Mr. Gunstenson
Science 7

Lab: Are all solutes created equally?

Problem: Is the amount of solute that dissolves the same for all solutes?

Materials:
- Graduated Cylinder (100 mL and 10 mL)
- 250 mL Beaker
- Sugar, Baking Soda, or Copper Sulfate
- Water
- Stirring Rod
- Balance

Procedure:
1. Using a balance determine the mass (in grams) of 2 mL of your solute.
2. Using the 100 mL graduated cylinder, measure 100 mL of cold tap water and pour the water into the beaker.
3. Using the 10 mL graduated cylinder, measure 2 mL of your solute and add to the beaker. Use a stirring rod until all of the solute dissolves.
4. Keeping track of how many 2 mL of salt you add (in your observations section), add another 2 mL of your solute and stir. Repeat until some solute will not dissolve, even after prolonged stirring.
5. Calculate the mass of the solute you added to the beaker (show your work in your observations section).

Analysis Questions:
1. How many grams of water were in your beaker at the beginning?
(Note: 1 mL of water has a mass of 1 g.)
2. How much solute (in grams) can be dissolved in this mass of water?
3. Obtain results from other groups for the other solutes that you did not use.
4. Using your knowledge of the particle theory, explain the numbers that you received in question 3.