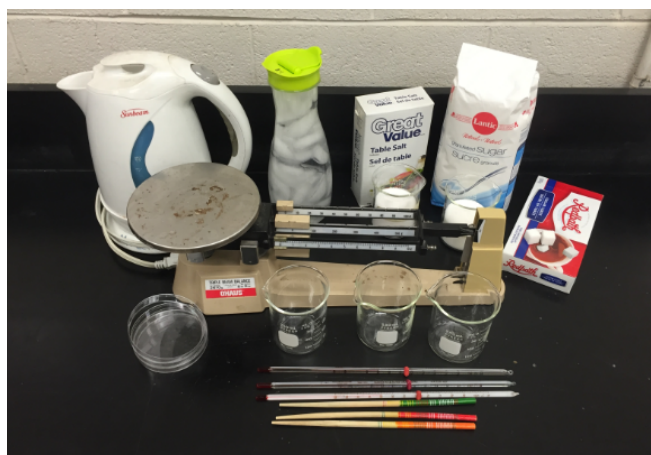


Temperature vs Dissolve Time

Today, for your last lesson of this unit, you will be performing an experiment. We have done a couple experiments in this unit that have shown us that when a solvent is at a lower temperature, the solute will take longer to dissolve. Today we will actually measure the time taken, using 3 different temperatures of solvent and 3 different solutes.



Temperature vs Dissolve Time

The experiment will be performed as follows:

- Use a triple beam balance to find the mass of two sugar cubes.
- Use the balance to get the equivalent mass of granulated sugar and salt.
- Prepare 3 water samples, one hot, one room temperature and one cold.
- Measure and record the temperature of each water sample.
- Add one of the solutes to each of the three water samples.
- Vigorously stir each of the samples.
- Record how long it takes for the solute to completely dissolve.
- Repeat two more times, changing the solute/solvent combinations, so that you have each possible combination by the end.

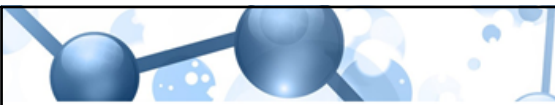
You will do this experiment as a class, not in small groups, meaning all of you will work together to obtain one set of results... and you will do it all without me, I will not be helping you. Let me know when you are done, as there will be an assignment.

I will need the last 10 minutes of class to de-brief.




Rate of Dissolve Experiment

Class <u>71</u>	Hot Water	Room Temperature Water	Cold Water
Temperature	<u>82°C</u>	<u>22°C</u>	6 <u>4°C</u>
Dissolve Time			
Sugar Cube	<u>35s</u>	<u>1m 07s</u>	<u>1m 47s</u>
Granulated Sugar	<u>32s</u>	<u>50s</u>	<u>1m 27s</u>
Salt	<u>40s</u>	<u>1m 25s</u>	<u>2m 25s</u>




I will need the last 10 minutes of class to de-brief.

Rate of Dissolve Experiment




Class <u>72</u>	Hot Water	Room Temperature Water	Cold Water
Temperature	81°C	23°C	6°C
Dissolve Time			
Sugar Cube	19.00	38.37	1min 16sec
Granulated Sugar	12.18	27.0	49.2
Salt	15.7	34.14	1min 8sec



I will need the last 10 minutes of class to de-brief.

Rate of Dissolve Experiment



Class <u>73</u>	Hot Water	Room Temperature Water	Cold Water
Temperature	87°C	22°C	6°C
Dissolve Time			
Sugar Cube	16s	1m 5.22s	2m 55s
Granulated Sugar	14s	39s	2m 4s
Salt	5m 17s	5m 7s	1m 38s



Rate of Dissolve Experiment

Class <u>74</u>	Hot Water	Room Temperature Water	Cold Water
Temperature	85°C	24°C	5°C
Dissolve Time			
Sugar Cube	17.09	55.03	2:16.10
Granulated Sugar	8.26	42.65	1:13.39
Salt	1:09.75	5:13.91	5:34.14

Rate of Dissolve Graph

Your last assignment for this unit is to create a graph of the results from this experiment.

This will be a triple bar graph, similar to our pesticide game.

Data will be posted on the webpage.

Test starts next class, runs for 3 periods.

Following that, we start our unit on Structural Strength and Stability.



Grade 7 Science
Unit 4: Structures