

WATER STACKING

★ GRADES K-2 ✪ SCIENCE SKILLS: SOLUTIONS / MIXING / COLORS ★

What you need:

- 4 clear drinking glasses
- Clear glass mason jar
- Water
- Coloring tablets or food coloring
- Granulated sugar
- Turkey baster or dropper
- Tablespoon

What to do:

1. Have your students gather around you. Fill your glasses with warm water.
2. Add 2 tablespoons of sugar to the first cup, 4 tablespoons to the second cup, 6 tablespoons to the third cup and 8 tablespoons to the last cup. Then add a different color of food coloring to each of the 4 cups.
3. Label each cup with the amount of sugar added. Stir the water until the sugar is dissolved. Because it is crucial that all of the sugar is dissolved in each cup, you may need to supersaturate the sugar water solution by placing the cup in the microwave for 20-30 seconds to warm the water and dissolve more of the sugar. Continue stirring until all of the sugar is gone.
4. Start with the cup with the most sugar. Using a turkey baster, begin adding the first layer of sugar water to the mason jar.
5. After the first layer, things get challenging. Carefully drip the next dense layer onto the surface of the second. Slowly drip the next color onto the first. This will take patience.
6. Repeat with the next dense color and finally with the least dense color until you have stacked all of the colors. (At first, the colors may begin to blend together a bit, but soon they will coalesce back to your original four distinct colors.)

How does it work?

Density is the measurement of how much “stuff” is packed into a specific space. Because the different glasses of water have different amounts of sugar, each one has a different density and the more dense water will stay at the bottom, allowing the water to “stack.”

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