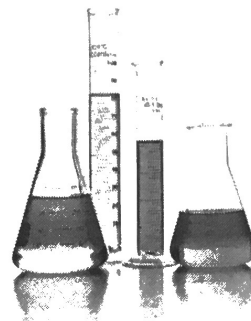


Physical Science Quiz #5 Study Guide - Solutions

Directions: Answer the following questions to help prepare for your quiz.



1. What is a solution?

homogenous mixture of a solute dissolved in a solvent

2. Explain the difference between a solute and a solvent.

solute - is dissolved

solvent - dissolves the solute / does the dissolving

3. Describe three ways you can increase the rate of dissolving.

- stirring

- heat

- surface area increased

4. What is solubility?

the amount of solute that will dissolve in a given amount of solvent

5. Explain the difference between concentrated solutions and dilute solutions.

concentrated - large amount of solute is dissolved in solvent

dilute - has small amount of solute in solvent

6. Explain saturated, unsaturated, and supersaturated solutions.

Saturated - solution that has dissolved all of the solute it can normally hold at a given temp.

unsaturated - solution can dissolve more solute at a given temp.

supersaturated - solution that contains more solute than a saturated solution at that temp.

7. Explain how pressure and temperature affect the solubility of a gas in a liquid.

Pressure - \uparrow pressure, \uparrow solubility

temperature - \downarrow temp, \uparrow solubility

8. How are electrolytes different from nonelectrolytes?

electrolytes - ^{form} ions that conduct electricity in water

nonelectrolytes - don't form ions in water + don't conduct electricity

9. Explain the process of ionization.

10. Explain the process of dissociation.

- 11) How do solute particles affect the freezing point and the boiling point of the solvent?
- lowers the freezing point of the solvent, solvent would freeze at a lower temperature
 - increases boiling point. solvent would boil at a higher temp

Solubility Curve

What type of solution do you have if you dissolve 20 grams of ~~KCl~~ into 100 grams of water at 30° C?

unsaturated

What type of solution do you have if you dissolve 90 grams of ~~KNO₃~~ into 100 grams of water at 60° C?

unsaturated

Which solutes are not really affected by a change in temperature?

NaCl, KCl, NH₄Cl,
Ce₂(SO₄)₃

Give an example of a saturated solution of ~~KClO₃~~?

10 g 30°c
20 g 50°c
40 g 80°c
60 g 100°c

