ROCK CANDY

SCIENCE FOR KIDS

Edible Science

Materials:

Adult Supervision

A wooden skewer/popsicle stick (you can also use a clean wooden chopstick or cotton string)

A clothespin (If using string use a stick/pencil instead)

1 cup of water

2-3 cups of sugar

A tall narrow glass or jar

A Pot and stove or microwave

A plate and thick spoon

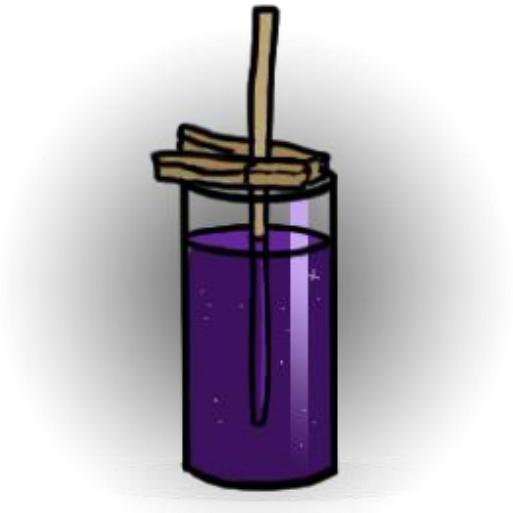
Optional: food coloring

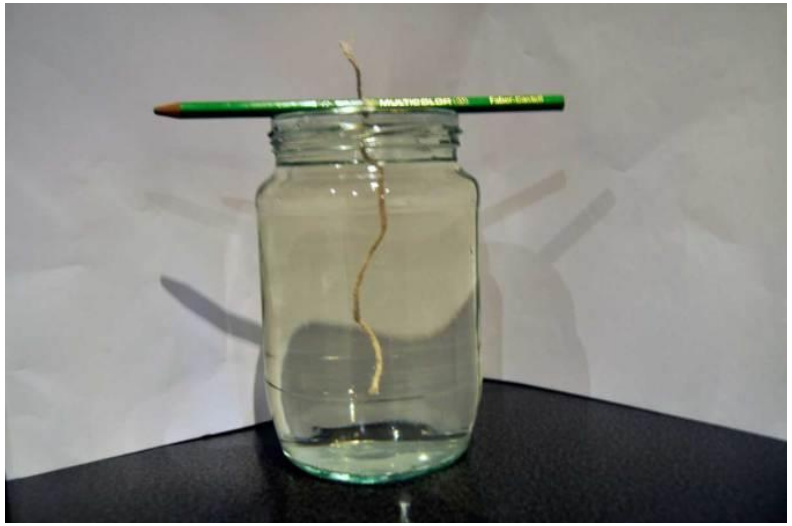
Steps:

1. prepare your wooden sticks.

- put some sugar on a plate

- Wet the wooden sticks and roll them around in sugar. Make sure you allow the sugared sticks to completely dry before putting them into the jar. You'll need one stick per jar.





Steps:

2. Clip the wooden stick into the clothespin so that it hangs down inside the glass and is about 1 inch from the bottom of the glass. (as shown)

