Lab Station C:
Bubbles Self-Assembly Lab

Purpose

One of the methods proposed to mass manufacture nanosized objects is to use nature's own natural tendency to self-assemble objects. Fluid or flexible objects will automatically fill the space of the container, taking the most efficient shape. The purpose of this lab is to demonstrate how bubbles self-assemble.

Safety Precautions

- Do not eat or drink anything in lab.
- Use caution when handling glassware.

Materials

- A bubble solution [Bubble Formula: Dawn Ultra or Joy Ultra/ Water (Distilled Water Works Best)/Glycerine or White Karo Syrup (Optional) 1 Part/10 Parts/.25 Parts]
- Small shallow dish
- Toothpicks
- Paper towels
- Straw (coffee stirrers work best)

Procedures

1. Stir the solution with the straw to create bubbles, as needed.
2. Pour about 10.0 mL of bubble solution into the shallow dish.
3. **Caution: Be careful not to spill the solution or to drop the dish!**
4. Draw what you see in your worksheet. This is your "before" diagram.
5. Take the toothpick and pop one of the bubbles. Notice how the arrangement of bubbles changed. Draw what has happened. This is your "after" diagram. Repeat this procedure several times (you do not need to illustrate after the first "before" and "after" observations).