Key Words and Concepts

matter  element  compound  atom  nucleus  proton  neutron  electron  atomic number  atomic mass  average atomic mass  isotope  atomic charge balance  electron shells  valence electrons  atomic bonding  octet rule  noble gases  ionic bonds  covalent bonds  electron filling  ions  cations  anions  physical states  solid  liquid  gas  molecular kinetic energy  heat capacity  ice/water volume relation  fluid  capillary force  bipolar water molecule  hydrogen bonds  EM spectrum  wavelength  amplitude  frequency  period  albedo  refraction  reflection  energy absorption  absorption vs. depth  turbidity  temp-density relations  density  weight density  heat  heat flow  thermodynamic flux  heat expansion  heat contraction  buoyant force  density-volume relations  ice crystal structure  conduction  convection  radiation  evaporation  freezing  sublimation  calorie  joule  condensation  phase change  latent heat  pH defined  calcium carbonate stability  saturated vs. undersaturated  ion solubility  solvent  solute  ppm  ppt  ppb  o/oo  carbonic acid reaction  carbonate dissolution  buffering capacity  CO2-pressure-temp relations  composition of seawater  Na,Mg,Ca, etc. percentages  salinity  specific conductivity  temp-salinity-density relations  pycnocline  thermocline  halocline  alkalinity  stable isotope  radioactive isotope  O16, O18  global ice budget  Carbon isotopes  superposition  biogenic  lithogenic  stratigraphy  isotope equilibrium  del O18  PDB  SMOW  paleothermometry  mollusks  foraminifera  coral  salinity vs. O18  temp vs. O18  latitude vs. O18  isotopic fractionation  "heavy water"  "light water"  glacial climate  interglacial climate  ice sheet  evaporation  late Wisconsinan ice  global sea level  eustatic sea level  deep sea drilling  O18 stratigraphy  O18/O16 ratio  global correlation  radiometric dating  insolation  sun spot  sun spot cycle  sun spot - climate response  orbital forcing  Milankovitch Theory  obliquity  eccentricity  precession
angle of earth tilt
orbital path
plane of ecliptic
perihelion
aphelion
equinox
solstice
frequency
time series
northern hemisphere
southern hemisphere
fall, winter, spring, summer
circular vs. elliptical path
glacial - cold/wet climate
polar cooling
solar influx
albedo
positive feedback

El Nino Concepts

climate change
storm impact
community model
tides
wave heights
storm wave
beach slope
summer beach
winter beach
longshore drift
littoral cell
trade winds
upwelling
south america
north america
ocean current
easterly winds
El Nino
La Nina
storm track
coastal erosion
wave activity
storm surge
sea surface temperatures

Lab Concepts and Skills

thermocline