



SUGAR TOWER

MATERIALS:

- CLEAR GLASS OR JUMBO TEST TUBE
- PIPETTES OR DROPPERS
- SUGAR
- MEASURING SPOONS
- FOOD COLORING OR TRUE COLOR TABLETS
- FOUR SMALL CUPS



PROCEDURE:

1. Fill your cups with one cup of warm water, and add food coloring to the water. You want a different color for each density.
2. Add two tablespoons of sugar to the first cup, four tablespoons to the second cup, six tablespoons to the third cup and eight tablespoons to the last cup.
3. Label each cup with the amount of sugar added.
4. Stir the water until the sugar is dissolved. It is crucial that all of the sugar is dissolved in each cup. You may need to supersaturate the sugar water solution to get all of the sugar to dissolve. Place the cup in the microwave for 20-30 seconds to warm the water and dissolve more sugar. Continue stirring until all of the sugar is gone.
5. Start with the cup with the most sugar. Using a pipette, dropper or back of a spoon begin adding the first layer of sugar water to the glass/test tube.
6. After the first layer, things get challenging. Carefully drip the next dense layer onto the surface of the first. The best technique is to place the pipette right above the surface of the first layer and against the glass. Slowly drip the next color onto the first. This will take a lot of patience. Go slowly.

7. The colors will begin to mix at first, and then your original color will start to show.
8. Repeat with the next dense color and the least dense color until you have stacked all of the colors.

WHAT THIS MEANS:

As you add sugar to the water, more and more sugar molecules will take over the space, making the water denser. The cup containing the eight tablespoons of sugar will be the most dense, and the cup with two tablespoons will be the least dense.

GLOSSARY:

Density: Mass divided by volume






Mass: How many atoms are in an object

Volume: How much space an object takes up

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