





Review Questions

- In a true solution, the dissolved particles
 - are visible to the eye
 - will settle out on standing
 - are always solids
 - cannot be removed by filtration
- When a teaspoon of sugar is added to water and stirred, the sugar
 - melts
 - dissolves
 - condenses
 - evaporates
- In an aqueous solution of potassium chloride, the solute is
 - Cl^- only
 - K^+ only
 - K^+Cl^-
 - H_2O
- Which sample of matter is a mixture?
 - $\text{H}_2\text{O}(s)$
 - $\text{H}_2\text{O}(\ell)$
 - $\text{NaCl}(\ell)$
 - $\text{NaCl}(aq)$
- Most ionic substances are soluble in water because water molecules are
 - nonpolar
 - inorganic
 - ionic
 - polar
- An aqueous solution of copper sulfate is poured into a filter paper cone. What passes through the filter paper?
 - only the solvent
 - only the solute
 - both solvent and solute
 - neither the solute nor solvent
- What happens when $\text{NaCl}(s)$ is dissolved in water?
 - Cl^- ions are attracted to the oxygen atoms of the water.
 - Cl^- ions are attracted to the hydrogen atoms of the water.
 - Na^+ ions are attracted to the hydrogen atoms of the water.
 - No attractions are involved; the crystal just falls apart.
- Nonpolar solvents will most easily dissolve solids that are
 - ionic
 - covalent
 - metallic
 - colored
- As the temperature rises, the solubility of all gases in water
 - decreases
 - increases
 - remains the same
- A decrease in pressure has the greatest effect on a solution that contains
 - a gas in a liquid
 - a liquid in a liquid
 - a solid in a solid
 - a solid in a liquid
- Which diagram best illustrates the ion-molecule attractions that occur when the ions of $\text{NaCl}(s)$ are added to water?
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- Under which conditions are gases most soluble in water?
 - high temperature and high pressure
 - high temperature and low pressure
 - low temperature and high pressure
 - low temperature and low pressure

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Base your answers to questions 65 through 67 on the information below.

When cola, a type of soda pop, is manufactured, $\text{CO}_2(\text{g})$ is dissolved in it.

65 A capped bottle of cola contains $\text{CO}_2(\text{g})$ under high pressure. When the cap is removed, how does pressure affect the solubility of the dissolved $\text{CO}_2(\text{g})$?

66 A glass of cold cola is left to stand 5 minutes at room temperature. How does temperature affect the solubility of the $\text{CO}_2(\text{g})$?

67 *a* In the space provided in *your answer booklet*, draw a set of axes and label one of them "Solubility" and the other "Temperature."

b Draw a line to indicate the solubility of $\text{CO}_2(\text{g})$ versus temperature on the axes drawn in part *a*.

