

# Rainbow in a Jar



## Materials:

- 6 glasses or cups
- 1 cup measuring cup
- Teaspoon
- Stirring spoon
- Turkey baster
- Tall clear vase
- Water
- Sugar
- Food coloring

## Instructions:

1. Measure 1 cup of water into 6 separate glasses.
2. Using only two drops of food coloring, color the water red, orange, yellow, green, blue, and purple.
3. Using the teaspoon, add in the following sugar to each corresponding color. Stir until dissolved.
  - Purple – 10 teaspoons of sugar
  - Blue – 8 teaspoons of sugar
  - Green – 6 teaspoons of sugar
  - Yellow – 4 teaspoons of sugar
  - Orange – 2 teaspoons of sugar
  - Red – No sugar
4. In the long clear vase, pour in the purple water.
5. Use the baster to suck up some of the blue water, and transfer it to the test tube/long clear vase, and **gently** release on top of the purple water.
6. Repeat Step 5 with subsequent colors in the order listed in Step 3.

## The Science



Density is the space in between molecules. The farther apart molecules are, the less dense the substance. The closer the molecules are, the more dense the substance. (Example: Hot air rises. Cold air sinks. Hot air is less dense than cold air.) The colors with more sugar are denser, and stay at the bottom. The colors with less sugar are less dense, and stay at the top. They do not mix! What about vegetable oil and water? Do they mix? Which one is denser?

## Did you complete this experiment?

You could become a certified Weather Lab Assistant. Send us a photo or video of you and the completed experiment at [kaaltv.com/weatherlab](http://kaaltv.com/weatherlab).

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