

atom - nucleus (neutron, proton), electron  
atomic number is unique for each element  
mass number can be difference for the same element  
Carbon-14 is used for determining age

covalent bond - electrons of two elements are shared  
ionic bond - atoms gives up electrons and then is electromagnetically attached  
both require energy to break them

polar covalent bonds - electrons are unequally shared between the atoms  
non-polar - electrons are equally shared

hydrogen bond - interaction between hydrogen atoms of different electronegativity  
Van der waals interaction - weak attraction between molecules

Ice forms a lattice structure that is less dense than liquid water due to hydrogen bonding

heat capacity - amount of heat that it takes to raise one gram of water one degree celsius

heat of vaporization - amount of energy required to change one gram of liquid substance to gas  
water is a solvent

cohesion - water at a liquid-gas interface stick together due to hydrogen bonding

surface tension - capacity of a substance to withstand being ruptured when placed under stress or tension

capillary action - the ability of water to rise up higher than its surface

pH - acidity or alkalinity  
concentration of H<sup>+</sup> ions = -log10  
neutral are in the middle: distilled water (7)  
acidic are less than 7  
bases are greater than 7

buffers