Crystallization of a Supersaturated Sucrose Solution

Materials: items with ** will be brought from home by each lab group.

Equipment	Chemicals
Goggles, apron	142 mL. tap water
1 1-lb. coffee can	****248 mL. sucrose**
****1 stirring utensil (old spoon with long handle)**	****110 mL. fructose/glucose mixture**
Meter stick	****15 mL. hydrogenated vegetable lipid**
Bunsen burner or hot plate	2 drops food coloring
Ring stand and ring clamp	****3 - 10 mL ester or substitute, your choice of flavor**
Wire gauze *(reduces scorching)	**1/4 cup or so of powdered sucrose**
Thermometer	Baggie (to take your candy home)
NEW measuring utensils	Chart paper
Waxed paper (approx. 100 cm)	
Hot Hands	

Procedure: ***DO NOT MESS AROUND! COOKING TIME CAN BE LENGTHY!!

1. Put on goggles.
2. Cover the work area EXCEPT under your ringstand with chart paper. Always Place all food ingredients on the paper.
3. Measure sucrose into coffee can.
4. Measure fructose/glucose mixture and add to sucrose.
5. Measure water in beaker. Swirl gently to remove all traces of fructose/glucose mixture from the measuring cup.
6. Measure 5 mL of hydrogenated vegetable lipid and add to mixture. Stir. Does the sucrose dissolve completely? Does the hydrogenated vegetable lipid mix with the water? RECORD YOUR OBSERVATIONS.
7. Heat mixture CAREFULLY over Bunsen burner until it boils, stirring constantly, until it reaches 149ªC. CAUTION: THIS IS VERY HOT! Meanwhile, spread a very thin film of hydrogenated vegetable lipid on a 100 cm. length of waxed paper. Sprinkle liberally with powdered sugar.
8. When mixture reaches 149ªC, remove from heat and allow to cool to about 140ª C. Add food coloring and ester of your choice (3 mL if extract, up to 10 mL if flavoring), stirring until well mixed. Pour onto waxed paper. Spread the mixture in a layer 1-1.25 mm. thick. Record observations of physical state before and after cooling.
9. CLEAN UP while waiting for product to cool.