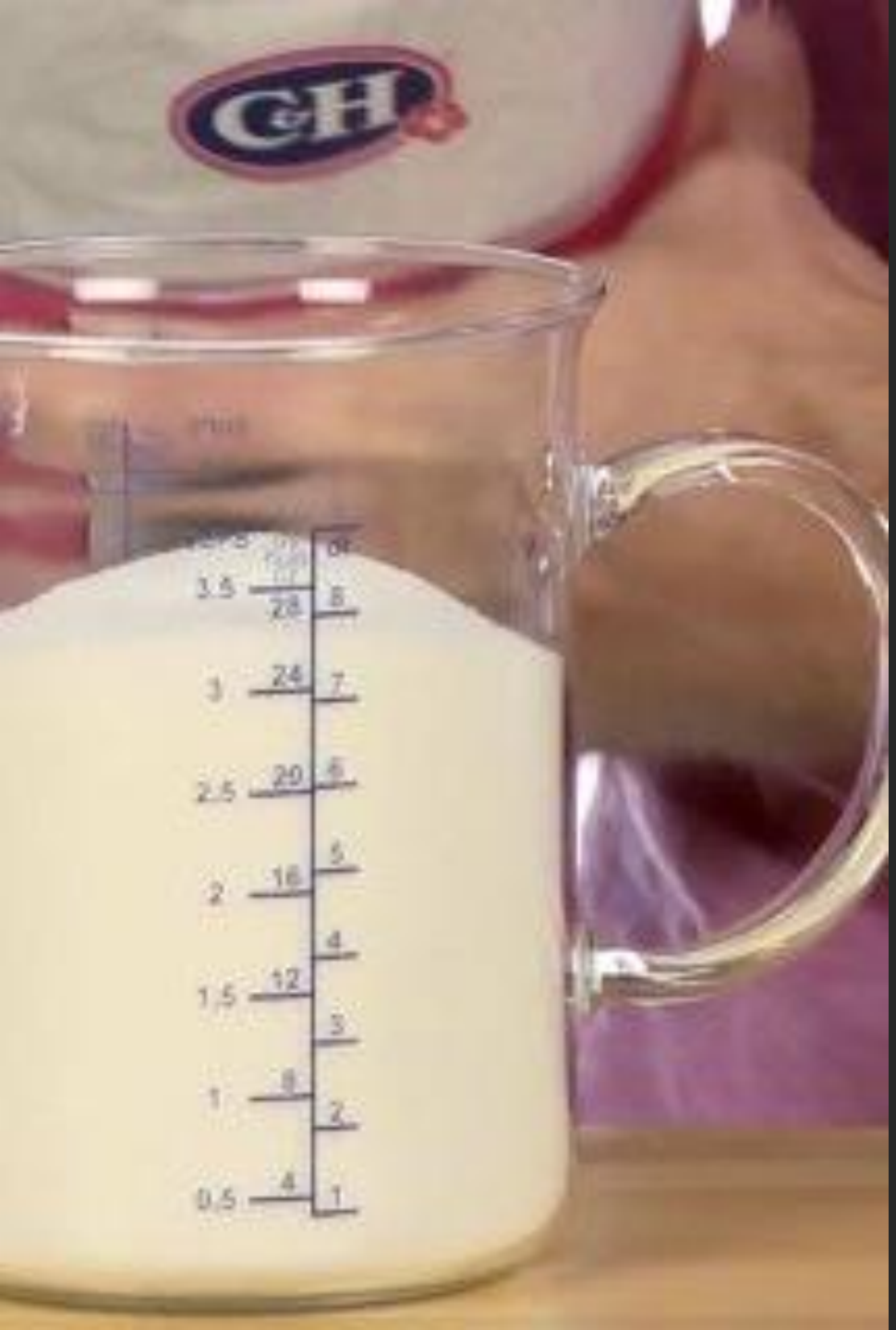
3. Remove the stick and clothespin and put them aside for now.


ADULT
SUPERVISION
REQUIRED

Steps: Stove

4. Pour 1 cup of water into a pan and bring it to boil.
5. Pour about 1/2 cup of sugar into the boiling water, stirring until it dissolves.
6. Keep adding more and more sugar, each time stirring it until it dissolves, until no more will dissolve.

This will take time and patience and it will take longer for the sugar to dissolve each time. Be sure you don't give up too soon. Once no more sugar will dissolve, remove it from heat and allow it to cool for at least 10-20 minutes.



Steps: Microwave

4. Pour about 3 cups of granulated cane sugar into the large glass container.

5. Add 1 cup of water to the sugar. Watch what happens as the water bubbles through all that sugar. There's a lot going on in the container already. Use a heavy spoon to thoroughly stir the water (a solvent) and the sugar (a solute) together to make a solution. It will be very thick and heavy because there's a lot more sugar than water in there. Stir it well!

Steps: Microwave pt. 2

6. An adult must help with this Step! You need to give the water some help with all that sugar so warm up the water. If the container is microwave-safe, put the solution in the oven and heat it for two minutes on high. Heat the solution to the boiling point.

CAUTION: An adult must handle the hot solution and move it to a stable, heat-safe location. Use the heavy spoon to thoroughly stir the solution again. Make sure all the sugar is stirred but watch out for splatters of hot liquid. Notice how the solution is changing by just using heat.

