

Bubble Solution

Bubbles, Bubbles, All Around and not a Drop to Drink



Students make different soap and water solutions to see which one makes the strongest and largest bubbles.

Activity Challenge

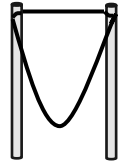
Experiment with three different bubble solutions. Make the largest bubble possible with soap, water, and a piece of string!

Preparation

1. Identify a workspace that can get wet and soapy.
2. Collect materials.

To Do

1. Cut a 2-foot length of string. Tie the string to form a closed loop between 2 straws or chopsticks, as shown. Adjust the string length as needed to fit the dishes/trays used.
2. Label three dishes or trays as Solution A, Solution B, and Solution C.
3. Make three different soap and water solutions. You can also experiment with different proportions of soap and water.
 - a. 1 ½ cup water plus ½ cup soap.
 - b. 1 cup water plus 1 cup soap.
 - c. ½ cup water plus 1 ½ cup soap.
4. Discuss what bubbles are and how to make them. Make bubbles by holding the straws or chopsticks to dip the string loop into the solution, then lift the string out of the solution and gently blow into the soap film to make bubbles.
5. Use the same string loop to make bubbles with each solution.
6. When each of the bubbles fully form and pop, estimate and record the approximate size (circumference) of the bubbles for each solution.
7. Identify which solution produced the biggest bubbles.



Observations

- Note how much water and soap is used in each labeled tray.
- Draw and color pictures of the bubbles made with each solution.

Extensions

- Imagine you could jump into a bubble and fly anywhere. Where would you go? Describe the journey and then write it down.
- Draw a poster showing how a bubble could be used to solve a problem.

Materials Needed

- Liquid dish soap
- Water
- String
- 2 straws or chopsticks
- 3 deep dishes or trays, each with 2-cup capacity
- Paper and writing tool

Grade Range

K-2

Topics/Skills

Science: Structure and Properties of Matter, Solutions

Learning Standards

NGSS: [Matter and Its Interactions](#)

Duration

25 minutes

Prep Time

5 minutes

The Science behind the Activity

A membrane is a sheet of material that forms a boundary between two other materials. Bubble membranes are thin layers, or films, often made from water and soap. When you blow air into the film, the film surrounds the air, stretching the film, which increases its surface tension. The film forms the shape of a sphere, which puts the least amount of stress on the film.

A living cell also has a membrane. Membranes can selectively allow some things to pass through, some things to be blocked, while other things can puncture or collapse the membrane.