



Kitchen Chemistry

Crystallization

KEY TERMS

Crystallization – The process by which atoms or molecules solidify into highly ordered structures.

Seed Crystal – A small piece of single crystal from which a larger crystal can grow.

Saturated Solution – A solution containing the maximum amount of a dissolved solid.

DISCUSSION QUESTIONS

- Why did we cover the skewers in sugar? (to act as seed crystals)
- If sugar is a crystal, can you name some other crystals? (Salt, snowflakes, precious jewels such as diamonds)
- What phase of matter is our crystal? (solid)

WHAT YOU NEED AT HOME

- 1 1/2 cups of white sugar
- 1 cup of water
- Small plate
- Wax paper or aluminum foil
- Small saucepan
- Stove
- Two small clean jars
- Wooden skewers
- Food coloring and/or flavoring (optional)

HOW TO DO IT *ROCK CANDY CRYSTALLIZATION*

- Cut the sharp ends off of your skewers, and soak them in water for a few minutes
- Pour out a small amount of sugar on a plate, and roll the wet ends of your skewers in the sugar until the skewer is covered. Set these aside on a piece of foil or wax paper to dry.
- Pour your cup of water into the saucepan, and start heating it on your stove top.
- Once the water has started to heat, start stirring in your sugar slowly. You want it all to dissolve
- While still stirring, bring the sugar water solution up to a boil, and wait until the solution is clear. **DO NOT** boil for more than 5 minutes, or you could end up making caramel. Take the solution off heat as soon as it turns clear.
- Add a few drops of food coloring, and/or flavoring to your two small jars, and fill them with the cooled sugar water.
- Wait to add the sugar-coated skewers until the jars are cool to the touch. You do not want to dissolve your seed crystals!
- Put the jars in a location where they will not be jostled. Crystallization could take up to a week. If you need to cover your jar, use something porous such as a paper towel or cheesecloth so that you do not inhibit evaporation.