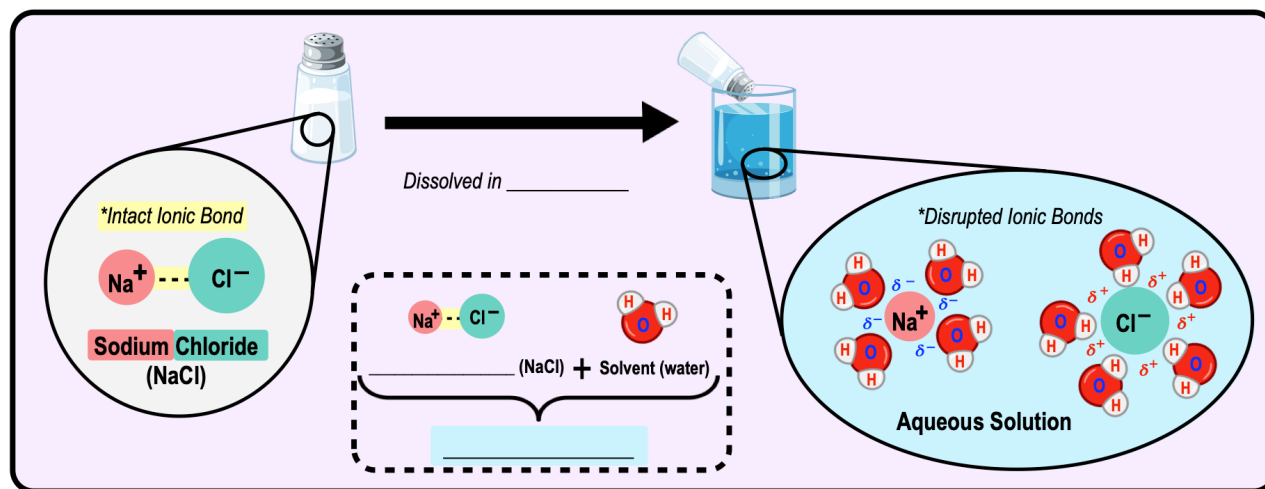


CONCEPT: PROPERTIES OF WATER: THE UNIVERSAL SOLVENT

- Water is described as the “*Universal* _____” because it can *dissolve* SO MANY _____.
- **Solvent:** the substance that does the *dissolving*, usually found in _____ amounts (usually water).
- **Solute:** the substance that gets dissolved by the *solvent*, usually found in _____ amounts.
- **Solution:** the _____ of the solutes & solvent.
 - Water molecules form a _____ *shell* around individual *solute* molecules.

EXAMPLE: Table Salt (NaCl) Dissolving in Water.



PRACTICE: A solution in which water is the solvent is called a(n) _____ solution.

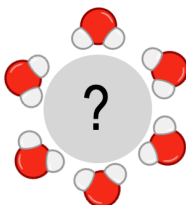
- a) Polar. b) Aqueous. c) Hydrophobic. d) Complete.

PRACTICE: The substance in a mixture that is dissolved is called the:

- a) Solution.
b) Solvent.
c) Solute.
d) Aqueous solution.

PRACTICE: What is the charge of the solute molecule in the image below based on the polarity of water?

- a) Positively charged.
b) Negatively charged.
c) Uncharged.
d) Non-polar and hydrophobic.

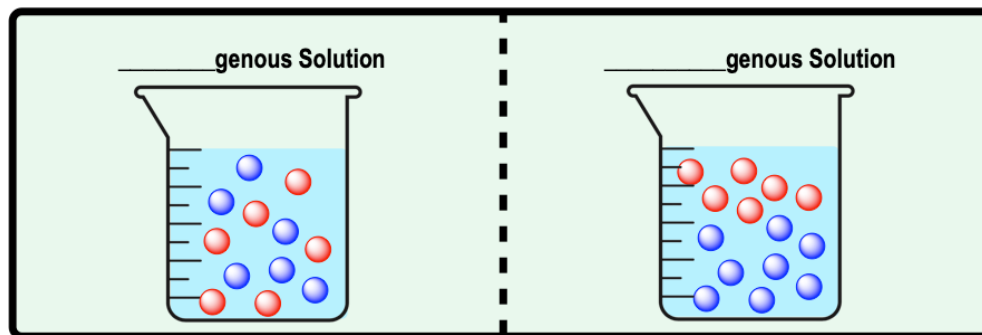


CONCEPT: PROPERTIES OF WATER: THE UNIVERSAL SOLVENT

Homogenous vs. Heterogenous Solutions

- **genous solutions**: *uniformly* mixed solutions where all parts are distributed.
- **genous solutions**: mixed solutions where parts are distributed.

EXAMPLE: Homogenous vs. Heterogeneous Solutions.



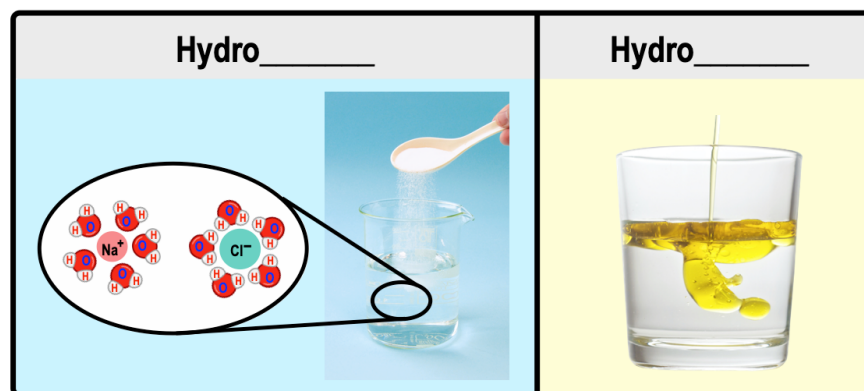
PRACTICE: The components of a heterogenous solution are distributed throughout.

- a) Equally. b) Unequally. c) Uniformly.

Hydrophilic vs. Hydrophobic

- **Hydro-** : describes substances that dissolve in water due to an to it (water “*loving*”).
 - ☐ & molecules tend to be hydrophilic (ex: *salts & ions*).
- **Hydro-** : describes substances that do dissolve in water (water “*fearing*”).
 - ☐ -polar molecules tend to be hydrophobic (ex. *fats, oils, & waxes*).

EXAMPLE: Salt vs. Oil in Water.



PRACTICE: Hydrophobic molecules:

- a) Are polar covalent molecules. b) Easily dissolve in water.
- c) Are nonpolar water “fearing” molecules. d) Are nonpolar water “loving” molecules.