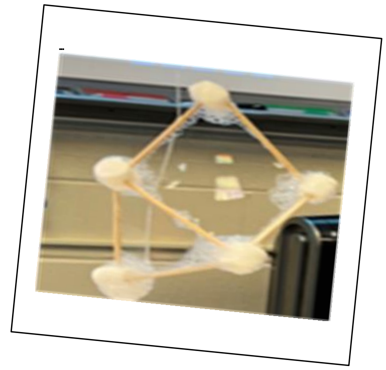
https://njes.jcswv.org/o/njes/article/830600

Check out this article to see Jayne's classroom in action!

Bubble Magic (STEAM)

If you haven't already built 3-dimensional figures with mini marshmallows and toothpicks, then this activity will be twice as fun! Not only is it fun to nibble while you build, but this activity pulls from Science, Engineering, Art, and Math. Small, light candies work well for vertices (or connections between toothpick-edges). So now it's time to put on your engineer's hat, explore your artist's touch, and connect important mathematical concepts – as you treat your sweet tooth to fresh-from-the-bag marshmallows! Note: you can't eat the yummies once they are dipped in the bubble solution. That bubble solution is what creates the magical results that will jazz young brains! DIP into this activity to discover the mathematical magic!



Materials:

- Tupperware container or large bowl
- Liquid dish soap
- Water
- Toothpicks, with rounded ends
- Mini marshmallows
- Optional: gumdrops, spiced candies (any small stickable confection)

Directions:

Begin by filling the Tupperware or bowl full of room temperature tap water. Add 2-3 tablespoons of liquid dish soap and gently swirl. Try not to agitate the bubbles as they begin to form on the surface.

Meanwhile engage in some STEAM. Use the edibles to build two 2-dimensional squares (keep the marshmallows all facing the same direction). Connect the two squares with vertical edges, making a 3-dimension cube.

Now get ready for an awesome surprise. Slowly and **gently!! submerge** the figure into the solution and as you pull it out, bubbles will form, BUT, not on the outside… on the inside! **What 2D bubble is *inside* the 3D figure?**

Try building a triangular prism. Start with 2 equilateral triangles, built again from the candy. Repeat, and see what shape presents inside. Take pictures and share on our social media page!!

Extension:

- ✓ To take this up an educational notch, ask your participants to make **predictions**. **Researching** bubbles is also mesmerizing.
- ✓ Allow the student or child (ahem, or adult!), to **experiment** with **different shapes**. (Rectangular prisms for example.)
- ✓ How do **gumdrops** compare to the marshmallows? What happens if you only have large marshmallows?
- ✓ What is the difference between a **mixture** and **solution**?
- ✓ Notice how the **weather** impacts bubble formation: **humidity** and **temperature** play a role. **Wind** is important, too, so repeat the experiment to see which environment creates the best results!
- ✓ As always, **share** your pictures and comments online at **#littlechildrenBIGactivity**.