

Biology Chapter 2: Study Guide

Section 1

- Definitions

atom	isotope	covalent bond
nucleus	compound	molecule
electron	ionic bond	van der Waals forces
element	ion	

- Know where each subatomic particle is located and what its charge is
- Know who was the first to use the word “atom” and what “atomos” means
- Know which subatomic particles are heavier/lighter than others
- Know the charge of an atom
- Know what the atomic number and atomic mass indicate
- Know what radioactive isotopes are used for
- Know the difference between a molecule and a compound
- Be able to order the bonds in strength
- Know what type of bonding holds water together

Section 2

- Definitions

Cohesion	Solute	acid
Adhesion	Solvent	base
Mixture	Suspension	buffer
Solution	pH scale	

- Know what makes a molecule polar
- Be able to name at least one molecule that is polar
- Understand Hydrogen bonds and what they do
- Know the difference between solution and suspension
- Be able to identify the solute and solvent of a solution
- Know how you would identify a base or an acid
- Know how the pH scale works; what it measures
- Understand how buffers work

Section 3

- Definitions

monomer	lipid	deoxyribonucleic acid
polymer	nucleic acid	(DNA)
carbohydrate	nucleotide	protein
monosaccharide	ribonucleic	amino acid
polysaccharide	acid (RNA)	

- Know what organic chemistry is
- Understand the important properties of carbon atoms
- Be able to break down the meanings of prefixes (i.e. mono-, poly-, etc) and suffixes (ie. –saccharides, etc)
- Be able to list the four groups of organic compounds found in living things

- Understand the properties/purpose of carbohydrates
- Understand the properties/purpose of lipids
- Be able to understand the difference between saturated, unsaturated and polyunsaturated
- Know the components of the a lipid
- Know common categories of lipids
- Understand the properties/purpose of nucleic acids
- Know the parts of a nucleotide
- Understand the properties/purpose of proteins
- Be able to draw the basic structure of the amino acid
- Know and understand the levels of organization

Section 4

- Definitions

chemical reaction

activation energy

substrate

reactant

catalyst

product

enzyme

- Be able to recognize which side of a chemical equation shows the reactants and the products
- Know the two types of arrows in a chemical reaction
- Be able to list what is conserved during a chemical reaction
- Know the difference between a spontaneous and nonspontaneous reaction
- Be able to identify the graphs on page 50 as energy-absorbing or energy-releasing reactions
- Understand the purpose of catalysts
- Know how catalysts are named
- Be able to describe in detail the enzyme-substrate complex
- Be able to identify at least one factor that regulates/affects enzyme productivity

Suggested Hints for Studying

- Go over the homework
- Study the quiz
- Be able to answer the “Key Concepts” questions on the right hand side of the first page of each section
- Be able to answer the questions in the “Section Assessment” at the end of the section
- Do the review guide
- Be able to answer the question in the “Chapter 2 Assessment” on page 57 and 58
- Be able to answer the “Standardized Test Prep” questions on page 59
- Look over your lecture notes; add in information from the textbook and homework