



Rainbow Sugar Tower



What you will need:

- 5 Clear, tall glasses – 4 for the coloured water and sugar and 1 to transfer the solution into.
- A Pipette or teaspoon
- A spoon to stir
- Granulated sugar
- Food coloring (4 colours)

The science behind it:

The denser the substance, the more likely it will sink. This is how our **rainbow sugar** water density tower works! The more **sugar** you mix into the same amount of water, the higher the density of the mixture. So density explains why the colored **sugar** solutions stack on top of each other inside the glass.

Questions to ask your children?

- Why do the colours separate?
- Why does more sugar mean the water has a higher density?
- What other liquids could we use?

Can you use other liquid to see if they mix or layer in the glass. Try Oil, washing up liquid etc.

Instructions:

Fill the cups with (237 ml) of warm tap water. Use your method of choice to colour the water. You'll want a different color for each cup, for example, blue, green, yellow, and red.

Add a level tablespoons of granulated sugar to the first cup, 2 to the second cup, 4 to the third cup and 6 tablespoons to the fourth cup. Stir until all sugar is dissolved and label glasses with the amount of sugar. You might need to heat the water to help it all dissolve.

Start with the cup containing the most dissolved sugar. Add an amount to the bottom of the clean glass to create the first layer.

Using a new pipette, carefully add the next density layer (next most sugar solution) onto the surface of the first. **You have to tilt the glass and try not to be too vigorous with the pipetting or pouring with the tea spoon.**

Continue add the layers until you have a rainbow in a glass.

Google 'Rainbow Sugar' for a demonstration video online.

Upload photos of your child's rainbow sugar tower and their thoughts to the Mayflower website, under the parents tab and family science. Or use this link:

www.mayflower.towerhamlets.sch.uk/parents/family-science