Chemistry

Module 11 Test Review

Know the vocabulary:

Solute	Solubility
Solvent	Saturated solution
Solution	Precipitate

Understand the factors that affect solubility for solids, liquids, and gases

Understand the difference between how ionic and covalent compounds dissolve

Be able to calculate molality and ppm

Stoichiometry

Be able to calculate changes in boiling or freezing point.

Use the solubility chart to determine solubility

Extra Practice Problems:
Calculate ppm.

1. 0.5 g of NaCl in 800.0 g of water
2. 0.120 g of KOH in 850.0 g of water

Calculate molality.

3. 4.0 moles of salt are dissolved in 10.0 kg of water.
4. 5.2 moles of NH_3 are dissolved in 1300. grams of water.
5. 100. grams of NaCl are dissolved in 800. grams of water.
6. 200. grams of MgF_2 are dissolved in 2000. grams of water.

Calculate change in freezing point. $\Delta T_f = -i \cdot m \cdot K_f$ For water: $K_f = 1.86$

7. 3.0 m solution of NaCl and water.
8. 6.4 m solution of NH_3 and water.
9. 100. grams of NaCl are dissolved in 800. grams of water.
10. 200. grams of MgF_2 are dissolved in 2000. grams of water.

Calculate change in boiling point. $\Delta T_b = i \cdot m \cdot K_b$ For water: $K_b = 0.512$

11. 3.0 m solution of NaCl and water.
12. 6.4 m solution of NH_3 and water.
13. 100. grams of NaCl are dissolved in 800. grams of water.
14. 200. grams of MgF_2 are dissolved in 2000. grams of water.

Stoichiometry.

15. $KOH\ (aq) + HCN\ (aq) \rightarrow H_2O\ (l) + KCN\ (aq)$

If you have 80 mL of 2.5 M KOH, how many grams of KCN can you make?

a. Find the moles of KOH.

b. Trade moles of KOH for moles of KCN.

c. Change moles of KCN to grams.

16. $2HCl\ (aq) + Mg(OH)_2\ (aq) \rightarrow 2\ H_2O\ (l) + MgCl_2$

If you have 200 mL of 0.7M HCl, how many grams of $MgCl_2$ can you make?

d. Find the moles of HCl.

e. Trade moles of HCl for moles of $MgCl_2$.

f. Change moles of $MgCl_2$ to grams.