

The Secret Science of

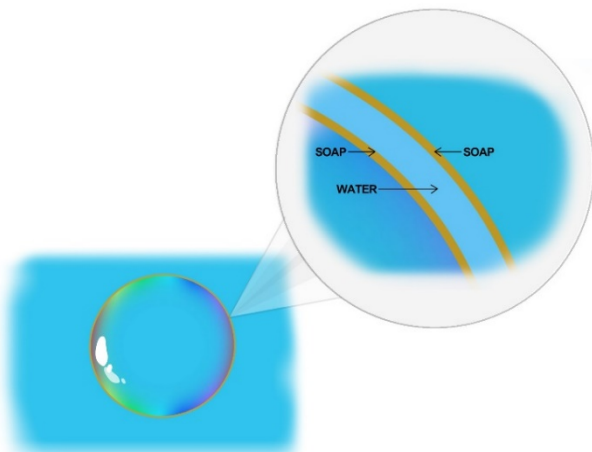
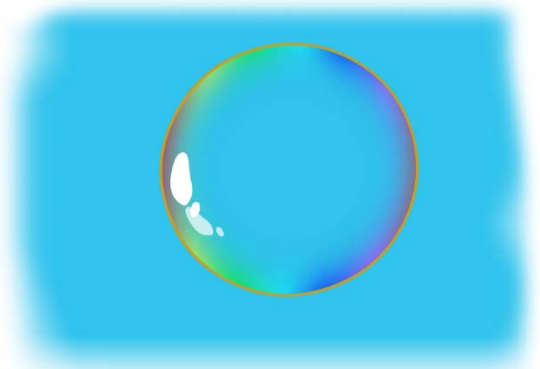


The Right Recipe

You can't blow a bubble using just water or just soap or detergent. The best bubble liquid is a mixture of water with the right amount of soap or

We're Talkin' Thin

The wall of a bubble is extremely thin. The upper part is thinner than the bottom part because the liquid that makes up the bubble film runs down the bubble. Some estimates are that the average thickness of bubble film is about 100 times thinner than a human hair!



Don't Burst My Bubble

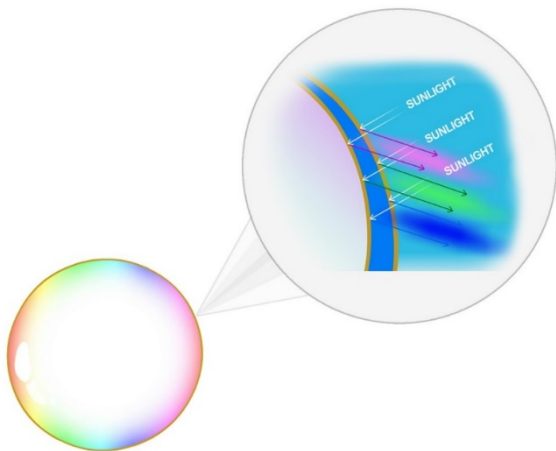
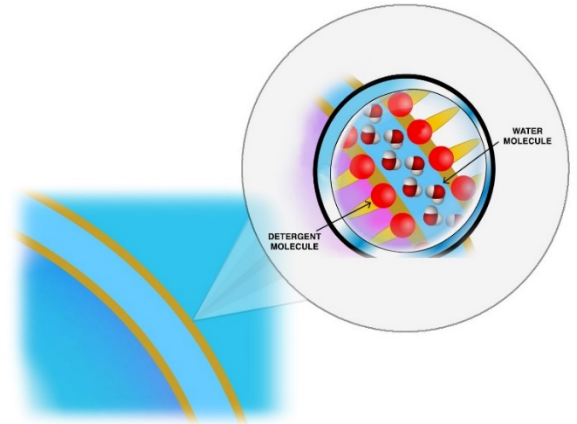
The wall of a bubble is actually made of three layers; An inner and outer layer made of soap or detergent and a layer of water in between. It's like a water sandwich with soap as the bread.

Water evaporating from the bubble film makes the bubble film so thin that the bubble pops.

Molecules make it Happen

Detergent molecules have one end that is attracted to water and one end that is not. The detergent molecules line up surrounding the water, making the layers of the bubble film.

Water by itself wouldn't stretch enough to make a bubble. But the water and detergent molecules together create a stretchy film that allows the bubble to grow.



Through Thick and Thin

The swirling colors on a bubble begin when the bubble liquid flows and causes different parts of the bubble to become thicker or thinner. When light bounces off the front and back of the bubble film in thick places and thin places, it produces different colors.

The Inside Story

You need some good bubble liquid and the right equipment to make a really big bubble. But if you do, your bubble can be big enough to hold a person or two!



More Cool Chemistry

How big can a bubble get?

The biggest bubbles are made with two sticks and a loop of string between them. Using special bubble solution, a large thin film of solution is made in the loop. Then the loop is then pulled through the air to form a giant bubble!



How can you make bubbles last longer?

The secret to making bubbles that last longer is to add something to the solution to make the water evaporate more slowly. Sugar or a substance called *glycerin* can do the trick! There is even a bubble solution made from a type of plastic that makes bubbles that you can catch on your finger without popping!



Can you make one bubble inside another?

The easiest way to make a bubble inside another bubble is to pour some bubble solution in a large plastic plate. Use a straw to gently blow one big bubble that fills the plate. Then poke the straw through the bubble and gently blow another bubble inside of it.

