

Thankful Butter (STEM, Life Skills)

Grade Range: PreK-8 **Time:** 30-40 Minutes

Synopsis: Students are given the materials necessary to enact a chemical change and create a food product. In the end, the students are able to enjoy the fruits of their labor!

Materials:

- 7 glass Mason jar (one per group of 4 students)
- 7 containers of heavy whipping cream (maybe a little extra, just in case!)
- salt
- bread product to taste test the butter
- plasticware: knives, spoons, plates
- Add a marble to help to agitate the butter, which will speed up the process

Instructions:

1. Students will break into desk teams of 4.
2. Students will find on their tables the supplies listed above.
3. Mentors will explain to the students the activity – they will be utilizing the materials in front of them to create a food product!
4. Students will begin by filling the mason jar halfway with heavy whipping cream and closing tightly (this is important!)
5. Each student will shake the jar for 2-3 minutes at a time; as students shake the jar, they will take that time to comment on one thing they feel grateful/thankful for in

their life and why – this is why it is called “thankful butter”!

6. Stop shaking at about the 10 minute mark and carefully open the jar. Talk with the students about what they see...at this point, you should have whipped cream! Explain how they would add sugar to make it sweet, but feel free to allow them to taste it at this point. Add a little bit of salt at this point, explaining that you are aiming for butter, not whipped cream
7. Replace lid and continue shaking for about 10 more minutes or so. Talk with the students about the changes they are noticing: are the solids beginning to separate from the liquid?
8. After the majority of the contents of the jar are indeed solid, carefully open the jar, and use a plastic spoon to scoop it out onto a plate. This is the butter!
9. Encourage students to try the butter on the bread product you have brought in!

Talking Points: What’s the science behind this activity? Heavy cream has a good deal of fat in it, which is why it makes such delicious food items! By shaking the cream, the fat molecules begin to separate from the liquid. The more the cream is shaken, the more the fat molecules clump together, thus forming the butter!