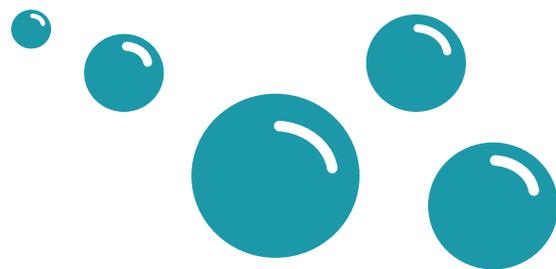


bitesizeactivities

Antibubbles



Activity Description

Experiment with different variables (water, dishsoap, dispersal method) to observe antibubbles!

A bubble is a pocket of gas surrounded by a liquid layer or film. The typical soap bubble is a pocket of air surrounded by a mix of soapy water which forms a sphere as it drifts on the air until it eventually pops.

An antibubble is the opposite of a bubble: a pocket of liquid surrounded by a film of gas! You have probably seen an antibubble before, but they don't tend to last very long and might be difficult to notice if we're not looking

Procedure

1. Pour water into a clear container and add a few drops of dishsoap. Stir gently. This is your antibubble solution!
2. Use the eyedropper to draw up some of your solution, then slowly squirt it back out onto the surface of the solution.
3. If you are using a straw, submerge as much of the straw as you can in your solution and press your thumb against the top of the straw, sealing in the water inside the straw. You can release the water by slowly moving your thumb to break the seal and release the liquid onto the surface of the solution.
4. Simply spooning solution onto the surface works too! Dip your spoon in and let the soapy water trickle back out onto the surface of the solution.

Materials

- Clear container
- Water
- Eyedropper (you can also use a drinking straw or even a spoon)
- Food Coloring (optional)
- Sugar (optional)

Preparation and Safety

Don't drink your experiment!

for them. In a slightly soapy solution of water, the soap lowers the surface tension of the water, making it so the air film of the antibubble lasts long enough for us to observe.

bitesizeactivities

Procedure (continued)

5. This action will create normal air bubbles, but if you watch closely, you may also see some antibubbles skittering along the surface or floating for just a moment. Antibubbles appear to be brighter than regular bubbles, as they refract the light back toward the light source.
6. Experiment with your antibubble creation technique—we found that we got more antibubbles by dribbling a thin turbulent stream of soapy water into the glass, not adding the liquid dropwise. Be patient and see what produces the best results!

Extensions or Adaptations

You can make your antibubbles last longer by making them sink—you just need to create a soapy water solution that is denser than the solution you create your antibubbles on. You can do this by dissolving several spoonfuls of sugar or corn syrup in a small container of soapy water. Since the sugar solution will be denser than the soap solution, dripping that sugar solution into the soap solution will create denser bubbles that will sink. You can add food coloring to the sugar solution to help you see the antibubbles in the water—it looks really cool!