7. An adult must help with this Step! Move the stirred solution to the microwave again and heat it on high for another two minutes. Don't let the solution boil over.

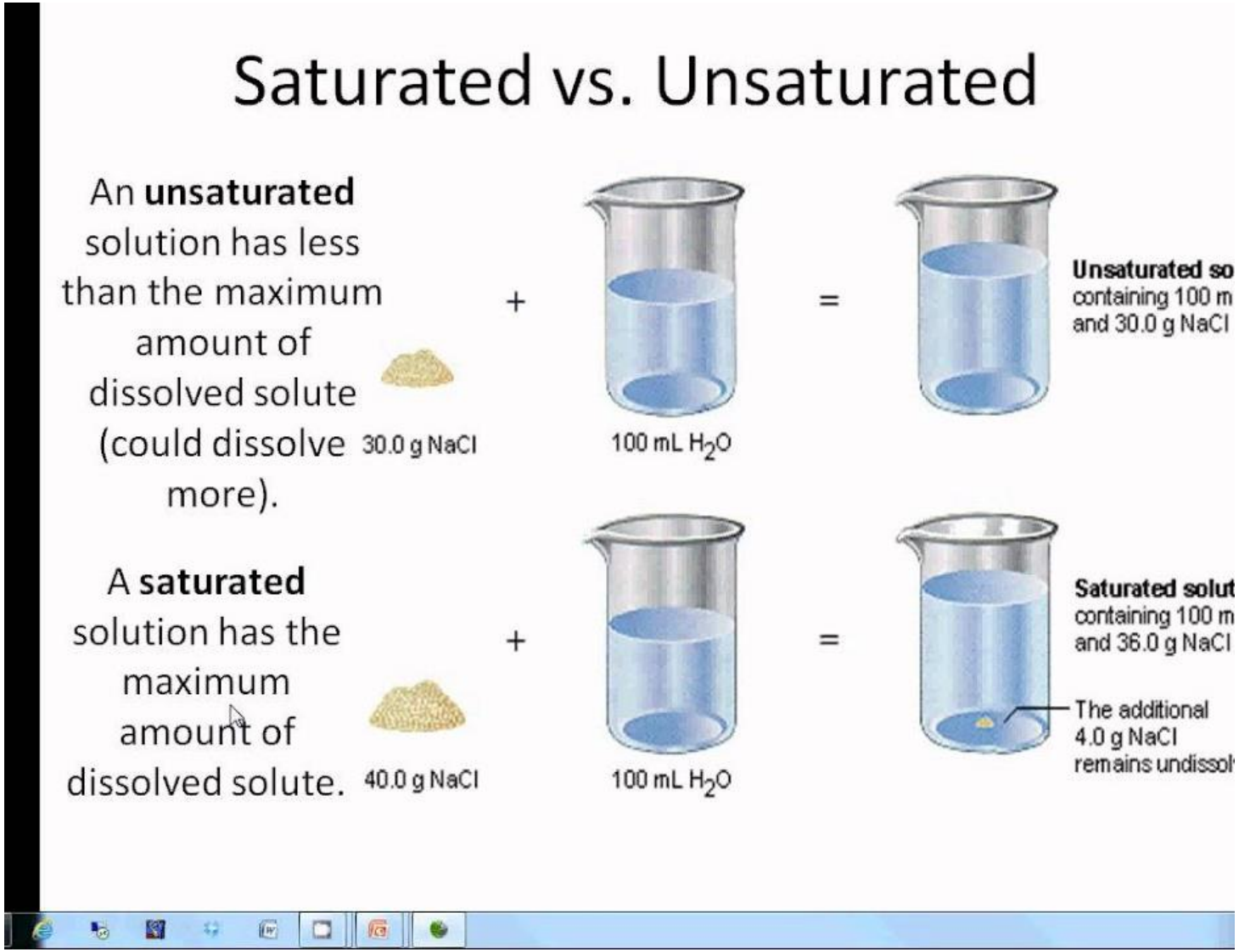
CAUTION: An adult must handle the hot solution and move it to a stable, heat-safe location. Use the spoon to carefully stir the hot solution again. Stir gently because the solution is less thick than before you heated it

Let It Cool Down

What Are We Making?

