Source: [[KBBiologyMasterIndex]]

1 | Alright, let's talk about water.

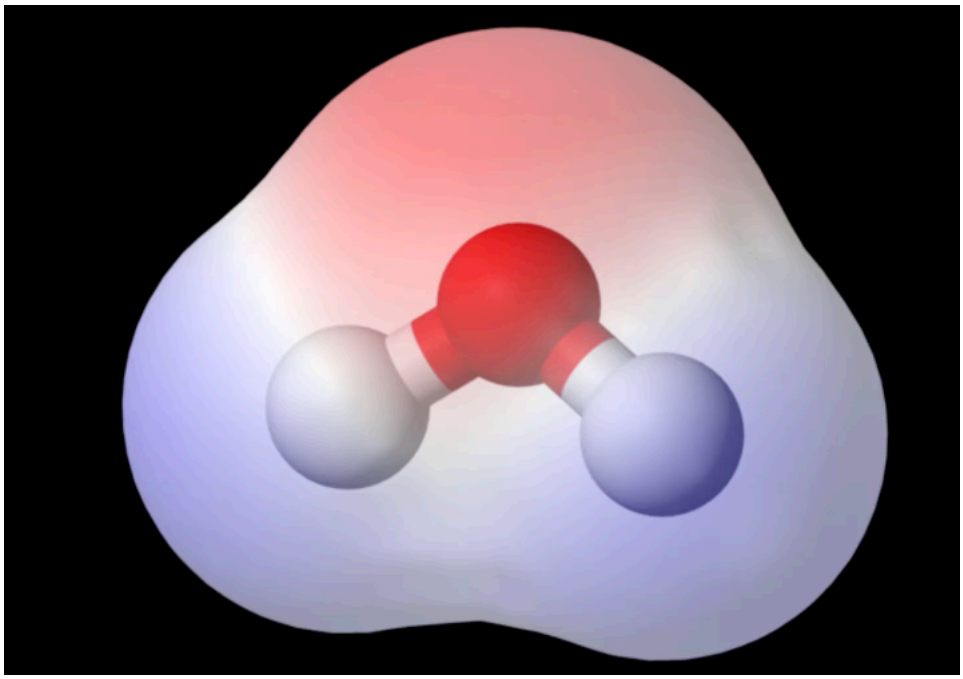

Figure 1: Watah!

1.1 | Intra-Molecular water bonds

- As we know (or looked up from the PTable)
- Hydrogen has electronegativity of 2.20, and oxygen has EN 3.44
- The difference >0.4 <1.7 makes these bonds **polar covalent**

See [[KBhBIO101BondingReview]], bonding review

Test

1.2 | Why is ice less dense?

- Freezing usually bring new ordering of molecules to make it paced
- But! Not the case for normal water because of hydrogen bond
    - Strong 6-ring Hydrogen bonds in ice prevents shrinking
    - Empty space filled with air, making it less dense

1.2.1 | Why do I care?

Ice floats! Causing beautiful ice effects that the ecosystem uses

- Pseudo-landmass

    - Antarctica
    - Animal habitat
- Ice reflect incoming light (“albeto”)
    - Bounces energy off
    - Cools the water

1.3 | Inter-Molecular water bonds properties

See [[KBhBIO101PropsOfWater]], properties of water.

2 | So, why is water the chosen liquid?

See also [[KBhBIO101PropsOfWater]] Properties of Water

- Liquid at Earth temperatures
- Sticky ⇒ strong bonds that help water hold together + resist change in temperature (hence why AlcaholLand cannot exist).
    - Varing te (incomplete #todo-houjun @jemoka)
- Is universal solvent