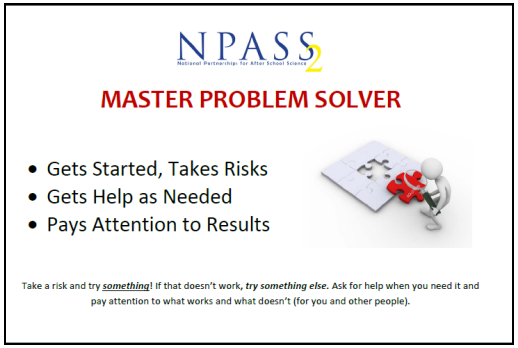
Connections to School —

Children gain hands-on experience with important ideas contained in K-8 National Science Standards. In Bubbles children observe bubble properties of shape, color, geometry, soap film, tension and force.

All NPASS2 after school projects are relaxed, informal and fun. They stress five common process skills that are mentioned in state and national science standards: observing, investigating, questioning, explaining and problem-solving. We call these the *Master Scientist Skills*.



Have you seen this other *Explore It!* project?

Heating a House and an Oven

Children explore the movement of heat by building a cardboard box house and heating it with a light bulb. Then they turn it into an oven and bake cookies.

EDC Learning transforms lives.

NPASS2 is a project of
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NPASS2 on the Web
http://npass2.edc.org

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MAKING SCIENCE FUN

Bubbles: an after school science and engineering project from the *Explore It!* Curriculum Series

Students observe the properties of bubbles made from assorted soap solutions.

NPASS2 National Partnerships for After School Science

The National Partnerships for After School Science

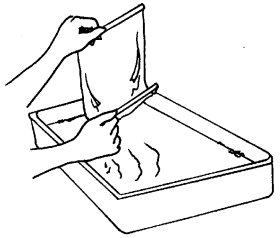
FOR PARENTS*

Summary

Students compare bubble making properties of different detergents. They create bubbles using a variety of bubble making techniques and observe bubble colors, shapes and geometric formations.

Explore It! Bubbles Explorations

- Big Floating Bubbles
- Gigantic Floating Bubbles
- Gigantic Bubble Domes
- Small Bubble Domes
- Bubbles In and Out of Containers
- Bubble Sandwiches
- Bubble Frames



Suggested Materials

Dish detergent (several brands)
Plastic cup or small container
Drinking straws Large plastic bowl or pail
Large plate or plastic sheet to hold bubble formations
Newspapers or large plastic sheet to protect tabletop
Glycerin (optional)

Questioning

Ask these types of questions as your child explores the challenges at home:

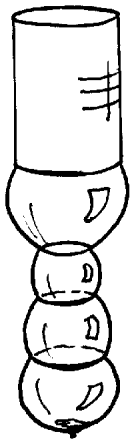
- What is the biggest bubble you can make?
- What do you see when bubbles attach to each other? On a tabletop? Hanging from a cup base?
- How many bubbles intersect at one point? Why?
- Try blowing bubbles inside each other. See what happens.

* For more information about this project go to:
http://npass2.edc.org/resources/curriculum-guides/bubbles

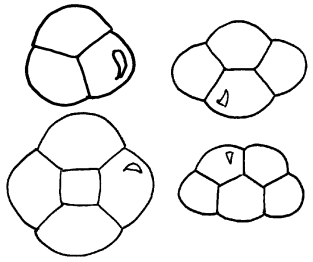
FOR KIDS

Try these activities at home.

Make some bubble solution by mixing 1 Tablespoon detergent with 1 cup (8 ounces) water (1:16 ratio). Use this solution in the bubble activities below. You might also try experimenting with different amounts of detergent per cup of water (a different ratio) OR by using different brands of detergent OR by adding 1/2 teaspoon of glycerin.



Wet the base of a cup with this solution. Using a straw, blow a bubble onto the bottom of the cup so it hangs down. How many more bubbles can you blow in a chain hanging down? What do you see where the bubbles attach to each other?



Using the same bubble solution and straw blow a bubble on a plate that you have wet with bubble solution. Next, try to add more bubbles to make the shape of a caterpillar, a flower or create your own design.