



Create mint-flavored bubbles in a glass of lemonade – it is chemistry!

This is Noah. He is the guru of the molecular kitchen.

In this experiment he is demonstrating a technique called “spherification,” or the art of transforming a liquid into spheres.

What is going on here?

What is happening is a chemical reaction called crosslinking. More simply, sodium alginate (which comes from brown algae) reacts with calcium lactate to form a thin skin around the alginated liquid creating squishy spheres of liquid.



1. Noah has gathered material and ingredients: mixer, bowls, strainer, scale, pipette, sodium alginate and calcium lactate (to be bought in a drugstore), water, mineral water, mint syrup and lemonade.
2. This aspiring chemist puts in a large bowl 2 g sodium alginate, 1/2 cup of mineral water and 1/2 cup of mint syrup. It mixing this mixture with a mixer until that all alginate is dissolves completely.
3. In another container, he mixes 10 g of sodium lactate with 1 cup of water. Using the pipette, he gathers up the contents of the first bowl (the mint one) and then adds the mint syrup drop by drop into the sodium lactate and water solution.
4. Small spheres begin to form. Noah adds the little green spheres to his colander, then rinses them with running water. He deposits them at the bottom of a glass and covers them with lemonade. Voila! Lemonade with mint-flavored bubbles has been created.
5. Spherification is one of the techniques used in “molecular gastronomy.” Read more about the chemistry involved at this link: <https://science.howstuffworks.com/innovation/edible-innovations/molecular-gastronomy.htm#pt3>