Bubble Snake

(Suggested Ages: 3+)

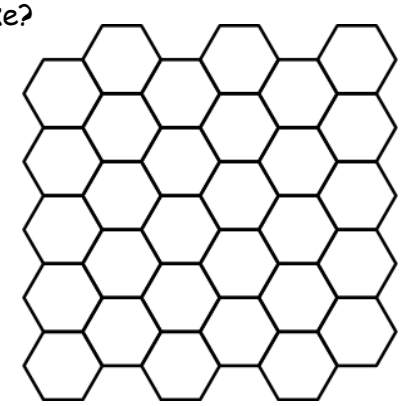
Gather

- Water bottle - bottom 2 inches cut off
- Dish soap and water mixture: 1 cup water + 2 tablespoons dish soap
- Dish towel/hand towel
- Rubber band
- Small shallow container
- Optional: food coloring

Let's Experiment!

1. Cut the bottom off of a small plastic bottle, like a water bottle.
2. Wrap a dish towel around the cut end and use the rubber band to hold it in place.
3. Take a small, shallow container, like a pie pan, and fill it with some of the dish soap and water mixture.
4. Drop one drop of food coloring on the dish towel if desired. Swirl the dish towel end of the bottle in the dish soap and water mixture.
5. Take your bottle out of the mixture, and blow into the lip side of the bottle (not the dish towel side). **Remember to blow out, don't suck in!**
6. Experiment and play! How long can you make your bubble snake?

How Does it Work?



Soap bubbles take the shape with the smallest surface area to volume ratio. When bubbles are blown individually, the shape with the smallest ratio is a ***sphere***. When bubbles are packed together, however, the smallest surface area to volume ratio shape is a tessellation of ***hexagons***. We've talked about natural honeybee tessellations before here and you can find out more here. Can you see the bubbles form this shape? How long can you make your bubble snake?

Take it Further!

Now that you've seen lots of small bubbles, how about blowing a really BIG bubble?! For the recipe and instructions, visit:

https://kids.niehs.nih.gov/activities/science-experiments/blow-the-biggest-bubbles/index.htm