Focus Questions and Key Terms
Chapters 2-3
Biochemistry
Honors Biology

Focus Questions

Chapter 2
- List the four most common elements. (2.1)
- Explain the importance of the trace elements iron and iodine. (2.2)
- Describe the properties of sodium, chloride, and sodium chloride. (2.3)
- Explain what isotopes are and the different ways they can be helpful and harmful. (2.4-2.5)
- Describe the difference between ionic, covalent, and hydrogen bonds. Provide examples of each. (2.6-2.10)
- Explain the special properties hydrogen bonds give water. (2.11-2.15)
- Explain how acid precipitation impacts ecosystems. (2.16)

Chapter 3
- What is lactose and how does the human body process it? (pg. 33 and 3.17)
- Why are functional groups important? Draw the six discussed in the book. (3.2)
- Draw a simple dehydration reaction. What is this process used to do? (3.3)
- Draw a simple hydrolysis reaction. What is this process used to do? (3.3)
- Explain why high-fructose corn syrup is thought to be responsible for higher rates of obesity. (3.6)
- Explain how the following polysaccharides are used: starch, glycogen, cellulose, and chitin. (3.7)
- Explain how fats are used in biological systems. (3.8-3.9)
- Explain how proteins are used in biological systems. (3.11)
- Explain how a protein's shape determines its function. (3.13-3.14)
- Explain how nucleic acids are used in biological systems. (3.16)

Key Terms

Chapter 2

acid
acid precipitation
adhesion
atom
atomic mass
atomic number
base
buffer
chemical bond
chemical reaction
cohesion
compound
covalent bond
electron
electronegativity
element
hydrogen bond
ion
ionic bond
isotope
matter
molecule
neutron
nonpolar covalent bond
nucleus
pH scale
polar covalent bond
polar molecule
product
proton
radioactive isotope
reactant
solute
solution
solvent
surface tension
temperature
trace element

Chapter 3

amino acid
anabolic steroid
carbohydrate
carbon skeleton
cellulose
chitin
cholesterol
dehydration reaction
denaturation
deoxyribonucleic acid
disaccharide
double helix
enzyme
fat
functional group
gene
glycogen
hydrolysis
hydrophilic
hydrophobic
isomers
lipid
macromolecule
monomer
monosaccharide
nucleic acid
nucleotide
organic compound
peptide bond
phospholipid
polymer
polypeptide
polysaccharide
protein
ribonucleic acid
saturated
starch
steroid
unsaturated