Curiosity Guide #602
Bubble Science

Accompanies Curious Crew, Season 6, Episode 2 (#602)

Bubble in Hand

Investigation #6

Description

A bubble in hand is worth two in the—bath?

Materials

- Bubble solution
- Straw
- Large container
- Funnel
- Spray bottle of water

Procedure

1) Hold your hand over an empty container. Get your hand wet by pouring bubble solution over it.
2) While your hand is still wet, dip the end of the straw into the bubble solution, place the straw on your hand, and gently blow through the other end to form a bubble on the palm of your hand.
3) What happens if you move your hand?
4) Try shaping your hand different ways to create different bubbles.
5) If you curl your finger and thumb together, and then open the fingers into an okay sign, can you get a film that you can blow through to make another bubble?
6) Can you blow a complete bubble and hold the bubble in your wet hand?

My Results

Explanation

Bubbles are made of two layers of soap molecules sandwiched around a layer of water molecules. Bubbles pop when exposed to dry objects or when the water layer begins to evaporate out of the bubble. Blowing a bubble onto a wet hand serves as a good base for the dome or surface for a complete bubble. If the hand gets too dry, the water molecules attract to the skin and pop the bubble too soon. To make the bubble last longer and possible to handle, keep the contact points with the bubble wet so the surface tension remains intact and the air is trapped.

Think about this. Bubbles are interesting, but bubbles don't last very long before they pop. You've probably noticed that bubbles pop when they hit something dry or when the water begins to evaporate. But on a cold day, your bubble may last a little longer. This is because the molecules move more slowly in colder temperatures and can take longer for the water to evaporate. Sometimes the bubble can even freeze and last a bit longer. You might also see a blown bubble drift upward. The upward motion comes because the warm air inside the bubble is less dense than the surrounding colder air. Bubble lift off!

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