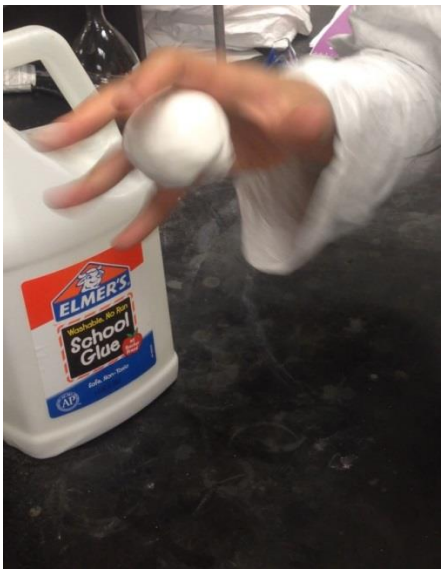
California State University of Bakersfield, Department of Chemistry

Silly Putty (Borax)



Standards:

HS-PS1-2. Construct and revise an explanation for the outcome of a simple chemical reaction based on the outermost electron states of atoms, trends in the periodic table, and knowledge of the patterns of chemical properties

MS-PS1-4. Develop a model that predicts and describes changes in particle motion, temperature, and state of a pure substance when thermal energy is added or removed

Introduction:

Have you ever wondered how putty is made? In 1943, an engineer named James Wright decided he wanted to make rubber. Well instead of making rubber, he made silly putty! Silly Putty is one of the world's favorite toys and will remain popular for decades to come. While this is incredibly fun, silly putty involves the process of fluid chemistry, for the water has no fixed shape and can mold into practically anything.

Materials:

- Water
- Borax
- Elmer's White Glue
- Container

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Safety:

- Always have an adult with you to help you during your experiment.
- Always wear eye protection, gloves, and aprons when doing chemistry experiments

Procedure:

1. Pour a scoop of borax into 250 mL of water.
2. Stir the borax and water solution until the borax is completely dissolved.
3. Pour desired amount of white glue into the borax and water solution.
4. Mix the white glue with the borax solution until the glue is no longer sticky.
5. Pull out the well mixed glue from the solution and begin to twist and pull the glue until it becomes rubbery and firm.

Data and Observations:

1. Bounce the silly putty and record how high it can bounce.

2. Pull the silly putty and record how far it can be pulled before it snaps.

References:

1. http://chemistry.about.com/b/2014/04/17/homemade-silly-putty-recipes.htm (Date Accessed: July 14, 2014).

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