**2.2 Properties of Water**

*Key Concept: Water’s unique properties allow life to exist on earth*.

Water is a **Polar** Molecule (polarity)

* Life depends on hydrogen bonds in water
* Polar molecules have slightly charged regions. H2O the oxygen in negatively charged and the hydrogen is positively charged. The opposites attract. Polar connects to polar.
* **Non polar** molecules (oil, fat) do not have charged regions.

**Hydrogen bonds** are responsible for 3 properties of water

* High specific heat
* Cohesion
* Adhesion
* **Cohesion**: Like substances adhere (stick) to like substances
* **Adhesion:** 2 different molecules attract
* **High specific heat**: heats up and maintains heat for extended periods

Many compounds dissolve in water (compounds: 2 different chemical s coming together).

* A **solution** is formed when one substance dissolves into another.

2 parts to a solution (tea, kool-aid etc)

* **Solvents** dissolve other substances
* **Solutes** dissolve in a solvent.

**The worlds most used solvent is water**.

**Acids and Bases- pH scale**

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* A pH less than 7 is an acid
* 7 is neutral (neither an acid nor a base)
* A pH more than 7 is basic.