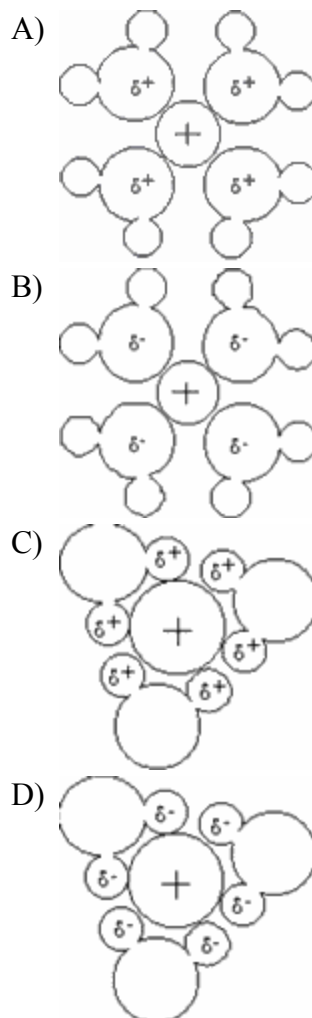


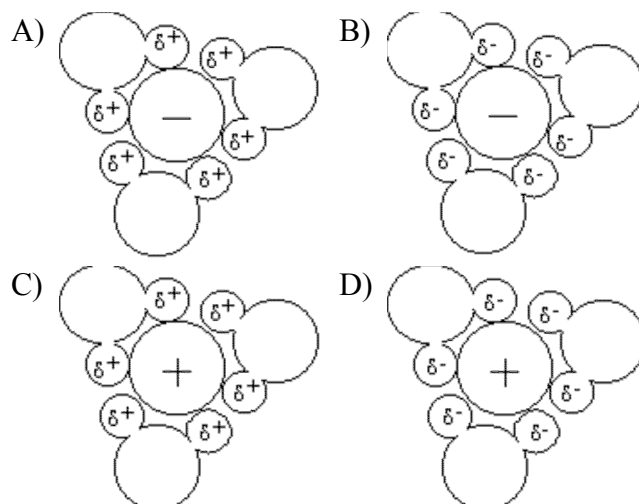
- Many salts dissociate in water because water
 - contains ionic bonds
 - has a linear structure
 - is a nonpolar solvent
 - consists of polar molecules
- In aqueous solution, a chloride ion is attracted to which end of the water molecule?
 - the hydrogen end, which is the positive pole
 - the hydrogen end, which is the negative pole
 - the oxygen end, which is the positive pole
 - the oxygen end, which is the negative pole
- Potassium chloride in aqueous solution is an example of
 - an ionic compound dissolved in a polar solvent.
 - an ionic compound dissolved in a nonpolar solvent.
 - a covalent compound dissolved in a polar solvent.
 - a covalent compound dissolved in a nonpolar solvent.
- In which chemical system is molecule to ion attractions present?

A) $\text{KNO}_3(\text{s})$	B) $\text{KNO}_3(\text{l})$
C) $\text{KNO}_3(\text{aq})$	D) $\text{KNO}_3(\text{g})$

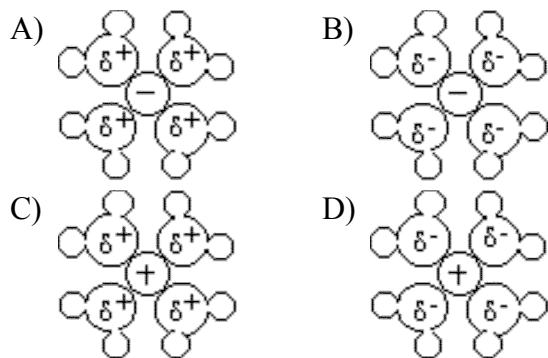
- Which diagram shows the orientation of the water molecules and the calcium ions when calcium chloride is dissolved in water?



- Which diagram correctly shows the partial charge of the hydrogen atoms and orientation of water molecules being attracted to the ion of an ionic salt in aqueous solution?



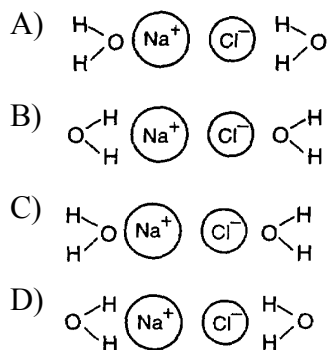
7. Which diagram correctly shows the partial charge of the oxygen atom and the orientation of water molecules being attracted to the ion of an ionic salt in aqueous solution?



8. What happens when NaCl(s) is dissolved in water?

- A) Cl^- ions are attracted to the oxygen atoms of water molecules.
- B) Na^+ ions are attracted to the oxygen atoms of water molecules.
- C) Cl^- ions are repelled by the hydrogen atoms of water molecules.
- D) Na^+ ions are repelled by the oxygen atoms of water molecules.

9. Which diagram best illustrates the ion-molecule attractions that occur when the ions of NaCl(s) are added to water?



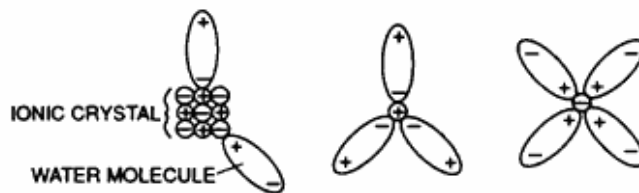
10. When NaCl(s) is dissolved in $\text{H}_2\text{O}(\ell)$, the sodium ion is attracted to the water molecule's

- A) negative end, which is hydrogen
- B) negative end, which is oxygen
- C) positive end, which is hydrogen
- D) positive end, which is oxygen

11. Solid Potassium Chloride will most likely dissolve in

- A) $\text{CCl}_4(\ell)$, which is a nonpolar solvent
- B) $\text{CCl}_4(\ell)$, which is a polar solvent
- C) $\text{H}_2\text{O}(\ell)$, which is a nonpolar solvent
- D) $\text{H}_2\text{O}(\ell)$, which is a polar solvent

12. The diagrams below represent an ionic crystal being dissolved in water.



According to the diagrams, the dissolving process takes place by

- A) hydrogen bond formation
- B) network bond formation
- C) van der Waals attractions
- D) molecule-ion attractions

13. Potassium chloride dissolved in pure water is an example of

- A) an ionic compound dissolved in a polar solvent
- B) an ionic compound dissolved in a nonpolar solvent
- C) a covalent compound dissolved in a polar solvent
- D) a covalent compound dissolved in a nonpolar solvent

14. The liquids hexane and water are placed in a test tube. The test tube is stoppered, shaken, and placed in a test tube rack. The liquids separate into two distinct layers because hexane and water have different

- A) formula masses
- B) molecular polarities
- C) pH values
- D) specific heats

15. Hexane (C_6H_{14}) and water do *not* form a solution. Which statement explains this phenomenon?

- A) Hexane is polar and water is nonpolar.
- B) Hexane is ionic and water is polar.
- C) Hexane is nonpolar and water is polar.
- D) Hexane is nonpolar and water is ionic.