California State University of Bakersfield, Department of Chemistry

Floam

Standards:

2-PS1-1. Plan and conduct an investigation to describe and classify different kinds of materials by their observable properties.

2-PS1-2. Analyze data obtained from different testing materials to determine which materials have the properties that are best suited for an intended purpose.

2-PS1-3. Make observations to construct an evidence-based account of how an object made of a small set of pieces can be disassembled and made into a new object.

Introduction:

Floam is like slime with polyester beads in it that kids can mold into shapes. You can sculpt it or use it to coat other objects. Like slime, it is safe for kids. However, this flexible polymer can be fun for all ages.

Materials:

- 2 tsp. Borax
- ½ cup water
- ¼ cup white glue (e.g., Elmer's)*
- Food coloring
- Resealable plastic bag
- 1 1/3 cup polystyrene beads (can also grind Styrofoam packaging using a cheese grater, but it gets very messy)

*If you use a 4% solution of polyvinyl alcohol instead of glue, you will get a more transparent product that will hold shapes better.

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Safety:

- Always have an adult with you to help you during your experiment.
- Always wear eye protection and gloves when doing chemistry experiments.
- Do not eat the floam.
- The food coloring within the floam may stain hands and other surfaces.

Procedure:

1. Dissolve 2 tsp. Borax completely in ½ cup (4 oz.) water. (2 tsp. of Borax will produce a stiff product. If you want slimier, more flexible floam, then try 1 tsp. Borax instead.)
2. In a separate container, mix ¼ cup (2 oz.) white glue and ¼ cup (2 oz.) water. Stir in food coloring.
3. Pour the glue solution and the polystyrene beads into a plastic bag. Add Borax solution and knead it until it's well mixed. (Use 1 T. of the Borax solution for a very fluid floam, 3 T. for average floam, and the entire amount for stiff floam).
4. To keep your floam, store it in a sealed bag in the refrigerator (discourages mold). Otherwise, you can allow it to dry into whatever shape you have chosen.

Data and Observations:

1. Record your observations in this space.

2. What did the floam feel like?

3. What shapes can you make?

References:

1. About. Com Chemistry. http://chemistry.about.com/od/chemistryhowtoguide/ht/floam.htm. (Accessed: July 21, 2014).

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