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Grade- 2nd

Content Area: Chemistry/chemical &Physical Changes
Grade Level: 2nd
Process Skills: Observing, measuring, predicting, experimenting, communicating, investigating
Subject Integration: Math and art
Academic Standards: Science and Technology- Physical science, Chemistry, and Physics- 3.4.4- A. Recognize basic concepts about the structure and properties of matter. *Describe the properties of matter (e.g., hardness, reactions to simple chemical tests). *Know that combining two or more substances can make new materials with different properties. *Know different material characteristics (e.g., texture, state of matter, solubility).

Materials: white glue, mixing bowl, Ziploc bags, measuring cup, plastic spoons, borax, food coloring, hot and cold water, paper towels, question sheet, mixing colors packet.

Vocabulary: elastic, solid, liquid

Objectives:

- The students will be able to investigate and describe the formation of the mixture and discuss its physical properties.
- Students will name, hypothesize and identify which substance they think created the chemical change.
- Students will be able to explain what color is made when you mix two primary colors.

Procedure:

- Have student's line up and as they approach the table give them one Ziploc baggie, which they will open.
- Add to their bags 2 tablespoons of cold water and 2 tablespoons of white glue. Tell the student's to zip their bag shut, return to the end of line, and carefully mix the glue and the water.
- In a separate bowl have 1 cup of hot water (from the tap is fine) and mix with it 1 tablespoon of borax. Stir until dissolved.
- As the student's come back through the line add 1 tablespoon of the borax mixture to the glue mixture inside of the bags. Also, add two drops of the food

coloring for desired color. Have the student's close their bags, return to their seats, and continue mixing the contents until it becomes putty-like.

- Have the student's experiment with the gloop. Encourage discovery of physical properties and its transformation into a solid. Record discoveries and describe results.
- Encourage the student's to experiment with elasticity, bouncing qualities, ability to be broken and restored to a whole, presence of air in the substance, smell, sound, etc.
- Review chemical and physical changes. Have the students hypothesize about which substance they think created the chemical change.

Evaluation:

- Evaluate the student's ability to measure, experiment, and hypothesize about the properties of the substance that they have created.

Enrichment/Extension:

- Students can form objects, animals, and other forms with the gloop.

Additional Information:

- Gloop is a substance that has properties of a solid and liquid piece of matter. This is called a colloid.