**HOLY MOLY THESE ARE GOOD COOKIES**

This mole activity is designed for chemistry students who want to have fun learning the mole while working in the kitchen **(Disclaimer**: You are only required to convert the recipe, **you are not required to bake the cookies** but if you do decide to bake please get your parents permission)

**Ingredients:**

*0.200 moles of white sucrose*

*0.200 moles of brown sucrose*

*125.0 cm3 butter (stick)*

*2.5 ml of 4-hydroxy-3-methoxybenzaldehyde*

*1 large CaCO3 protective chamber (Use only the albumen and protein filling)*

*281.25 ml ground wheat endosperm*

*0.0928 mol sodium chloride*

*0.0262 mol sodium bicarbonate*

*250.0 ml of a chunky substance that smells like cacao*

**Pre-Lab Assignment**:

***You must complete the following in a separate document and upload it to my website (you can hand write on a piece of paper if you wish and attach a photo or scan of your work):***

1. You must translate the all ingredients to kitchen friendly terms (use metric cups &teaspoons)
2. Change chemical names to common names.
3. Convert all the chemistry measurements to kitchen measurements using the following conversion factors. (show all work)
   1. Convert moles of brown and white sucrose to grams and then into cups.

1 cup of sucrose = 205.404 g

* 1. Convert moles of sodium chloride to grams and then to tsp.

1 tsp of sodium chloride = 10.85g

* 1. Convert moles of sodium bicarbonate to grams and then to tsp.

1 tsp of sodium bicarbonate = 4.40g

* 1. Determine what Kelvin’s are. Convert 463.71 Kelvin to Celsius and then to Fahrenheit to solve for oven setting

[(K-273.15) X 9/5] +32 = 0F

[**Procedure:**](http://www.hurry.to/qss/qssproc.html)

1. Using a wrapped stick of butter, carefully find the width and height (in cm) at the end of the stick. Use the formula, volume = length X width X height, and solve for the length of butter that you need. Measure that length, cut the stick of butter, and soften.
2. Beat softened butter, brown sugar, white sugar, vanilla and egg until creamy.
3. In a separate bowl, mix flour, baking soda and salt.
4. Gradually add the flour mixture into the creamy mixture while beating.
5. Stir in chocolate chips evenly throughout the dough.
6. Place small spoonful’s of dough onto a cookie sheet. (if they are too large they may not cook completely)
7. Bake at 463.71 KELVIN or \_\_\_\_ oF for 8 to 10 minutes.
8. Eat the cookies when they are cool. Best served with a nice cold glass of milk!