

## The science behind chocolate chip cookies



There are few things more delicious than a freshly baked chocolate chip cookie. But have you ever tried to bake some? It's not all that easy, in my experience!

As [one article](#) puts it: "The humble chocolate chip cookie is the baker's crucible. So few ingredients, so many possibilities for disaster". I've been on a quest to find out what makes these cookies go wrong, and why.

It appears, from my research, that the science of making chocolate chip cookies is much less exact than the [science of making cupcakes](#). Still, from various sources, I managed to extract a cookie formula that goes something like this: 8 ounces butter, 10 ounces sugar, and 12 ounces flour. (I know we don't live in the US-of-A, and our recipes are generally in grams and cups, but the imperial measurements certainly make this formula easy to remember, don't you think?)

Let's use this formula to make up a recipe. So far, we have:

- 8 oz (about 225g) unsalted butter
- 10 oz (about 1.5 cups) sugar
- 12 oz (about 2.75 cups) flour
- 160g chocolate chips (you can vary the amount according to your taste)

**TIP:** I used Cadbury's milk chocolate, chopped into chunks. It tastes better than most chocolate chips. I also love using M&Ms.

Now we have a VERY basic cookie recipe, but these cookies will probably be flat and hard. So, let's add some supporting ingredients:

- 2 large eggs – these will soften the cookies and help make them nice and 'puffy'
- 1 tsp baking soda – to help the cookies rise, and also to brown
- 1 tsp salt – to bring out the flavour

**Now for the method:**

1. Cream the butter and sugar with an electric mixer.
2. Add the eggs, one at a time, mixing well after each one.
3. Gradually beat in the flour, baking soda and salt.
4. Then stir in the chocolate chips. You have cookie dough!
5. Refrigerate the dough for a while. I usually leave it in the fridge over night, but if you are desperate for cookies 30-60 minutes will also do.
6. Form balls of cookie dough and place them on a baking sheet. Make sure you leave enough space for them to spread.
7. Bake for about 8 to 10 minutes at 180 degrees.

**TIP:** You want to make sure you take your cookies out just as they have started browning, so they are golden but NOT overcooked and hard. I watch my cookies like a hawk, especially the bottoms to make sure they don't burn.

And now for some more science. Cookies are all about texture, and different people have different preferences. Here are a few tips to help you make your ideal cookie:

**Temperature:** if your dough is cold and refrigerated, it will take longer to melt and spread less. So your cookies will be thicker. If you want them thinner, squash the balls of dough with a fork before baking.

**Flour:** for thinner, crispier cookies, you can reduce the flour down to 10 or 11 ounces. This lower flour-butter ratio will cause the butter to melt quicker and the cookies to spread more.

**Sugar:** you can also swap half of the white sugar for brown sugar. Brown sugar will make your cookies more moist and chewy.

And that's it! Happy chocolate chip cookie baking.