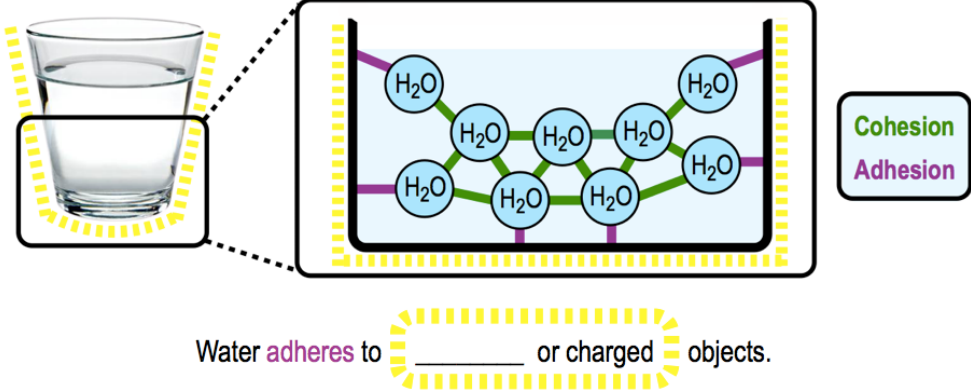



## CONCEPT: PROPERTIES OF WATER: COHESION & ADHESION

- **Cohesion**: ability for water molecules to 'stick' \_\_\_\_\_.
- **Adhesion**: ability for water molecules to 'stick' to \_\_\_\_\_ molecules that are \_\_\_\_\_ water.
- **Surface** \_\_\_\_\_: measure of difficulty in *breaking* the surface of a liquid with force.

Cohesion & Adhesion of Water	Surface Tension of Water
 <p>Water adheres to _____ or charged _____ objects.</p>	

**EXAMPLE:** Cohesion, surface tension and adhesion are properties of water molecules that \_\_\_\_\_.

- Increases with temperature.
- Increases with pH.
- Are a result of non-polar covalent bonding.
- Are a result of hydrogen bonding.

**PRACTICE:** Which of the following effects can occur because of the high surface tension of water?

- Lakes cannot freeze solid in winter even with extremely low temperatures.
- A spider can walk across the surface of a small pond.
- Organisms can resist temperature changes, although they give off heat due to chemical reactions.
- Sweat can evaporate from the skin, helping to keep people from overheating.

**PRACTICE:** Cohesive forces in liquid water occur when:

- The H atoms on molecules of H<sub>2</sub>O hydrogen bond to O atoms on adjacent molecules of H<sub>2</sub>O.
- The H atoms on molecules of H<sub>2</sub>O hydrogen bond to other H atoms on adjacent molecules of H<sub>2</sub>O.
- The atoms on molecules of H<sub>2</sub>O hydrogen bond to other O atoms on adjacent molecules of H<sub>2</sub>O.
- None of the above are correct.