

Properties of H₂O

- **Polar:** many covalently and ionically bonded substances can dissolve in it
- **Transport medium:** since its dipole, many substances can dissolve in it
- **Low density:** the maximum density of water is at 4 degrees Celsius, below that temperature the molecules in ice are widely spread out, making it less dense and therefore floats on water, creating a barrier because ice is less dense than water. This forms a habitat for polar bears and a better habitat for aquatic animals
- **High specific heat capacity:** hydrogen bonds need a lot of energy to break, creating an aquatic environment with a stable temperature throughout the year
- **Incompressible:** it is a liquid therefore it cannot be compressed and is useful for plants
- **Cohesive:** water molecules stick together, used in xylem vessels (in plants)
- **Adhesive:** different molecules stick together
- **High surface tension:** attraction between water molecules is stronger than the attraction between water and air, this is due to hydrogen bonding. This creates a stretchy surface on water that some insects can walk on