



# Inquiring Minds Want to Know

## Science Activities for Young Minds

## Bouncing Bubbles

### WHAT YOU'LL NEED

- 1 cup of distilled water (or you can try tap water)
- 2 tablespoons of Dawn dish soap
- 1 tablespoon of glycerin
- Pair of inexpensive gloves or tube socks to put on your hands
- Small bubble wand or pipette (plastic eyedropper)

### WHAT TO DO

**Remember:** The purpose is NOT to teach a specific topic but to help children experience the excitement of **science exploration!**

### GETTING READY

Make up a batch of bubble solution with the ingredients listed to the left. Making your bubble solution at least 24 hours in advance **and** allowing it to sit undisturbed will allow the bonds in your bubble solution to strengthen. You know what that means, right? Stronger bubbles!

### LET'S GO

1. Using a small bubble wand, blow a bubble about the size of a baseball. If you are using the pipette instead of the bubble wand, cut the bulb off the top of the pipette, dip one end into the bubble solution, and blow into the other end of the pipette.

*What do you **observe**? What shape are the bubbles? What color? Do they reflect images? Can you see yourself in the surface of a bubble? What do you **predict** will happen when you try to touch the bubbles with your gloved hands?*

2. Have the children blow another bubble and try to gently bounce a bubble off of your gloves.

*What happened?*

3. Have the children blow another bubble and try bouncing the bubble off of your shirt or pants.

*Do some fabrics bounce bubbles better than others?*

4. Blow several bubbles and have the children gently blow or fan them to keep them from hitting the ground so they pop without interference.

*Do some bubbles last longer than others? Why? Are they bigger? Smaller?*



## TALK IT OVER

*Why do you think bubbles are round rather than other shapes?*

*Where do bubbles exist in nature?*

*Why do bubbles move through the air the way they do?*

*Where do bubbles go when they pop?*

*What is inside bubbles?*

*What makes a bubble pop?*

## GOOD TO KNOW

- ▶ Use two sheets of clear plastic (overhead sheets or page protectors). Dip both sheets and the blocks in the bubble solution, then put one sheet on a table and place the second sheet on top with small blocks between them. Then blow bubbles between them. When bubbles are about the same size as each other (uniform), they form perfect hexagons.
- ▶ Have older students explore why bubbles are round.

## THE SCIENCE BEHIND IT

A bubble is air wrapped in a soapy film. The outside and inside surfaces of a bubble consist of soap molecules. A thin layer of water lies between the two layers of soap molecules, sort of like a water sandwich with soap molecules for bread. The bubble pops when it runs into something or the layer of water evaporates. Adding glycerin lengthens the lifespan of bubbles. Glycerin forms weak hydrogen bonds with water, delaying evaporation. Dry air or dry hands can still burst a bubble.

## RESOURCES

- ▶ Your local university Extension office – <http://msue.anr.msu.edu/county>.
- ▶ Science Blast website – [http://4h.msue.msu.edu/programs/science\\_technology/science\\_blast](http://4h.msue.msu.edu/programs/science_technology/science_blast).
- ▶ PBS – <http://www.pbs.org/parents/education/science/activities/preschooler-kindergarten/>.

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