ADVANCED BIOLOGY: THE CHEMICAL CONTEXT OF LIFE

(USE CHAPTER 2 AND 3 AS A FURTHER RESOURCE)

MATTER CONSISTS OF CHEMICAL ELEMENTS IN PURE FORM AND IN COMBINATION CALLED COMPOUNDS

1. Elements and Compounds
2. The Elements of Life
3. Evolution of Tolerance to Toxic Elements

CHEMICAL BONDS

1. Covalent bonds
2. Ionic Bonds
3. Intermolecular attractions
4. Molecular Shape and Function



CHEMICAL REACTIONS MAKE AND BREAK CHEMICAL BONDS

1. Reactants
2. Products
3. Chemical Equilibrium

HYDROGEN BONDING GIVES WATER PROPERTIES THAT HELP MAKE LIFE POSSIBLE ON EARTH



1. Cohesion of Water Molecules
2. Moderation of Temperature by Water
3. Temperature and Heat
4. Water’s High Specific Heat
5. Evaporative Cooling
6. Floating of Ice on Liquid Water
7. Water: The Solvent of Life
8. Hydrophilic and Hydrophobic Substances
9. Solute Concentration
10. Acids and Base
11. The pH Scale
12. Buffers