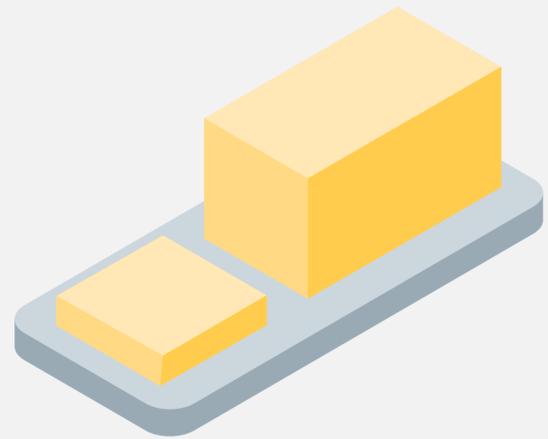


Pop-Up Pioneer: Making Butter

Put on your chef's hat and learn how to make butter from the comfort of your own home!



MATERIALS:

- One container of whipping cream;
- A glass jar with a tight-fitting lid - like a mason jar;
- A container full of cold water;
- One or two bowls;
- A spoon and/ or a knife;
- A piece of toast or some crackers (optional)

Instructions:

1. First, leave your whipping cream on the counter for about thirty minutes to an hour to let it come up to room temperature (N.B. if the whipping cream is too cold or too hot, it will not turn into butter).
2. Open up the whipping cream; pour it into the mason jar until it is half full.
3. Put the lid onto the mason jar and make sure it is closed tightly.
4. Shake the mason jar full of whipping cream! It is helpful to have several people doing this step, as your arm muscles will get tired after a little while.
5. After about two minutes, the whipping cream will start to solidify. This is the stage where the whipping cream turns into something more solid called whipped cream. Keep shaking for approximately five more minutes.
6. By now the whipped cream will have solidified even further and turned into butter. Use the spoon to help you dump the contents into a bowl and pour some cold water over the butter. Washing the butter like this helps to drain it of the excess fat and buttermilk that is left over from the shaking process. Pour out the water and do it a few more times until the water runs clear (NOTE: you don't have to necessarily do this step if you don't think it needs it, it will just make your butter last longer if you store it at room temperature).
7. Take your knife and spread the butter onto some toast or crackers and enjoy!

History and Science Connection:

Butter is one of the oldest known foodstuffs, where humans discovered how to make it about 4,000 years ago. It would have to be put in an animal skin container, fatty milk or cream would be added into it, and then swung on a pole until butter was formed.

In the 19th century, pioneers would take the milk from a cow, separate it into milk and cream, and pour the cream into a butter churn. When the cream gets agitated, the fat molecules in the cream get shaken out of position and clump together. If you do that for long enough, the fat molecules will clump together so much that butter eventually forms. Talk about delicious science!



Fig. 1 – At the Butter Churn; etching by François Millet, 19th century.