

Bubbles

For early childhood students, blowing bubbles is a universally loved activity. By giving your class the opportunity to plan and mix their own bubble solution, you will provide them a chance to practice scientific thinking, as well as an introduction to chemistry.

Before the activity...

You may wish to try this activity after the class has spent some time blowing bubbles, when their interest in bubbles and bubble solution is highest.

Supplies

- Mixing supplies: measuring cups, pitchers, cups, bowls, spoons, etc.
- Written bubble solution recipe
- Dish soap
- Water
- Bubble blowers, or pipe cleaners to make bubble blowers
- Optional: corn syrup or glycerin
- Paper towels
- Chart paper and markers

Procedure

- Divide students into groups, each facilitated by an adult if possible.
- Introduce your mixing tools and ingredients to students.
- Together with the students, read your written recipe. Measure the ingredients one by one and mix them together. You may also wish to try this activity by creating several different mixtures without a recipe, and testing them to see which works best. A good standard recipe is 8 cups of water, 1 cup of dish soap, and 2 tablespoons of glycerin or corn syrup. This recipe is not sensitive, and will still produce bubbles after multiple changes.
- Label your mixes or mixtures if desired, then take them outside to test them by blowing bubbles! Which solution produces the most bubbles? Which produces the largest bubbles?

Inquiry based questions

As students explore their materials and begin to experiment, guide their curiosity by asking open-ended questions that cannot be answered with one-word answers. Ask students to think of their own questions, and record them.

- How would you describe the ingredients that we are using to create our bubble mixtures?
- Which of these tools work best for measuring? Which are best for mixing?
- How do you think companies decide which ingredients they put in their bubble solutions?
- Who do you think decides what ingredients go into a bubble solution?

Extension activities

- After trying your bubble solution, ask students to suggest some changes to the recipe, and their reasoning. Do they think, for example, that the bubbles might be better if the amount of soap or glycerin is doubled? Mix new solutions and try again! Be sure to observe and record your changes, and how the resulting bubbles are different.
- Students may be interested in adding other ingredients to their bubble mixtures, or trying other types of soap. You might consider replacing dish soap with hand soap, shampoo, or body wash. Do students think that one of the soaps works better than the others?
- How does the weather affect a bubble blowing activity? Students might find that a mild breeze will blow bubbles if they simply hold their bubble blowers in the air, while a bracing wind is too strong to blow bubbles. On a cold day, their bubbles might freeze! What do students think will happen if they try to blow bubbles in the rain or snow?
- Using food coloring, students might like to create bubble prints. Start with a large piece of white paper, and several containers of bubble solution. Add many drops of a different shade of food coloring to each container, then blow bubbles over the paper! When the bubbles pop, they will leave behind circular colored prints. If your prints are not colorful, add more food coloring to your solution.

Bubbles (cont.)

Resources

Books:

Pop! A Book About Bubbles by Kimberly Brubaker Bradley

Air is All Around You by Franklyn M. Branley

Websites:

<http://wonderopolis.org/wonder/why-do-bubbles-float/>