



Soap Bubbles Activities



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The Science Behind Soap Bubbles:

There are attractive forces between water molecules called surface tension. These forces cause water molecules to cling to each other and form round droplets. You can imagine this like a ball made of sticky rice, where the rice grains are the water molecules.

To create a soap bubble, the water needs to form thin surfaces instead of round droplets. The role of soap is to weaken the attractive forces between the water molecules. When these forces are weakened, the water molecules cling to each other less, making it possible to create the thin surface required for a soap bubble.

Returning to the example of the sticky rice ball, the soap cancels out the stickiness and allows the rice grains to separate and form a thin, uniform surface.

Soap bubbles always strive to be round. No matter the shape of the bubble wand, the bubble itself will ultimately be spherical. Why is this so? The reason is that the bubble naturally seeks to create the most stable structure. The vulnerable area of the bubble, from which the water evaporates, is the surface area. The sphere is the most efficient and stable shape because, in a sphere, the ratio of surface area to volume is the smallest.

In other words, if we take a cube or any other shape with a certain volume, its surface area will be larger than that of a sphere with the same volume.



Soap Bubbles Activities

Bubbles on the Table:

Wet the table with a little soap solution
Blow bubbles on the table with a straw.
you can create bubble domes and try to
blow bubbles inside bubbles.



Hand made Bubbles:

Dip your hands in the soap solution and
blow bubbles.
You can play with the size of the bubbles
according to the "ring" the children make
with their fingers.



Bubble Membrane:

Take 2 straws, thread a string between
them and tie it into a loop. Dip the loop in
a bowl of soap solution and lift it gently.
Pull the two straws apart to create a
stretched soap membrane. Try blowing
on the membrane. What happens?



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plastic basket Bubble Balls:

Use small mesh baskets to make clusters of bubbles.

Dip the basket into the soap solution, wave it forcefully in the air, and send off bubble balls.



Tiny Bubbles:

Cut off the wide end of the pipette. Dip it in soap solution and blow bubbles. You'll get lots of tiny baby bubbles! Wet your hand with the soap solution and try to catch the bubbles without popping them!



Bubble Snake:

Cut a plastic bottle in half. cover the wide end with a stocking or sock and secure with a rubber band. Dip the sock in the soap solution and blow through the bottle opening to create a long bubble snake. You can also add food coloring on the sock to get a colorful bubble snake.



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Bubble Painting:

Prepare soap solutions with different colors of food coloring. Dip a drinking straw into each solution and blow onto paper, this way you can create a painting that will only be revealed once the paper dries.

**The colors will be more intense the more concentrated the color is in the soap solution.



Bouncing Bubbles:

Wear a cotton, velvet or fleece glove on one hand. Blow bubbles and let them fall on the gloved hand. The bubble will not pop, and you can gently bounce it on the palm of your hand.



Making Bubble Wands:

Shape pipe cleaners to create bubble wands. you can use any shape as long as it is a closed shape. Dip your bubble wand and blow soap bubbles. Discover that regardless the shape of the bubble wand, the soap bubbles will always be round.



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