Salt vs Sugar Rock Candy

Drinking tea that has been sweetened with salt or eating vegetables that have been salted with sugar tastes awful! Salt and sugar may look the same, but they obviously taste very different. They are also very different chemically. Salt is made up of sodium and chloride and is ionically bonded. Sugar, on the other hand, is composed of carbon, oxygen, and hydrogen and has covalent bonds. However both solid granular structures can crystallize. In today's lab we are going to make predictions and test which solid creates a larger crystal (in terms of mass).

Hypotheses are not wild guesses, they should be educated predictions. What questions should you research before starting this experiment? Discuss them with your group (someone should write them down)

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More than one hypothesis can be made depending on the experiment (example: H_1, H_2, H_3, ...). In addition to that/those you need to also write a null hypothesis. The null hypothesis (H_0) claims that there is no change or no relationship between the two sets of data being analyzed. Hypotheses are written "If {this happens}, then {this will happen}, because { } ."

Write your hypotheses:

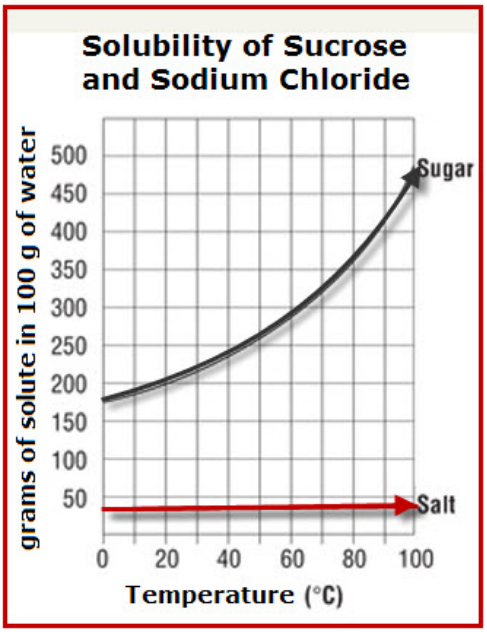
H_1

H_2

H_0

Procedure:

1. Determine the saturation point for solutions of table sugar (sucrose) and salt (sodium chloride) by consulting a solubility curve chart.
    - Write recipe for Salt (NaCl) here (this should include measurements such as grams and milliliters)
    - Write recipe for Table Sugar ($C_{12}H_{22}O_{11}$) here:



2. Create saturated solutions by boiling liquid and slowly adding the salt or sugar.
3. Allow mixtures to cool
4. Place ___ mL of the solution into your labeled (Salt or Sugar) plastic cup and repeat for other solution
5. Take a pipe cleaner and weigh it on a balance. Write its mass with all the decimals (in grams) on a piece of tape along with the date and put that tape on the plastic cup.
6. Bend the pipe cleaner in a way that allows it to hang down in the center of the cup without touching the interior sides or bottom of the cup. The pipe cleaner should be bent like a T so that the top can be taped to hold it in place. Musetti will have a model to demonstrate.
7. Cover the cup with saran wrap when finished.
8. Do this for both cups (salt and sugar)
9. Let the crystals form for the next week and measure the mass (subtracting the weight of the pipe cleaner) of the crystals.
10. Add your data to the class data google sheet.