

# The "Knead"™ For Baking

ESTD 2018

A Girl Scout Gold Award by Sofia Votava  
in cooperation with the Home Baking Association

## Why Bake?

6- Baking and  
cooking food at home  
can save money.

5- Baking encourages  
responsibility.

4- Baking with a group  
encourages teamwork.

1- Baking teaches  
problem solving skills.

2- Baking and cooking  
one's own food actually  
burns calories.

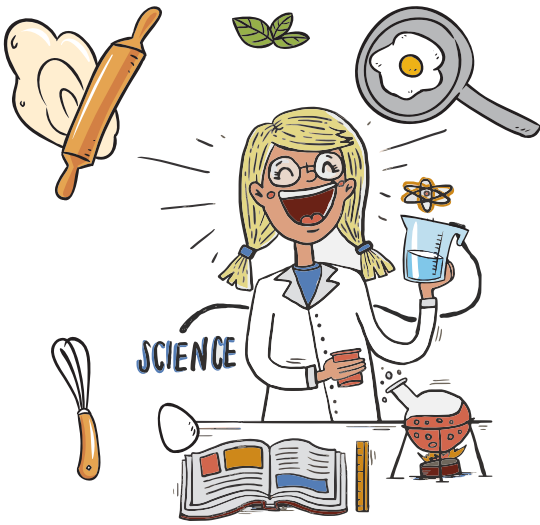
3- Baking teaches  
chemistry and math.





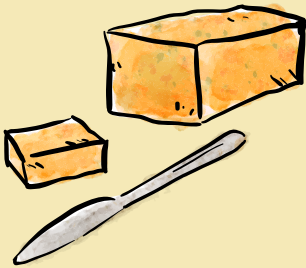
## Kitchen Safety

- ☒ Wash hands with warm soap and water for at least 30 seconds.
- ☒ Always have hair tied back and don't wear loose clothing or dangly jewelry.
- ☒ Make sure all surfaces and utensils are clean to avoid cross contamination.
- ☒ Keep bowls and utensils used for raw eggs separate from clean bowls and utensils.
- ☒ Wash hands after handling raw eggs.
- ☒ Don't eat the cookie dough because the raw eggs could contain Salmonella or E. Coli which are harmful bacteria that will make you sick.
- ☒ Avoid touching hair and face when preparing food.
- ☒ Always have oven mitts next to the stove and oven.
- ☒ Keep small children away from the oven when it is on.
- ☒ Place cooling racks away from where batter and dough are mixed.
- ☒ Wash hands again before packaging the cooled items.
- ☒ Use paper towels to clean up any surfaces as cloth towels can harvest bacteria.



# Science Behind Baking

## Stick of butter



Using unsalted butter is preferable so that one can regulate the amount of salt used in the recipe. Because salt is a preservative, salted butter is usually on the shelf longer than unsalted butter; therefore, unsalted butter is more fresh.



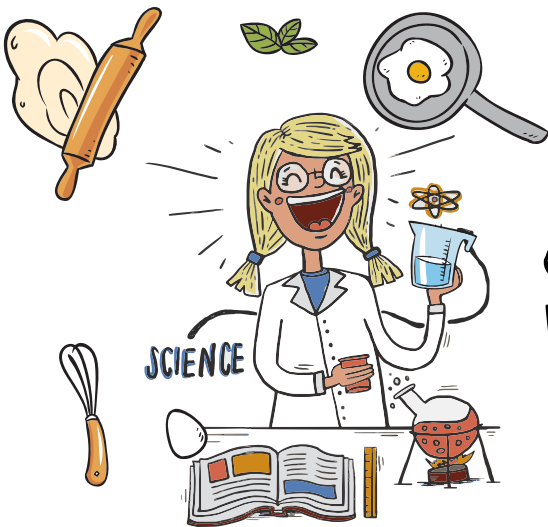
## Salt

Salt can also be used as a flavor enhancer. Salt automatically triggers a surge of SGLT1 sensors to the sweet taste cell which then gives the perception of an even sweeter bite. While a small amount of salt can enhance flavoring, too much will overpower it.

