

Chemistry Cookie Project –Chocolate Chip

- In this lab you will be converting a recipe from moles to standard cooking measurements and then using that recipe to bake some cookies!
- You will need the following tables in order to convert your recipe:

Molecular Formula Table

Use the following molecular formulas to calculate grams of ingredients.
NOTE: Most of these substances have extremely complex molecular formulas.
 I have greatly simplified your project by listing a representative formula only.

Anise	$C_{10}H_{12}O$
Baking Soda	$NaHCO_3$
Baking Powder	$NaHCO_3$
Brown Sugar	$C_{12}H_{22}O_{11}$
Butter	$C_9H_{14}O_6$
White (Cane) Sugar	$C_{12}H_{22}O_{11}$
Chocolate	$C_4H_8O_4$
Cinnamon	C_9H_8O
Cloves	$C_{10}H_{12}O_2$
Cream of tartar	$KHC_4H_5O_6$

Flour	$C_4H_8O_4$
Lemon Juice (extract)	$C_6H_8O_7$
Margarine	$C_9H_{12}O_6$
Milk	85% H_2O 15% $C_9H_{14}O_6$
Molasses	$C_{12}H_{22}O_{11}$
Pepper	$C_{17}H_{19}O_3N$
Salt	$NaCl$
Vanilla	$C_8H_8O_3$
Eggs	$C_6H_{12}O_3N_2$

Unit Conversions

Use the following conversions to get from grams to a standard cooking unit of measure.

1 teaspoon of baking soda = 2.84g
 1 teaspoon of vanilla extract = 4.73g
 1 large egg = 50g
 1 cup flour = 141.95 g
 1 teaspoon salt = 4.16 g
 1 cup butter = 236.59 g
 1 cup sugar = 198.73 g
 1 cup brown sugar = 141.46 g
 1 ounce chocolate chips = 28.35 g
 1 tablespoon lemon juice = 14.20 g
 1 teaspoon baking powder = 2.84 g

1 teaspoon cream of tartar = 2.84 g
 1 teaspoon cinnamon = 2.84 g