Soap Bubbles

Purpose

To demonstrate that the density of hydrogen is less than that of air.

Materials

hydrogen gas

oxygen gas

container (tub)

candle on end of stick (about 2 m)

soap bubble solution

Procedure

1. Place about 250 mL of the bubble solution in the tub.
2. Bubble hydrogen gas into the solution.
3. As the bubbles float away, light them with the candle.
4. Bubble oxygen gas with the hydrogen gas for more explosive bubbles.

Additional Information.

1. This works best with two people – one to control the gases and one to light the bubbles.
2. Use ear protection if you use oxygen gas. Practice with relative amounts of hydrogen and oxygen gases before demonstrating this.
3. Be sure your students protect their ears.

Disposal

Remaining solution can be poured back into the container and reused.

Reference

University of Illinois, Urbana-Champaign.

Soap Bubble Solution

1. Use the large plastic container labeled “Soap Bubbles Solution”.
2. Measure the following:

   300 mL Dawn dish soap

   180 mL glycerin

   2520 mL deionized or distilled water
3. Place all in the container, invert several times to mix thoroughly.
4. Allow the solution to rest until the bubbles disappear.
5. Invert once or twice before using.