I've included the two recipes we went over in class together: Aurora's Incredi-Cookies and a recipe for Rice Krispies Squares. You may do one of these or choose your own favorite recipe.

Before you start, look at the ingredients and make sure you have everything:

Makes 16 cookies

Aurora's MEGA Ultra IncrediCOOKIES

- $\frac{1}{2}$ cup butter
- $\frac{1}{4}$ cup vegetable oil
- $\frac{1}{2}$ cup peanut butter
- $\frac{3}{4}$ cup sugar
- $\frac{3}{4}$ cup brown sugar
- 2 eggs
- 1 tsp vanilla
- $1\frac{1}{2}$ tsp baking soda
- $\frac{1}{2}$ tsp salt
- 1 cup flour
- 2 cups rolled oats
- $1\frac{1}{2}$ cup goodies (chocolate chips, M&Ms, trail mix, or a combo)

Pre-heat your oven to 375°F.

Mix together the first five ingredients together (shown in green) and beat until smooth. Then add the eggs and vanilla (in red), and if you're using a mixer, stop it and scrape down the bowl and beaters. Then add everything else (in blue), saving the goodie mix-ins (in purple) for last. Use a large spoon or ice cream scoop to make 4 cookies at a time on an ungreased cookie sheet. Bake for 12 minutes (times may vary with your oven and altitude). Let cool for a minute before moving to a rack.

You can substitute to make these peanut-free (omit peanut butter), gluten-free (use the 1:1 gluten free baking flour by Bob's RedMill or King Arthur), vegan (use a vegan egg replacer and butter substitute), and dairy free (use all oil or substitute margarine for butter).

Rice Krispie Recipe Calculations

This was the one we did in class where we figured out how many we could make if I had 4 bags of marshmallows and a gigantic box of Rice Krispies.



Rice Krispies Recipe

PREP TIME:
10

TOTAL TIME:
30

SERVINGS:
12

3 tbl butter

5 ½ cups marshmallows

6 cups Rice Krispies cereal

Nutrition Facts
 About 29 servings per container
Serving size 1 ½ Cup (40g)

	Cereal	with ½ cup skim milk
Calories	150	220
Total Fat	0g	0g
Saturated Fat	0g	0g
Trans Fat	0g	0g
Polyunsaturated Fat	0g	0g
Monounsaturated Fat	0g	0g
Cholesterol	0mg	<5mg
Sodium	200mg	9% 280mg

Nutrition Facts
 Serving Size 2/3 cup (30g)
 Servings Per Container About 15

Amount Per Serving	
Calories	100
	% Daily Value*
Total Fat	0g 0%
Sodium	30mg 1%
Total Carbohydrate	25g 8%
Sugars	16g
Protein	Less than 1g 0%

Not a significant source of Calories from Fat, Saturated Fat, Trans Fat, Cholesterol, Dietary Fiber, Vitamin A, Vitamin C, Calcium and Iron.
 *Percent Daily Values are based on a diet of other people's secrets.



For the cereal, we had 29 servings per box, and each serving was 1 ½ cups. So we multiply those two numbers to get 43 ½ cups of cereal is in my box. That's how much I have available to use in my baking project.

This calculation only works if we haven't used any yet. (Otherwise you have to measure it out using your measuring cups.)

$$\begin{aligned}
 &\left. \begin{array}{l} 29 \text{ servings per box} \\ 1\frac{1}{2} \text{ cups per serving} \end{array} \right\} 29 \times 1\frac{1}{2} \\
 &\qquad\qquad\qquad 29 \times \frac{3}{2} = \frac{87}{2} = 43\frac{1}{2} \text{ cups per box}
 \end{aligned}$$

Fractions Week #2

For the marshmallows, I have 15 servings per bag, and each serving is $\frac{2}{3}$ cup. So we multiply those two numbers together to get 10 cups of marshmallows per bag.

I have four bags, so that means I have 40 cups of marshmallows that I can use!

Handwritten math on a chalkboard:

Marshmallows

15 servings per bag

$\frac{2}{3}$ cup per serving

$$\frac{15}{1} \times \frac{2}{3} = \frac{30}{3} = \frac{3 \times 10}{3 \times 1} = \frac{10}{1} = 10 \text{ cups}$$

4 Bags! $4 \times 10 \text{ cups} = \underline{\underline{40 \text{ cups}}}$

Now let's look at the recipe:

3 tbl butter

5 $\frac{1}{2}$ cups marshmallows

6 cups Rice Krispies cereal

If the recipe uses 6 cups of cereal, and 5 $\frac{1}{2}$ cups of marshmallows, which one do you expect to run out of first? We need more cereal than marshmallows, but it looks pretty close, doesn't it?

If we made my recipe 10 times, we'd need 60 cups of cereal. We don't have that much, so let's try 8x.

For 8x the recipe, we'd need 48 cups of cereal. That's still too much, but only by a little bit! How about 7x the recipe?

For 7 the recipe, we need 7×6 cups of cereal = 42.

We have 43 $\frac{1}{2}$ available, so this works!

Now... before you start baking, let's make sure we don't run out of marshmallows.

For 4x the recipe, we need 22 cups of marshmallows.

We still have a lot left over, so let's make 4x the recipe again. That means we're doubling the 4x recipe, so it will be 8x the original recipe.

If we make an 8x recipe, we need 44 cups of marshmallows. Do we have 44 cups of marshmallows? Nope. We only have 40 cups, so let's back it off a little and try making 7x recipe.

Recipe: mm: $5\frac{1}{2} = \frac{11}{2} \times 4 = \frac{44}{2} = \frac{8 \times 22}{2}$

4x recipe \rightarrow 22 cups marshm

8x \rightarrow 44 cups mm.

7x orig recipe

Yay! We have enough for 7x recipe (we actually had $1\frac{1}{2}$ cups of both the cereal and marshmallows left.)

For 7x, we would be able to make $7 \times 12 = 84$

So... 84 2" square rice krispie treats to share with our friends!

Nice job!

Are you ready to do this on your own?

Great! Let's bake your favorite recipe... go get it now and then turn the page.

Baking Project

What are you going to make this week? Write your recipe here:

Look at the flour bag. How many cups of flour do you have available to you? (you can measure this or figure it out from the label on the back, like we did in class)

Look at the sugar (or sweetener you are using for your cookies).
How many cups do you have available to you?

Assuming you have a *lot more* of all of the other ingredients, about how many cookies could you make? Would you be able to double your recipe without running out of flour or sugar? Triple it? 10x?

How many cookies would this make if you actually made your recipe that many times?