Making Bubbles

Grade Level: K, 1, 2, 3, 4, 5

Duration: 5-10 minutes

Classification: Science Fair, STEM Spark

Subject(s): Chemistry

Categories (STEM): Science

Keywords: Bubble, Surface, Tension

Introduction

- Summary: Students will test the powers of surface tension by experimenting with different soap and water combinations to create bubbles.
- Description: Please note this activity can be messy. If possible, an outdoor or hardwood area is best.

Online Resource: https://www.pre-kpages.com/science-for-kids-bubble-experiment/

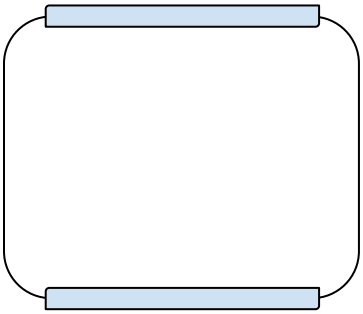
Materials

Materials	Quantity	Reusable?
Soap Solution*	1 per 2-3 Students	No
Straws (not bendy)	1 per 2-3 Students	No
String	1 per 2-3 Students	No
Tray ½ inch in depth	1 per 2-3 Students	Yes

* 1 cup Joy™ or Dawn™ liquid dishwashing detergent, 8 cups of water, 2 Tbsp of corn syrup

Directions

- Create the bubble wands
    - Create a square using the string and running it through each of the straw holes tie a knot when finished.
    - Move the knot so that it is behind the straw instead of at the corner.



- Fill the tray ½ with the soapy water. Be sure that this container is free of any residue.
- Put the bubble wand in the soapy water and watch as it creates a bubble around the straw square.
- Ask students to predict if putting your hand in the straw square will break the bubble.
- Put your hand through the bubble and show that the bubble doesn't break.
- Give the student each their own straw and each group their own tray.
- Use the straw to blow into the water and create a bubbles

Activity Extension

- Have one student get their hand wet and try slowly pushing it through the bubble wand. Does the bubble break?
- Try the activity with other bubble wand sizes.
- Redo the activity with a different soap solution to water ratio.

Discussion Questions

- Would changing the amount of soap make more or less bubbles? Why?
- What makes bubbles pop?

What is happening?

- Soap weakens the surface tension of the water.
- The water surface can stretch much more without breaking and bubbles can get bigger and last longer.
- When something wet pushes through the wall of the bubble, the membrane wraps around it rather than popping

Applications:

- Majors
  - Physics
  - Chemistry
- Jobs
  - Chemist
- Hobbies
  - Blowing Bubbles
- Real world applications
  - Surface Tension