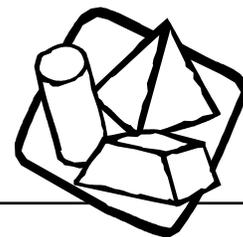


More Bubbles!



Make your own bubble wands. Figure out if the size of the wand affects the bubbles you can make.

What you need

Bubble solution (you can make your own by combining 1 cup Joy® dishwashing soap, 12 cups of water and 3 tablespoons of glycerin and stirring gently)

Shallow bowls

Pipe cleaners

What to do

1. Pour some of the bubble solution into the bowl (enough to dip the wand all the way in).
2. Make a small loop in the end of the pipe cleaner for your first bubble wand.
3. Dip the loop totally into the bubble solution and blow some bubbles.
4. Count and record the number of bubbles the loop makes. Repeat steps 3 and 4 two more times.
5. Record the number of bubbles each time.
6. Make a second bubble wand with a bigger loop. Repeat steps 3-4.
7. Make a third bubble wand with a smaller loop than the first. Repeat steps 3-4.

What to ask

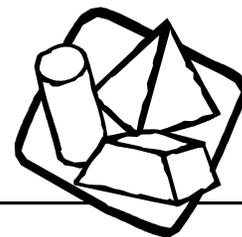
- Did you notice any change in the number of bubbles you were able to produce as your loop increased in size?
- Does how hard or soft you blow through the loop affect the number of bubbles your wand makes?
- What other things might affect the number of bubbles you can make?



Did you know?

There are many factors affecting the quality and quantity of bubbles including the type of soap, the temperature and the humidity. Dust can even affect your bubbles. Before bubbles got popular in the toy industry in about 1940, children were allowed to play with the bubbles from leftover washtubs!





What's next?

- Determine if different shapes will create more bubbles.
- What if you have a square?
- What if the shape is just a curvy shape?
- Have a contest with others to see who can create the wand that makes the most bubbles.

To learn more

The Unbelievable Bubble Book

by John Cassidy

A part of the KLUTZ™ series of books, this book contains a complete set of how-to tips and techniques for blowing bubbles using The Bubble Thing™, a device that creates gigantic bubbles and comes with the book. The book discusses bubble solution recipes and other devices that can be used to blow bubbles.

POP! A Book About Bubbles

by Kimberly Brubaker Bradley

This volume from the *Let's-Read-and-Find-Out Science* series utilizes hands-on play to answer some questions about bubbles.

Bubbles

by Ron Hipschman

<http://www.exploratorium.edu/ronh/bubbles/bubbles.html>

A website full of science, history and fun with bubbles!

How it helps with school

Texas Essential Knowledge and Skills (TEKS) Standards

Patterns, Relationships, and Algebraic Thinking: 3.6A; 4.7; 5.5B

Geometry and Spatial Reasoning: 3.8; 4.8C; 5.7B

Measurement: 3.11A, 3.13; 4.12; 5.11A

Underlying Processes and Mathematical Tools: 3.15C, 3.17A-B; 4.14C, 4.16A-B; 5.14C, 5.16A-B

National Council of Teachers of Mathematics (NCTM) Standards

Geometry, Problem Solving, Reasoning and Proof, Connections