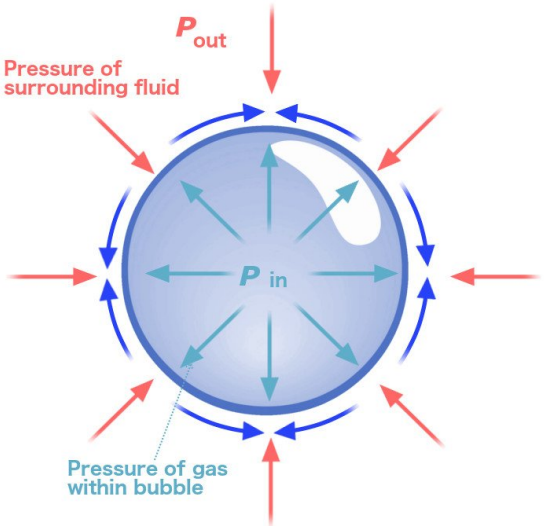
Bubble Science!

Bubble baths, a carbonated summer time drink, bubble gum, or the result of the chemical reaction between baking soda and vinegar. We all know and love bubbles, but what's up with them always being round? Come explore the science of bubbles with us and experiment with non-spherical bubbles!

Why are Bubbles Always Round?

Bubbles are simply one substance inside of another forming a sphere. These substances are usually a gas inside a liquid. The bubbles we know best are made with dish soap or glycerin and water, and are created using the CO2 gas that we naturally exhale from our lungs. You've probably wondered why bubbles are always round, why can't they be square or a triangle. Well, when you blow a bubble and it begins to float in the air, this bubble will always be spherical. The water and soap molecules that make up the bubble like to be close together creating a force called surface tension creating a shape that has the smallest surface area, which happens to be a sphere, rather than a cube or pyramid.



Bubble Cage for Non-spherical Bubbles!

Supplies:

- Pipe Cleaners
- Straw or bubble wand
- Water
- Dish soap
- Glycerin (optional)
- Medium – large bin, bowl or container

Instructions:

1. To create your cube bubble cage, start by cutting 6 full pipe cleaners in half to make 12 smaller pipe cleaners.
2. Twist together the ends of four pipe cleaners to make a square. Do this again so you have two pipe cleaner squares.
3. Now twist the remaining pipe cleaners to each corner of the two squares to form a cube. Remember a cube has 4 corners and 6 sides.
4. Get your bubble solution ready. In a large enough bowl or container to fit your cube, fill it with water and add dish soap to make it nice a foamy. (As you test your experiment, you may need to add more soap as needed. You may also add glycerin to your solution to strengthen the bubble film).
5. Submerge your bubble cage into the bubble solution and swish it around a few times.
6. Remove the cage from the solution and ensure that each side of the cage has a bubble film.
7. Now gently, but with some force move the cage from side to side. This will cause the bubble films to come together into the center of the cage. A square bubble may appear just from this movement so keep your eyes peeled.
8. You can add in another bubble into the center with a straw or bubble wand by blowing a small bubble in the center of the cage, creating a cube bubble.
9. This process may take a few times to get right. Experiment further and see what other bubble shapes you can create!