



MOLE COOKIE DIGITAL LAB

INSTRUCTIONS

Pick a Cookie Recipe (You only need to do one!)

You will need to convert the recipe from moles to standard cooking measurements and then using that recipe to bake some cookies

You will need to show your work by [inserting an image](#) of your hand written dimensional analysis

Be sure to have units and your answers clearly labeled



[Small Batch Chocolate Chip Cookies](#)

[Small Batch Lofthouse Cookies](#)



FORMULAS AND UNIT CONVERSIONS

Baking Soda NaHCO_3

1 teaspoon baking soda= 2.84g

Baking Powder NaHCO_3

1 teaspoon vanilla extract= 4.73g

Brown Sugar $\text{C}_{12}\text{H}_{22}\text{O}_{11}$

1 large egg yolk= 18g

Butter $\text{C}_9\text{H}_{14}\text{O}_6$

1 cup flour= 141.95g

White (granulated) Sugar $\text{C}_{12}\text{H}_{22}\text{O}_{11}$

1 tablespoon flour= 8.5 g

Powdered Sugar $\text{C}_{12}\text{H}_{22}\text{O}_{11}$

1 teaspoon salt= 4.16g

Chocolate Chips $\text{C}_4\text{H}_8\text{O}_4$

1 cup butter= 236.59 g

Cinnamon $\text{C}_9\text{H}_8\text{O}$

1 cup sugar= 198.73 g

Flour $\text{C}_4\text{H}_8\text{O}_4$

1 cup brown sugar= 141.46 g.

Milk or Cream 85% H_2O 15% $\text{C}_9\text{H}_{14}\text{O}_6$

1 tablespoon sugar= 12.6 g

Salt NaCl

1 cup powdered sugar= 113g

Vanilla Extract $\text{C}_8\text{H}_8\text{O}_3$

1 ounce chocolate chips= 28.35 g

Egg Yolk $\text{C}_6\text{H}_{12}\text{O}_3\text{N}_2$

1 teaspoon baking powder= 2.84g

1 tablespoon milk/cream= 14.44g

1 teaspoon milk/cream= 5.00g

1 tablespoon butter= 14.2 g

LOFTHOUSE COOKIE RECIPE

0.195 mol unsalted butter, room temperature
0.194 mol granulated sugar
0.112 mol large egg yolk
1.202 mol heavy cream
0.0311 mol vanilla extract
1.182 mol all-purpose flour
0.0169 mol baking powder
0.0089 mol fine sea salt

For the Frosting
0.325 mol unsalted butter, room temperature
0.248 mol powdered sugar
0.0155 mol vanilla extract
0.052 mol heavy cream

Instructions in Speaker Notes

INSERT IMAGE OF WORK HERE

OR TYPE OUT CONVERSIONS

CHOCOLATE CHIP COOKIE

0.390 mol unsalted butter, softened
0.104 mol dark brown sugar
0.110 mol granulated sugar
0.112 mol large egg yolk
0.0233 mol vanilla extract
0.591 mol + 0.142 mol all-purpose flour
0.0089 mol fine sea salt
0.00845 mol baking soda
0.00845 mol baking powder
0.944 mol chocolate chips

INSERT IMAGE OF WORK HERE

OR TYPE OUT CONVERSIONS

Instructions in Speaker Notes