



Curiosity Guide #602

Bubble Science

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

Bubble Solution

Investigation #3

Description

Find out how to make strong, lasting bubbles!

Materials

- 4 bubble wands
- Distilled water
- Measuring cup
- 4 cups
- 3 spoons or wands
- Pipette
- Marker
- Liquid dish soap
- Glycerin
- Corn syrup or granulated sugar
- Measuring spoons
- Spray bottle of water
- Stopwatch
- Table or countertop

Procedure

- 1) Number each cup with a marker, #1 to #4.
- 2) Measure and pour $\frac{1}{4}$ -cup distilled water into each cup.
- 3) In cups #2 through #4, add 1 teaspoon dish soap.
- 4) In cup #3, add $\frac{1}{4}$ -teaspoon corn syrup or sugar.

- 5) In cup #4, add 10 pipette drops of glycerin.
- 6) Stir cups #2 through #4 with separate spoons or wands.
- 7) Spray an area on the table with water to make the table wet.
- 8) Try blowing a bubble from each solution toward the wet table.
- 9) If a bubble forms, time how long the bubble lasts.
- 10) Which solution made the longest-lasting bubbles?

My Results

Explanation

Water alone will not form a bubble because the water molecules have too high an attraction to capture any air.

The soapy water in cup #2 works a little better because the soap molecules can form a sandwich layer around the water molecules to slow the water molecules down so they don't evaporate as quickly.

Both the glycerin and sugar solutions thicken the soap-solution layer and slow down the water evaporation even more.

Extend your learning. Experiment with the amount of glycerin added to the solution to see if the bubble might last even longer.

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