

Uniqueness of Water

- H_2O is a very polar molecule
 - Strong intermolecular forces (H bonds)
 - Very good solvent for dissolving polar and ionic solids
- Extraordinary thermal properties
 - High specific heat (c) moderates climates of ocean side land masses (large amounts of heat required to change temp.)
 - High H_{vap} permits efficient body cooling via perspiration.
- High surface tension and capillarity makes water transport in plants possible.
- $D_{\text{ice}} < D_{\text{liquid}}$:
 - Ice floats and lakes/rivers don't freeze solid.
 - Lake water mixes seasonally and nutrients are re-distributed.

