

Solutions



Name _____

Test Date _____

Terms to Know

Vocab	Definition
solute	
solvent	
solution	

Are all solutions liquids!?!?! _____!!!!

Examples:

Types of Solutions:

Soluble:

Insoluble:

Miscible

Immiscible:

	Solution	Colloid	Suspension
Particle Size			
Tyndall Effect (scattering of _____)			
Settles Out/ Filtration			
Mixture Type			

Water: The Universal Solvent

What are some properties that make water a good solvent?



Like dissolves like:

- Polar substances dissolve _____ substances
- Nonpolar substances dissolve _____ substances
- Polar substances do NOT dissolve _____ substances
- Will they be soluble? Why or why not?
 - CH_4 and H_2O

 - NH_3 and H_2O

Electrolytes

What are they? _____

Good Electrolytes:

Non-Electrolytes:

Electrolytes _____ (or break apart) into their charges ions.
This is why they conduct electricity.

Non-Electrolytes DO NOT _____ therefore they don't
conduct electricity.

The Solution Process

Solvation:

Dissociation:

Hydration:

Factors that Affect the Rate of Solution:

This is all about the SPEED at which something dissolves.

1) Increasing surface area:

2) Increasing temperature:

3) Increasing pressure:

4) Increasing concentration:

5) Using a catalyst:

Factors that Affect Solubility:

Define solubility:

1) Nature of solute/solvent:

2) Temperature:

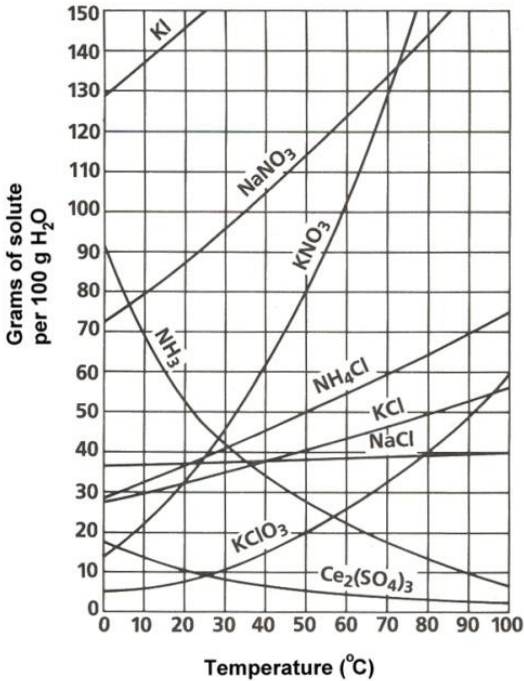
a. Solid/Liquids:

b. Gases:

3) Pressure: _____ ONLY!

Key Terms:

- 1) Saturated -
- 2) Unsaturated -
- 3) Supersaturated -



Solubility Curves

- 1) Which substance has the highest solubility at 10°C?
- 2) How much KCl can 100g of water hold at 50°C?
- 3) How much KCl can 300g of water hold at 50°C?
- 4) If a solution contains 100g of NaNO₃ at 20°C, is the solution saturated, unsaturated, or supersaturated?

Solution Concentration:

Define Concentration:

Dilute:

Concentrated:

Molarity Formula:

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Try It:

- 1) What is the molarity of a solution containing 5.85 g of KI in 125 mL of solution?

Molarity	
Volume	
moles	

- 2) How many moles of sulfuric acid are present in 500 mL of a 0.150M solution?

Molarity	
Volume	
moles	

3) What is the mass of sodium chloride in 240mL of a 3.00M solution?

Molarity	
Volume	
moles	

Dilution of Solutions:

Formula:

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What volume of 2.00M CaCl_2 would you use to make 0.5L of 0.300M CaCl_2 ?

Volume ₁	
Molarity ₁	
Volume ₂	
Molarity ₂	

Colligative Properties:

Electrolyte:

Non-Electrolyte:

Vapor Pressure Lowering

Boiling Point Elevation:

Freezing Point Depression:

Osmotic Pressure:

Try it! Which would have the largest effect? Why?

H_2SO_4

NaCl

$\text{C}_6\text{H}_{12}\text{O}_6$

AlF_3