Name: _____ Class: _____

Saturation

Purpose:

The purpose of this experiment is to determine the saturation point of sugar in water.

Equipment:

- 2 Clear plastic Cups
- 2 Spoons
- ~120 g Sugar
- 100 ml Water
- Balance
- Measuring Cups

Hypothesis:

I think that I will need to add _____ g of sugar to 100 ml of water to make it a saturated solution.

Procedure:

1. Pour 100 ml of water into one of the clear plastic cups.
2. Spoon approximately 120g of sugar into the second plastic cup. Then, mass the sugar cup, with sugar in it, and record this mass.
3. Using the spoon add a spoonful of sugar into the water and stir it.
4. If the sugar is completely dissolved repeat step 3, if not move on to step 5.
5. Re-mass your sugar cup, with the remaining sugar, and record this mass.

* Do not dispose of your solution until instructed to do so.

Data:

Quantity of water used: _____ ml

Mass of cup and sugar prior to experiment: _____ g

Mass of cup and sugar after experiment: _____ g

Amount of sugar in solution: _____ g

Name: _____ Class: _____

Questions:

1. Saturation point is the concentration of a solute in a solvent at the point when the solvent is unable to dissolve any more solute. It is a measurement that states how much of a solute can dissolve in a solvent at a given temperature. Based on your data what is the saturation point of water at approximately 20 ^{o}C?

   Concentration of Solution = Mass of Solute Dissolved ÷ Volume of Solvent

   Concentration of Solution = ÷

   Concentration of Solution =

   Therefore the saturation point of the sugar in water solution is _____

2. How does your calculated value in question #1 compare to your hypothesis?

   _____

   _____

   _____

   _____

3. Each person in the class will have determined a different value for the saturation point of sugar in water. Why are these values different? Explain three reasons in detail.

   _____

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