

Grade Kindergarten
Topic Matter
Title Making Butter

Standards:

- K.1.1 Raise questions about the natural world.
- K.1.2 Begin to demonstrate that everyone can do science.
- K.3.1 Describe objects in terms of the materials they are made of such as clay, cloth, & paper.
- K.6.1 Describe an object by saying how it is similar to or different from another object.

Objectives:

Cognitive:

- The learner will observe the transformation from whipping cream to butter.
- The learner will compare/contrast the original product (whipping cream) with the final product (butter).
- The learner will predict what will happen with the various materials.
- The learner will utilize their five senses to describe changes occurring throughout this experiment.

Affective:

- The learner will inquire about materials and procedures throughout the lesson.
- The learner will work cooperatively with other classmates to complete the lesson.

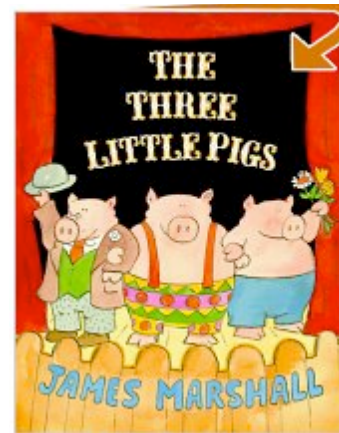
Psychomotor:

- The learner will describe the transformation from whipping cream to butter.
- The learner will display their liking of butter in our “Did You Like the Butter?” graph.

Materials:

Teacher:

- The Three Little Pigs (pictured at right)
- Chart paper
- Markers
- 1 pint heavy whipping cream
- Pinch of salt
- Strainer
- Large bowl (to put underneath strainer)
- Wooden spoon
- 2 glass jars with lids (chilled)
- 2 marbles with lids (chilled)
- Saltine crackers to taste butter



Students (1 per student):

- Notebook
- Pencil

Procedures:

1. Students will take the “How Do You Make Butter?” pre-test.
2. Students gather around teacher's easel with their notebooks and pencils.
3. Show students the materials needed for the experiment and chart them while students write in their notebooks.
4. When list is completed, students can put away their notebooks and sit in a circle around the materials.
5. Ask students to predict what will happen when you put the marble in the jar.
6. Ask students to predict what is inside of the carton and what it might be used for.
7. Walk around the circle and have the students smell and describe the whipping cream.
8. Pour $\frac{1}{2}$ of the container of whipping cream into each jar and ask the students to observe and describe what they see.

**Note for teacher: I decided to use two jars for this experiment in order for every child to get a turn with shaking. Unfortunately during the experiment one of the jars broke and we had to throw it and its contents away. Thankfully we had the other jar to continue with. My original thought was to use plastic jars as a safety precaution. The buttermilk, however, requires a chilled jar and won't work with plastic.*

9. Ask the students to predict what will happen to the whipping cream and marbles once we start shaking the jar. Have them listen to the sound the marble makes inside of the jar.
10. Allow each child to vigorously shake the jar(s) for 2-3 minutes and switch. Quickly observe each jar, and the sound of the marble, before switching shakers.
11. After 5-6 shakers, the butter may start to form. If it doesn't, keep shaking.
12. Once the butter has formed (it will be a soft/whipped looking substance) pour the contents of the jar into the strainer. Catch the liquid (buttermilk) in the large bowl. (If you prefer, have the students try the buttermilk.)
13. Rinse and stir the butter until the straining liquid is clear. (If the buttermilk isn't completely strained from the butter, the butter will sour quickly.)
14. Ask the students to compare and contrast the buttermilk with the butter.
15. Have the children sample the butter unsalted first and then add a pinch of salt for the students to try it salted.
16. Make a graph asking the students to choose whether they liked the unsalted or salted butter best.
17. Students will take the “How Do You Make Butter?” post-test

