

Sugar and Spice

George is baking apple cinnamon muffins. Use the recipe card to answer the questions.

Apple Cinnamon Muffins

$1\frac{1}{2}$ cups flour

$\frac{3}{4}$ teaspoon nutmeg

$\frac{3}{4}$ cup white sugar

$\frac{1}{4}$ cup vegetable oil

2 teaspoons baking powder

$\frac{3}{8}$ cup milk

$\frac{1}{2}$ teaspoon salt

$1\frac{1}{4}$ cups chopped apples

$1\frac{3}{8}$ teaspoons cinnamon

1 egg

1. George uses the recipe to make muffins. Estimate the total amount of cinnamon and nutmeg he uses. Describe how you made your estimate.

$$C = 1\frac{3}{8} + \quad N = \frac{3}{4} +$$

- I rounded the cinnamon to equal $1\frac{1}{2} +$ and the nutmeg to equal $1 +$ (or down to $\frac{1}{2} +$)
- Adding them together equals $2\frac{1}{2} +$ (or $2 +$)

2. How much more cinnamon than nutmeg does George use? Show your work.

$$C = 1\frac{3}{8} = \frac{11}{8} = \frac{8}{8} + \frac{3}{8} \quad N = \frac{3}{4} = \frac{6}{8}$$

$$\frac{11}{8} - \frac{6}{8} = \frac{5}{8}$$

George uses $\frac{5}{8} +$ more cinnamon than nutmeg

3. George puts the chopped apples in a bowl. Then he takes out $\frac{1}{2}$ cup of the apples, and adds the oil. What is the combined amount of apple and oil in the bowl? Show your work.

- Apples - $1\frac{1}{4}$ C
- Oil - $\frac{1}{4}$ C

$$\begin{array}{r} 1\frac{1}{4} = \frac{5}{4} \\ - \frac{1}{2} = -\frac{2}{4} \\ \hline \frac{3}{4} \text{ Apples} \end{array}$$

$$\begin{array}{r} \frac{3}{4} \text{ Apples} \\ + \frac{1}{4} \text{ oil} \\ \hline \frac{4}{4} = 1 \text{ C oil } + \text{ apples in the bowl} \end{array}$$

4. The table shows the cups of milk George needs to make different numbers of batches of muffins.

Number of Batches	1	2	3	4
Cups of Milk	$\frac{3}{8}$	$\frac{3}{4}$	$1\frac{1}{8}$	$1\frac{1}{2}$

$$\begin{array}{r|l} 5 & 6 \\ \hline \frac{15}{8} & \frac{18}{8} \end{array}$$

If the pattern continues, how many cups of milk does George need to make 6 batches of muffins? Explain how you found your answer.

6 Batches of muffins = $\frac{18}{8}$ C of milk

$\frac{18}{8} = 2\frac{2}{8}$ or $2\frac{1}{4}$ C milk