

# Sugar gradient lab report

[Business](#), [Industries](#)



Get out 5 separate cups or beakers and fill them full with water in each.

Number each of the cups 1 through 5. And color accordingly with food dye:

- Cup 1- 2 drops of yellow
- Cup 2- 2 drops of red
- Cup 3- 2 drops of green
- Cup 4- 2 drops of yellow and 1 drop of red
- Cup 5- 2 drops of blue

Add:

- 1 scoop of sugar in Cup 1
- 2 scoops of sugar in Cup 2
- 3 scoops of sugar in Cup 3
- 4 scoops of sugar in Cup 4
- 8 scoops of sugar in Cup 5

Mix each cup until the sugar is dissolved completely and the food dye is mixed in well. Take a pipette and fill it with the substance in Cup 5.

Drop 10-20 drops down the side of the inside of a test tube (you may need to refill the pipette to accomplish this). Rinse the pipette out in the sink. Flush the pipette out several times. Take a pipette and fill it with the substance in Cup 4.

Drop 10-20 drops slowly down the side of the inside of the same test tube. Rinse the pipette out in the sink. Flush the pipette out several times. Repeat steps 8-10 with Cups: 3, 2, and 1.

Wait about 2 minutes for the water to settle.

## **Discussion**

The property used in the Sugar Gradient to create the solutions that did not mix and created layers was density. Aqueous solutions of sugar, water, and food coloring were used which means that the sugar and food coloring were mixed in the water and looked like part of the water.

This is also a “homogeneous mixture” because it appeared the same throughout (both on the visual level and particle level). The reason the sugar particles could not be seen in the mixture was because the sugar broke down and got smaller. Also the reason the food coloring looked lighter after the sugar was mixed in was because the particles spread apart more. Overall, the lab was based on the density of the aqueous solution which depended on the amount of sugar dissolved in the water.