## Baking Soda



Baking soda is a base and will only react with an acid. Acids in a cookie recipes can include buttermilk, brown sugar, yogurt, lemon juice, vinegar, cream of tartar, molasses, applesauce, natural cocoa powder, or honey. When the baking soda reacts with these ingredients it creates carbon dioxide which makes the baked good rise. Baking soda is about 3-4x stronger than baking powder.



# Science Behind Baking

## Baking Powder



Baking powder, on the other hand, reacts when it is wet or when it is exposed to heat. It is made up of baking soda and usually cream of tartar, which is a dry acid. Since baking powder already has both the base (baking soda) and acid (cream of tartar) components, it is usually used when there is no other acid called for in the recipe.

## Brown and White Sugar



The myth that brown sugar is healthier than white sugar is untrue. For many cases, brown and white sugar are interchangeable in a recipe. However, brown sugar contains more moisture in it, therefore creating a more moist product. Brown sugar also affects the color of the baked good as it will likely have a darker appearance.

## Mixer



It is important to whip the butter and sugar together for at least 2 minutes so that the consistency of the cookie is not too dense. By mixing the two ingredients at a fast pace, tiny air pockets are created in the mixture, which in return creates a fluffier cookie.

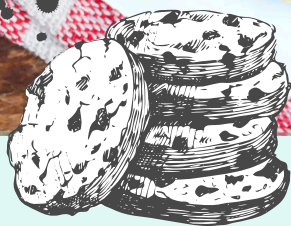
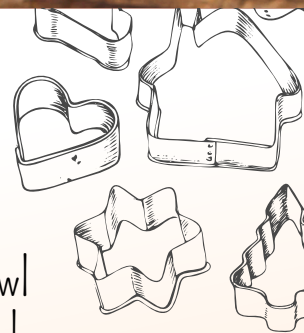




# Chocolate Chip Cookies

## Materials needed:

- Unsalted Butter
- White sugar
- Brown sugar
- Eggs
- Vanilla extract
- All purpose flour
- Salt
- Semisweet chocolate chips
- Multi-speed mixer
- Small bowl
- Large bowl
- Measuring spoons/cups
- Cookie sheets
- Parchment paper or silicone baking mats
- Oven
- Ziploc sandwich bags or food-safe cellophane bags



## Recipe for Chocolate Chip Cookies :

### Recipe:

1 Cup unsalted butter  
AT ROOM TEMP (usually 2 sticks)  
1 cup white sugar  
1 cup brown sugar  
2 eggs  
2 teaspoons vanilla extract  
3 cups all-purpose flour  
1 teaspoon baking soda mixed  
w/ 2 teaspoons hot water  
½ teaspoon salt  
3 cups semisweet chocolate chips

### Halved (multiply recipe x0.5)

\_\_\_\_\_ cup unsalted soft butter  
\_\_\_\_\_ cup white sugar  
\_\_\_\_\_ cup brown sugar  
\_\_\_\_\_ eggs  
\_\_\_\_\_ teaspoon vanilla extract  
\_\_\_\_\_ cup all-purpose flour  
\_\_\_\_\_ teaspoon baking soda  
w/ \_\_\_\_\_ teaspoon water  
\_\_\_\_\_ teaspoon salt  
\_\_\_\_\_ cups semisweet chocolate chips

### Doubled (multiply recipe x2)

\_\_\_\_\_ cup unsalted soft butter  
\_\_\_\_\_ cup white sugar  
\_\_\_\_\_ cup brown sugar  
\_\_\_\_\_ eggs  
\_\_\_\_\_ teaspoon vanilla extract  
\_\_\_\_\_ cup all-purpose flour  
\_\_\_\_\_ teaspoon baking soda  
w/ \_\_\_\_\_ teaspoon water  
\_\_\_\_\_ teaspoon salt  
\_\_\_\_\_ cups semisweet chocolate chips

# Baking Instructions:



350°F



Preheat the oven to 350° F



Step 1: Place the butter, white sugar, and brown sugar in your mixing bowl and let it whip for 2-3 minutes on a high speed. It should look fluffy and almost like frosting. If your butter is not at room temperature, it will take longer to mix in order to get the fluffy results.



Step 2: Crack the eggs into a smaller bowl and throw away the egg shells. This way if any egg shells happen to fall into the bowl, they are easier to pick out and do not go directly into the batter. Clean up any egg residue that may have spilled on the counter.



