

## Properties of Solutions

*Use section 15 and your textbook glossary to complete this worksheet*

### Part 1: Vocabulary

- A **solution** is a \_\_\_\_\_ mixture
- The **solvent** is the \_\_\_\_\_ medium in a solution. The \_\_\_\_\_ particles are the **solute**. Solvents and solutes may be \_\_\_\_\_, \_\_\_\_\_ or \_\_\_\_\_.
- An **electrolyte** is a compound that \_\_\_\_\_ an \_\_\_\_\_ when it is in an aqueous solution or in the \_\_\_\_\_ state.
- A **nonelectrolyte** is a compound that does not \_\_\_\_\_ an \_\_\_\_\_ in either aqueous solution or the \_\_\_\_\_ state.
- **Solubility** refers to the amount of a substance that \_\_\_\_\_ in a given quantity of \_\_\_\_\_ at specified conditions of \_\_\_\_\_ and \_\_\_\_\_ to produce a \_\_\_\_\_ solution.
- **Solvation** is the process by which the \_\_\_\_\_ and \_\_\_\_\_ ions of an ionic solid become surrounded by \_\_\_\_\_ molecules.

### Part 2: Solubility

- Substances that dissolve most readily in water include \_\_\_\_\_ compounds and \_\_\_\_\_ covalent molecules.
- Nonpolar covalent molecules, such as \_\_\_\_\_ and compounds found in \_\_\_\_\_, \_\_\_\_\_ and \_\_\_\_\_ do not dissolve in water. However, \_\_\_\_\_ and \_\_\_\_\_ will dissolve in gasoline.
- In some ionic compounds, the attraction among the ions in the crystals are \_\_\_\_\_ than the attractions exerted by \_\_\_\_\_. These compounds are therefore nearly \_\_\_\_\_. \_\_\_\_\_ (\_\_\_\_\_) and \_\_\_\_\_ (\_\_\_\_\_) are examples of nearly \_\_\_\_\_ ionic compounds.
- As a rule, \_\_\_\_\_ solvents such as water dissolve \_\_\_\_\_ compounds and \_\_\_\_\_ compounds; \_\_\_\_\_ solvents, such as gasoline dissolve \_\_\_\_\_ compounds.
- This relationship can be summed up in the expression “\_\_\_\_\_ dissolves \_\_\_\_\_.”

Circle the factors below that would help to dissolve a solid in a liquid

Increase temperature of the solution	Stirring/Agitation
Decrease temperature the solution	Increase pressure
Break up the solid	Decrease pressure

Circle the factors below that would help to dissolve a gas in a liquid

Increase temperature of the solution	Stirring/Agitation
Decrease temperature the solution	Increase pressure
	Decrease pressure