

Lab: Solubility and Temperature

Questions

1. How do we measure the solubility of different substances?
2. How does temperature affect the solubility of different substances?

Background

Solubility:

Dissolve:

Solution:

Solute:

Solvent:

Instructions

1. Add 100mL of cold water to a 250 mL beaker.
2. Add your solute and mix until no more solute will dissolve. This is called "saturated". You should have a thin layer of solute at the bottom of your beaker.
3. Label one of your evaporation beakers with your name, the solute that you are using, and whether it is for the hot or the cold water. Use a balance scale to determine the mass of your evaporation beaker and record in the table below.
4. Record the temperature of your saturated solution in the table below.
5. Use a funnel with filter paper to pour 40-50 mL of your saturated solution into a graduated cylinder. Record the exact amount into the table below.
6. Pour this liquid into your evaporation beaker.
7. Repeat steps 1-6 except use the hot water.

Lab: Solubility and Temperature

Data

What is your solute?

Day 1

Day 2

Mass of Evaporation Beaker (g)	Temperature of Water (C)	Volume of Solution added to evaporation beaker. (mL)	Mass of Evaporation Beaker + Salt (g)	Mass of Salt (g)	Measured Solubility (g/mL)	Actual Solubility (g/mL)

1. The solubility of _____ in _____ at _____ is _____ g/mL.
2. The solubility of _____ in _____ at _____ is _____ g/mL.

Conclusions

1. Did the hot or the cold water dissolve more solute? Explain why.
2. Describe the errors in this experiment that could explain why the solubility you measured is different from the actual solubility.