Step 3: While the mixer is off, pour one egg from the smaller bowl into the mixing bowl. Then, mix until it is mostly incorporated into the batter. Continue this until all of the eggs are mixed into the bowl. Place the small bowl that the eggs were in into the sink.



Step 4: Pour the baking soda and water into a measuring cup and stir for a few seconds until it looks like a paste. Then, pour it into the batter. Make sure all of the baking soda and water mixture is out of the small cup because it is vital for the recipe.



Step 5: Measure the vanilla and salt, then add them to the batter as well. Mix for 30 seconds, or until fully incorporated.

# Baking Instructions:



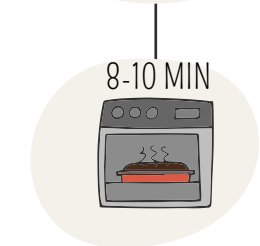
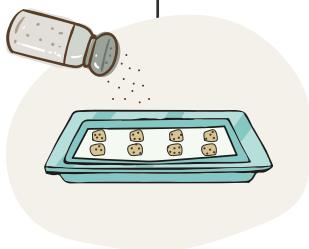
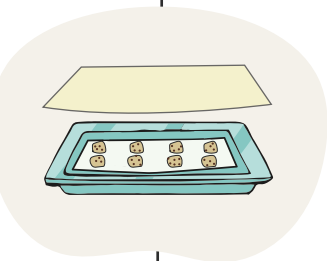
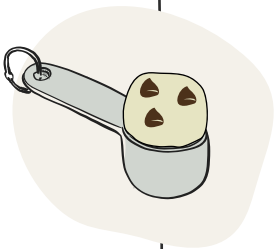
Step 6: Measure the flour and chocolate chips and then put the ingredients into a large bowl. Slowly add about  $\frac{1}{4}$  of the flour and chocolate chip mix into the batter and turn the mixer on low. Turn off the mixer and continue to add the flour mixture little by little. This procedure avoids a large flour eruption that could occur if all the flour is added at once and mixed. At this point, the batter should look relatively thick with chunks of chocolate chips.

Step 7: Use a 2 Tablespoon measuring spoon or an ice cream scoop and fill it with cookie dough. Place the dough in your hands and shape it into a sphere. Do not roll it in your hands to make a smooth ball, just form it into a round shape; place the dough onto the baking pan with parchment paper. This creates a uniform size amongst every cookie.

Step 8: Take another piece of parchment paper and lay it over the balls of cookie dough. Use another cookie sheet and place it over the parchment covered cookie dough and squish it down evenly. The "squish technique" makes the cookies more flat so they can be baked evenly throughout.

Step 9: Take a salt shaker and lightly dust the cookies with salt. As we have learned, the salt enhances the cookies flavoring.

Step 10: Bake in the oven for 8-10 minutes, or until the edges are golden brown. Then take the cookies out to cool.





## Next Steps:



Now that you have made a delicious batch of chocolate chip cookies, I encourage you to donate them! Reach out to places in your community that may want or need your cookies. These may include fire stations, local charities, or a marine base.

If you want to continue learning how to bake and continue challenging yourself, use the link below to get connected with the Home Baking Association, King Arthur Flour, or visit my website:

- <http://www.homebaking.org/>
- <https://www.kingarthurfour.com/bakeforgood/kids/>
- [www.thekneadforbaking.com](http://www.thekneadforbaking.com)

A special thank you to Sharon Davis of the Home Baking Association for her expertise on baking education.

### • For further inquiries:

✉ [sofia@thekneadforbaking.com](mailto:sofia@thekneadforbaking.com)

📷 [#thekneadforbaking](https://www.instagram.com/thekneadforbaking)

### • Sources:

<http://joythebaker.com/2013/09/baking-101-why-we-use-unsalted-butter/>

<https://www.organics.org/heres-why-we-put-salt-in-our-desserts-best-types-of-salt-to-use/>

<https://sallysbakingaddiction.com/2015/06/11/baking-powder-vs-baking-soda/>

<http://escali.com/blog/brown-sugar-vs-white-sugar-whats-the-difference/>