



Cooking With Fractions

by Katherine Earl

Grade 5

Science/Math/VisualArt

Math Standard 5.NF.2

Solve real-world problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators by, *for example, using visual fraction models or equations to represent the problem.* Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers.

Science Standard 5.2.3 Plan and carry out investigations to determine the effect of combining two or more substances. Emphasize whether a new substance is or is not created by the formation of a new substance with different properties.

Visual Art Standard 5.V.C.2:

Experiment with and develop skills in multiple art-making techniques and approaches through practice.

Objective: Students will learn real world application of math by working in groups to calculate a recipe for the number in their group. They will create an art project by combining ingredients to make play dough.

Time: 120 minutes

Equipment and Materials needed:

Recipe for play dough

Extra recipes for conversion

Ingredients for play dough: flour, cream of tartar, cinnamon, ginger, nutmeg, cloves, vegetable oil, water

Paper, pencil Measuring

spoons, cups Cooking pot

Hot plate

Large wooden spoons for stirring Zip Lock

bags for finished dough

Introduction:

1. Divide students into groups of four. Give each group a recipe for play dough that makes enough for one person. Since they are in a group of four, they will need to multiply each ingredient's amount by four.
2. Once a group has all the new ingredient totals calculated, they need to measure out each ingredient into the provided cooking pot. Cook the ingredients over low heat on a hot plate. Students in the group then divide the dough into four equal parts.

3. Once all groups have made their play dough, allow them to sculpt with their play dough. This would be great to do after a discussion of organic and geometric shapes in artwork.
4. When finished with the activity, students seal their portion of the play dough in a plastic bag to take home.
5. **While groups of students are waiting for their turn to make their play dough, give them several additional recipes to adjust (multiply or divide fractions) the amounts.
6. **This would be a great tie-in with science, matter, and physical changes/chemical reactions.

Recipes for Gak, Ooblick, edible dough, or scented play dough would be good ideas.

Gingerbread Play Dough

½ cup all-purpose flour
¼ cup salt 1 tsp. cream of tartar
½ Tbsp. ground cinnamon 1
tsp. ground ginger
½ tsp. ground nutmeg
½ tsp. ground cloves 1
Tbsp. vegetable oil
½ cup water

- *Mix all dry ingredients together first. Add oil and water.
- *Stir while cooking over low/medium heat until thickened.
- *Place in a gallon bag and knead until smooth.