



Rainbow Tube!



Post a picture of yourself with your rainbow tube on Facebook and tag Worlds UNBound to be entered into a draw for a FREE week of camp. Let us know how your experiment turned out!

Materials:

- 10 teaspoons of white granulated sugar
- Water
- Spoons
- 4 cups
- Clear jar (mason jar)
- Food colouring (to make 4 colours)

For our final UNBelievable Science activity, we are going to learn about density by making our own rainbow tube! Density is a basic physical property of liquids substances that are found in the liquid form. Density is the mass of a substance (like sugar) contained in a unit of volume (like water). Here is an example that you might be familiar with. Have you ever put vegetable oil and water in the same jar? Do they mix well, or does one liquid sink to the bottom? Water has a larger density, which means it will sink to the bottom, and the oil will be found above it! In our experiment today, we are going to make sugar water with different densities and check out this cool effect! By mixing different amounts of sugar with the same volume of water each time, we will make sugar water of different densities. Then, by adding food colouring, we'll be able to make a liquid rainbow. Let's try it!





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Instructions:

1. Have 4 transparent cups assembled adjacent to each other. Add 1 teaspoon of sugar into the first cup, 2 teaspoons of sugar into the second cup, 3 teaspoons of sugar into the third cup, and 4 teaspoons of sugar into the fourth cup.
2. Pour 4 tablespoons of water into each cup. Stir all the cups well.
3. Correctly label all of the cups with their appropriate contents, or make sure you remember which cup has which amount of sugar!
4. Add 3 drops of food coloring to each cup. Ensure that each of the four cups has a distinct color.
5. Now, beginning with the most dense (the order is very important!), very carefully add the 4 tsp. cup into the glass jar. Repeat with the 3 tsp. cup, then the 2 tsp. cup, then the 1 tsp. cup. Make sure you do this very slowly; water should not be poured into the jar quickly (this will disrupt the layers and spoil the experiment!)
6. Your rainbow tube is now complete! Take a picture and show us how your experiment turned out!

We hope you enjoyed this activity. Stay tuned for some more cool activities in the weeks to come! Remember to stay curious about STEM!

