



California State University of Bakersfield, Department of Chemistry

Sock Bubbles



Standards:

MS-PS1-1. Develop models to describe the atomic composition of simple molecules and extended structures.

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.

Introduction:

Soap bubbles are essentially thin films of soap filled with air. They usually come out individually and pop very easily. When the individual bubbles are coming out of something like a sock, they stick together and form a long thick strand of fun messy foam.

Materials:

- Clean sock
- Water bottle
- Dawn Soap
- Serrated knife
- Rubber band or duct tape
- Regular sized bowl
- Food dyes *optional*

Safety:

- Always have an adult with you to help you during your experiment.
- Wear lab goggles and gloves during this experiment.

Procedure:

1. Saw the bottom of a water bottle with a serrated knife.
2. Fill a bowl with a solution of soap and water.
3. Cover the cut out part of the bottle tightly with a sock and tape or tie it down securely.
Dunk the bottle in the soapy water until the sock is completely wet.
4. Add food dyes to the sock in patterns too add color to the bubbles.
5. Blow through the other end of the bottle with the cap off and watch as a long stream of bubbles comes out!

Data and Observations:

What did you see? Anything you were not expecting?

Questions:

Why do the bubbles come out in a long strand of foam?

References:

1. Spangler, S. Seven-Layer Density Column. In *Naked Eggs and Flying Potatoes: Unforgettable Experiments that Make Science Fun*, 1st ed.; Leibold, D., Ed.; Greenleaf Book Group Press: Austin TX, 2010; pp 71-75.