

BUBBLE BLOW-OUT

EXPERIMENT: SUPER BOUNCY BUBBLES



Come one, come all and be amazed by these durable bubbles! This bubble solution lets you make huge bubbles that like to linger. Experiment with the shape and size of bubbles as you design your own wands, make a colorful bubble snake and try to make giant bubbles.

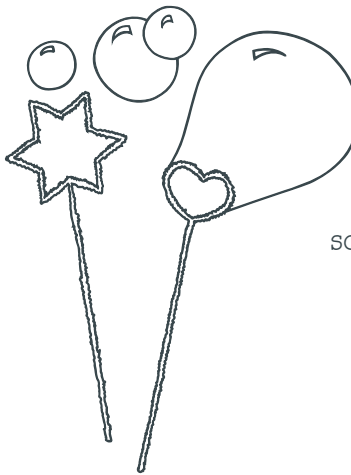


MATERIALS

Water
 Dish soap (original blue Dawn works best)
 Glycerin
 Sugar
 Food coloring
 Container with a lid
 Measuring spoons and cups
 Scissors
 Pipe cleaners
 Straws
 Tape
 Cotton string
 Cotton yarn
 20-ounce plastic bottle
 Washcloth or cotton fabric
 Rubber band
 Two dowel rods or sticks
 Beads (optional)

INSTRUCTIONS

Make longer-lasting bubbles that are harder to pop with this bubble solution. Mix 1 cup warm water, 2 tablespoons dish soap, 1 tablespoon glycerin and 1 teaspoon sugar. Stir thoroughly and store for at least an hour in a covered container. When you're ready to try your bubble solution, gently swirl the container in case ingredients have separated.

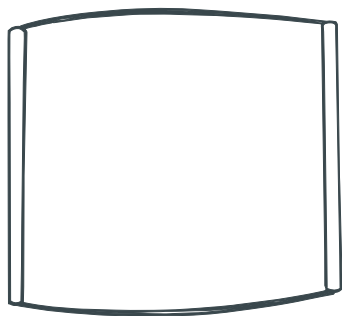


BASIC WAND: Design your own bubble wand using pipe cleaners. Be creative! Bend the loop into different shapes. If you'd like, decorate the handle with beads. Let the wand absorb the bubble solution for a few seconds then blow away!

RAINBOW BUBBLE SNAKE:

Cut the bottom off a 20-ounce plastic bottle and keep the top half. Use a rubber band to secure a piece of washcloth or other cotton fabric over the wide opening. Dip the fabric end into the bubble solution and move it around to absorb the liquid. Gently blow into the drinking side to create a long chain of bubbles. Make a rainbow bubble snake by adding a few drops of food coloring to the fabric before dipping it into the solution.

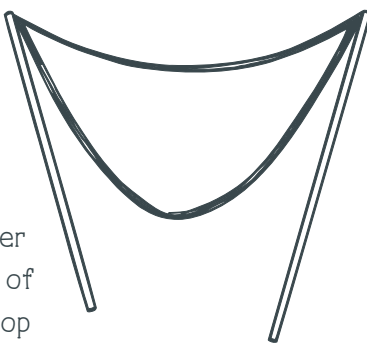




BUBBLE WINDOW: Thread a piece of string through two straws and tie the ends together. Position the straws so they are opposite each other, forming a square. Hold the straws together and dip the square "window" into the bubble solution. Lift it out with the straws still

touching and then make the square, this time with a bubble inside! Blow gently or move your arms to make a huge bubble. Experiment with different lengths of string to see how big of a bubble you can make.

GIANT BUBBLE WAND: Use yarn to make two braids, one that's 18 inches long and another that's 36 inches. Tape one end of the long braid to the end of one dowel and tape the other end to the other dowel. Tape the shorter braid in the same way on the same end of the dowel. Both braids should form a loop with the shorter braid at the top and the longer braid at the bottom. Dip the wand into the bubble solution and let the yarn soak in plenty of solution. Lift out the wand and slowly move it around to create huge bubbles!



TIPS

You can find glycerin in the cosmetic sections of stores or with the cooking supplies.

MORE WAYS TO PLAY WITH BUBBLES

Fill a kiddie pool with bubble solution. Put a hula hoop in it and soak it for 60 seconds. Have someone get in the middle of the hula hoop and sloooooowly pull the hula hoop up to see if you can encapsulate the person in the middle!

LIKE THIS ACTIVITY?

You could be a ...

- Cosmetic chemist
- Beverage technologist
- Bubble gum manufacturer
- Physicist

▲ SAFETY FIRST:

Food coloring usually doesn't permanently dye fabrics, but it's best to go outside so you don't ruin mom's carpet. Accidentally stained items should be soaked in a solution of one tablespoon each of vinegar and dish soap added to one quart of water.

WHAT'S HAPPENING?

A bubble is a thin film of soapy water filled with air. The soapy film is made up of three layers: one layer of water molecules sandwiched between two layers of soap molecules. Hundreds of these molecules will stick together to form the spherical shape of a bubble. No matter what your wand looks like, a bubble will always take on the shape of a sphere. The sphere shape minimizes the surface area of the bubble, which makes it the easiest shape to form using the least amount of energy.

Adding glycerin and sugar to the bubble solution help the bubbles last longer. The water in bubbles evaporates quickly, which makes the bubble pop. Adding glycerin and sugar slow evaporation, which makes bubbles last longer.