

Solutions Worksheet

On the line at the left, write the letter of the definition that best matches each term.

- | | |
|---------------------------|---|
| _____ 1. solution | a. capable of being dissolved |
| _____ 2. solute | b. solution with water as the solvent |
| _____ 3. solvent | c. substance that is dissolved in a solution |
| _____ 4. soluble | d. substance that dissolves in water to form a solution that conducts an electric current |
| _____ 5. alloy | e. solid solution containing two or more metals |
| _____ 6. aqueous solution | f. homogeneous mixture of two or more substances in a single physical state |
| _____ 7. electrolyte | g. substance that does the dissolving in a solution |

Answer each of the following questions in the space provided.

- Describe the properties of a solution
- Give two examples of solutions in nature and explain why each is important.
- Describe how a chemist can accurately prepare a solution of precise molarity.

Answer each of the following questions in the space provided.

- | | |
|---------------|----------------|
| concentration | saturated |
| molarity | unsaturated |
| molality | supersaturated |
- _____ is the concentration of a solution expressed as the number of moles of solute dissolved in each liter of solution.
 - A _____ solution contains as much solute as can possibly be dissolved under existing conditions of temperature and pressure
 - The amount of solute in a given amount of solvent or solution is the _____ of a solution.
 - A solution that contains more solute particles than are needed to form a saturated solution is _____.
 - The _____ of a solution is the number of moles of solute dissolved in each kilogram of solvent.
 - A solution that has less than the maximum amount of solute that can be dissolved is called a(n) _____ solution.

Solve each of the following problems as directed. Show all your work.

- What is the molarity of the solution formed by mixing 0.20 mol of sodium hydroxide with enough water to make 150 ml of solution?