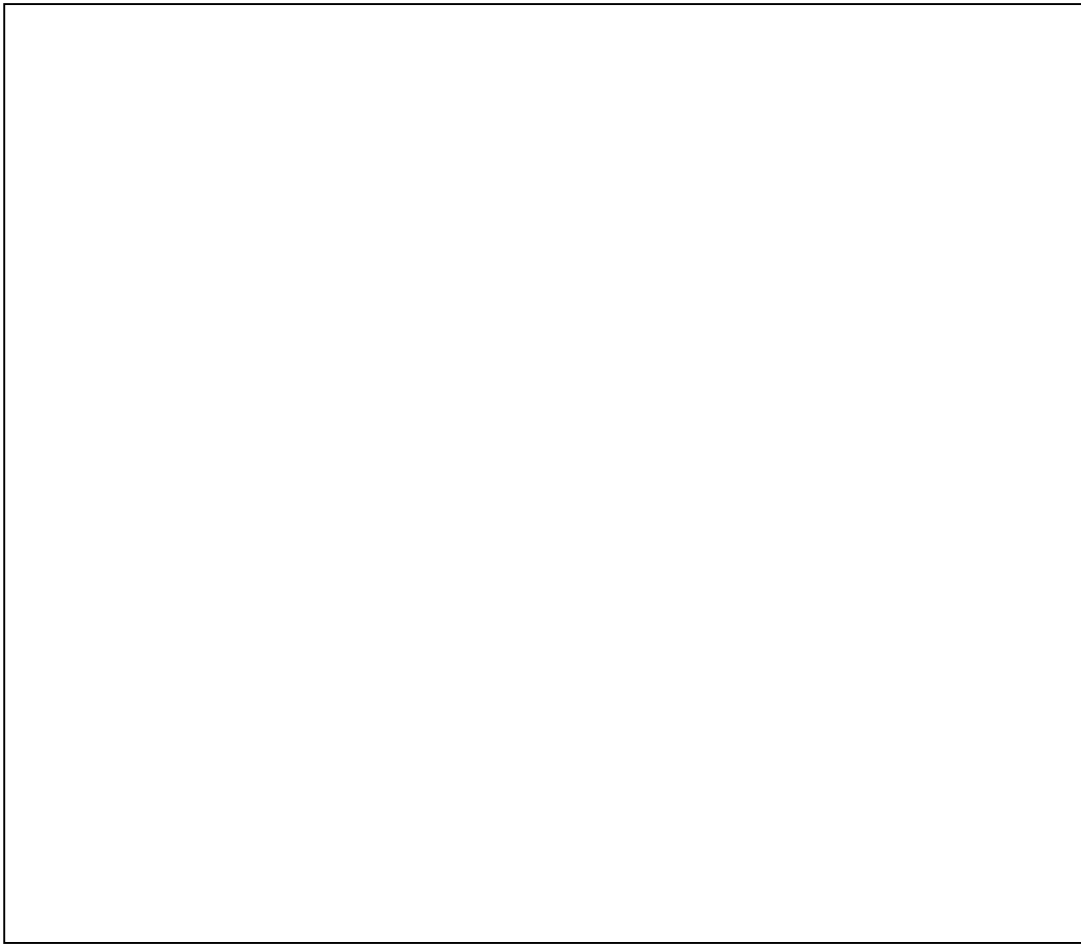
Assessment:

Pre/post assessment and rubric attached

Created by: Tiffani Floros


Name _____

Pre-test: How Do You Make Butter?



Name _____

Post-test: How do you make butter?



Rubric: How Do You Make Butter?

1. Student drew beginning components of experiment including, but not limited to: jar, marbles, and whipping cream.
2. Student drew shaking of the jar, and rinsing/straining of the butter.
3. Student drew finished product (butter).

+ Full understanding of butter-making process

Student's drawing included all 3 of the above components.

/ Basic understanding of butter-making process

Student's drawing included 2 of the above components.

- Little to no understanding of butter-making process

Student's drawing included 0-1 of the above components.