

Name: _____

Date: _____

Chemistry-2 Period _____

Crystal Growing 10 points extra credit

To be handed in by the end of marking period 2. Listen for me to announce the date it is due. Perform this lab at home, be careful when heating, follow all heating safety procedures! Ask permission to use your household stove top burner! It will take several days for the crystals to grow, so plan accordingly. Bring in your crystals (in a ziplock bag) and take some pictures. Lastly, have fun!

Background:

In this activity, the solution must be super saturated, and it can't be disturbed. If a bit of sugar or salt crystal or piece of dust falls into the jar, the sugar or salt will fall out of solution too fast to form large crystals.

Purpose: You come up with one.

Materials:

- approx. 1 cup of boiling water
- approx. 3 cups of sugar (or salt-non iodized)**
- 1 small paper clip (life saver)
- 1 pencil or stick
- 1 clear wide-mouth jar
- Thread

**If you use sugar, it can get very messy and sticky.

Procedures:

1. Using the set-up shown to the right, heat water until boiling.
2. Gradually stir in sugar (or salt) until it no longer dissolves. Then add some more. It is okay if there is some that doesn't dissolve. You need to make a super saturated solution, so look this up and see what that means.
3. Add food coloring if you like (you will need to add a lot of drops to make good colored crystals).
4. Pour **only** the sugar or salt solution into a clear jar (**no undissolved** crystals should enter clear jar).
4. Tie one end of the thread to a pencil or stick and tie a paper clip to the other end.
5. Holding onto the pencil, dip the thread into the hot sugar or salt solution to wet it and then remove the string.
6. Roll the wet string in some sugar or salt granules so some *seed crystals* adhere to the thread.
7. Suspend the string in the sugar or salt solution by placing the pencil across the top of the jar and tape it. The paper clip should weigh down the string so that it the string is straight.
8. Use crayon or marker and mark the solution level on the jar. Measure the water level every day (data).
9. Set the jar where it can be observed and where it will not be disturbed. Loosely cover the jar with a paper towel and tape it to the jar.



Questions (answer in complete sentences):
cite all references

1. What is a crystal?
2. What is a seed crystal?
3. What types of crystals are there?
4. What are some properties of crystals?
5. How do crystals grow and how do they form?
6. Why do different crystals have different shapes and sizes?
7. What is a geode?
8. What is a saturated solution?