

Activities With Bubbles

From Bubbleology. Part I

Teachers may wish to use this video program for in-service, making themselves the bubble experts. If shown to students, you may wish to pause the program as questions arise and solicit answers from your students before continuing.

"Hand-y" bubble wands:

Children instinctively want to put their hands into things. Rather than fight this tendency, use it as a teachable moment. Show your students how to use their hands to blow bubbles.

Hints for success:

1. Hands should be completely wet with solution up to the wrists.
2. Discourage students from rubbing their hands together in the solution. This only increases foaming, which adds inconsistency to the bubble solution causing bubbles made to break much easier.
3. In a sweeping motion, rub one hand over the other until the thumbs and index fingers meet. This action should form a film of bubble solution in the diamond-shaped space made by the touching fingers.
4. Gently blow into the film to make large bubbles. By closing the opening between the fingers, the bubble can be sealed off. With a little practice, bubbles up to one foot in diameter can be formed.
5. Students may need help to either blow hard enough to force the bubble off their hands or to learn to close the opening made by their hands to free the bubble.

Why do some bubbles connect and others do not?

This is an advanced concept in molecular bonding potential. There are attractive forces between the molecules in a bubble. Thick bubble walls have more attractive forces than thin bubble walls. When a bubble is formed, gravity draws excess liquid to the bottom of the bubble. This excess liquid may be observed as a tiny bead or drop of liquid. The bottom of the bubble, then, has a thicker wall than the top or sides of the bubble.

When the bottom of the bubble touches another bubble, excess liquid transfers over and these two "thick walls" connect. When two bubbles touch at the sides, it is likely that they won't connect because the two thin-walled sides will not have enough attractive force between them.

Shake, rattle and roll with bubbles:

A six-inch bubble resting in the palm of your hand can take a great deal of abuse. Shake it as hard as possible. Have the class vibrate their bubbles to music. Wiggling and jiggling the bubbles will form fascinating shapes that can be captured with a strobe and camera.