Candy Rock Crystals

When you mixed the water and sugar you made a SUPER SATURATED SOLUTION. This means that the water could only hold the sugar if both were very hot. As the water cools the sugar "comes out" of the solution back into sugar crystals on your skewer.



Why does the stick/string need to be soaked and then dried?

The wooden stick or string will provide the surface on which the crystals will grow.

As water evaporates from the string, small crystals of sugar will encrust the string.

These tiny *seed crystals* provide starting points for larger crystals.

The stick/string (and sometimes the glass itself) act as a “seed” that the sugar crystals start to grow on.

With some luck and patience you will have a tasty scientific treat!


Notice how the sugar crystals build on top of each other?


Let's
Do It.

Are we ready for our next step?

Steps:

Once the sugar solution is cool, add in food coloring (3-7 drops) to create rock candy of your preferred color. Leave this step out for clear-colored crystals.

Steps:

- Have adult supervision/help.

- Pour the cooled solution into a glass jar (or jars) and insert the sugar-covered wooden stick into the center of the glass.

- Make sure that the stick is not touching any part of the jar. If it does, the candy crystals could get stuck to the bottom or to the sides.

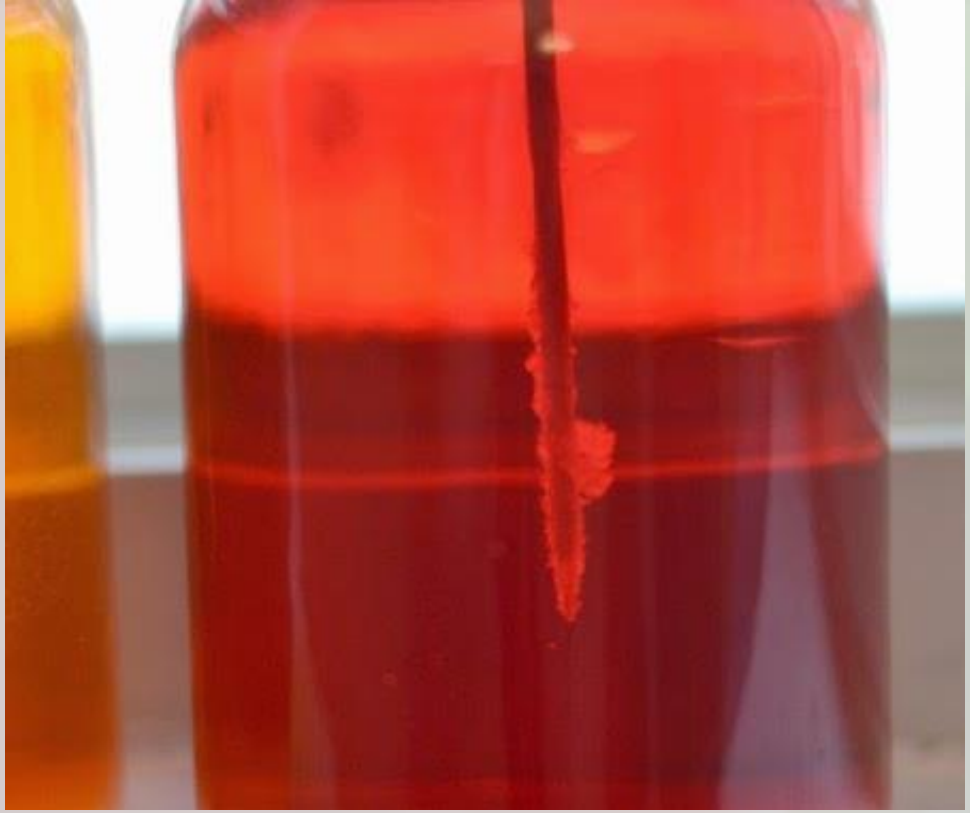
- You can divide the sugar solution across several smaller jars or use one large mason jar, depending on how many sticks of rock candy you'd like to make.

Steps:

- You can cover the top of the glass with a paper towel to make sure no dust gets in. You may have to poke a hole in the paper towel for the wooden stick to poke through.

- Allow the jar to fully cool and put it someplace where it will not be disturbed.

- Now just wait. The sugar crystals will grow over the next week.



Watch It Grow!


Once it's complete you get to enjoy
a crystal treat!