**AP Biology Vocab List**

Get some index cards (Ms. Wuerth has a bunch she can give you) and make flashcards of all of these terms.

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| **UNIT ONE - CHEMISTRY OF LIFE** |
| **Properties of Water** |
| Covalent Bond |
| Ionic Bond |
| Nonpolar Covalent Bond |
| Polar Covalent Bond |
| Electronegativity |
| Hydrogen Bond |
| Adhesion |
| Cohesion |
| Capillary Action |
| Specific Heat |
| Density of Ice |
| Solvent |
| Solute |
| pH |
| Buffer |
| Surface Tension |
| **Macromolecules** |
| NCHOPS |
| Organic Molecules |
| Carbohydrates |
| Monosaccharides |
| Disaccharides |
| Polysaccharides |
| Glycogen |
| Starch |
| Cellulose |
| Lipids |
| Fatty Acids |
| Unsaturated Fatty Acids |
| Saturated Fatty Acids |
| Amino Acid |
| Primary Structure |
| Secondary Structure |
| Tertiary Structure |
| Quaternary Structure |
| Denature |
| Nucleic Acids |
| DNA vs. RNA |
| Antiparallel |
| Amphipathic |
| Glycolipids |
| Glycoproteins |
| Steroids |
| Proteins |
| Alpha Helixes |
| Beta Sheets |
| R-groups |
| Deoxyribose |
| Ribose |
| Purines |
| Pyrimidines |
| **UNIT TWO – CELL STRUCTURE AND FUNCTION** |
| **Cell Organelles and their Functions** |
| Components of Prokaryotic Cells |
| Components of Eukaryotic Cells |
| Ribosomes |
| Cytosol |
| Plasma Membrane |
| Nucleus |
| Nucleolus |
| Nucleoid |
| Ribosomal RNA (rRNA) |
| Rough Endoplasmic Reticulum (rough ER) |
| Smooth Endoplasmic Reticulum (smooth ER) |
| Golgi Complex |
| Lysosomes |
| Vacuoles |
| Mitochondria |
| Chloroplasts |
| Thylakoids |
| Stroma |
| Centrosomes |
| Amyloplasts |
| Perioxisome |
| Cytoskeleton |
| Cilia/Flagella |
| Endosymbiosis Hypothesis |
| Compartmentalization |
| **Cell Membranes and Transport** |
| Surface Area to Volume Ratio |
| Phospholipid Bilayer |
| Glycoproteins |
| Glycolipids |
| Fluid Mosaic Model |
| Aquaporins |
| Cell Wall |
| Diffusion |
| Osmosis |
| Passive Transport |
| Active Transport |
| Sodium-Potassium Pump |
| Facilitated Diffusion |
| Cotransport |
| **Water Potential** |
| Isotonic |
| Hypertonic |
| Hypotonic |
| Water Potential |
| Solute Potential |
| Pressure Potential |
| Ionization Constant |
| Pressure Constant |
| Temperature in Water Potential Calculations |
| Osmolarity |
| Contractile Vacuole |
| **UNIT THREE – CELLULAR ENERGETICS** |
| **Enzymes** |
| Enzymes |
| Ribozymes |
| Active Site |
| Substrate |
| Allosteric Site |
| Competitive Inhibitor |
| Allosteric Inhibitor |
| Cofactors |
| Coenzymes |
| Endergonic |
| Exergonic |
| Activation Energy |
| Coupled Reactions |
| **Matter and Energy - Photosynthesis** |
| Heterotrophs |
| Autotrophs |
| Photoautotrophs |
| Chemoautotrophs |
| Light-dependent Reactions |
| Light-Independent Reactions |
| Photophosphorylation |
| Chlorophylls |
| Accessory Pigments |
| Photosystem |
| Photolysis |
| Chemiosmosis |
| ATP Synthase |
| NADP+ Reductase |
| Fixation of Carbon |
| Reduction |
| Regeneration of RuBP |
| Absorption Spectrum |
| **Matter and Energy – Cellular Respiration** |
| Glycolysis |
| Oxidation of Pyruvate |
| Citric Acid Cycle |
| Oxidative Phosphorylation |
| Substrate-level Phosphorylation |
| Aerobic |
| Anaerobic |
| Fermentation |
| NAD+ |
| FAD |
| Coenzyme A |
| Electron Transport Chain |
| Alcohol Fermentation |
| Lactic Acid Fermentation |
| **UNIT FOUR - CELL COMMUNICATION AND THE CELL CYCLE** |
| **Cell Communication** |
| Ligands |
| Autocrine Signaling |
| Juxtacrine Signaling |
| Paracrine Signaling |
| Endocrine Signaling |
| Cell Membrane Receptor |
| Hormones |
| Signal Transduction |
| Target Cells |
| Intracellular Receptors |
| Signal Amplification |
| Kinases |
| Phosphatases |
| Adenylyl Cyclase |
| Secondary Messengers |
| Cyclic AMP |
| Negative Feedback |
| Positive Feedback |
| **Cell Cycle and its Regulation** |
| Interphase |
| Mitosis |
| Cytokinesis |
| G1 |
| S |
| G2 |
| Prophase |
| Metaphase |
| Anaphase |
| Telophase |
| G0 |
| Checkpoints |
| Cyclins |
| Cyclin-dependent Kinases |
| MPF |
| Density-dependent Inhibition |
| Anchorage Dependence |
| Proto-oncogenes |
| Oncogenes |
| Tumor Suppressor Genes |
| Apoptosis |

**END OF SEMESTER ONE**

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| **UNIT FIVE - HEREDITY** |
| **Meiosis** |
| Meiosis |
| Haploid |
| Diploid |
| Meiosis I |
| Meiosis II |
| Genetic Recombination |
| Independent Assortment |
| Synapsis |
| Tetrads |
| Chromatin |
| Chromatid |
| Chromosome |
| Centromere |
| Linked Genes |
| Translocations |
| Nondisjunction |
| Aneuploidy |
| Monosomy |
| Trisomy |
| **Mendelian Genetics** |
| Mendel’s Law of Segregation |
| Mendel’s Law of Independent Assortment |
| Pedigree |
| Genotype |
| Phenotype |
| Homozygous |
| Heterozygous |
| Dominant |
| Incomplete Dominance |
| Codominance |
| Recessive |
| Monohybrid Cross |
| Dihybrid Cross |
| Test Cross |
| **Non-Mendelian Inheritance** |
| Linked Genes |
| Unlinked Genes |
| Map Units |
| Karyotype |
| Autosomes |
| Sex Chromosomes |
| Sex-linked Genes |
| Multiple Gene Inheritance |
| Non-nuclear Inheritance |
| Mitochondrial DNA |
| Chloroplast DNA |
| Phenotypic Plasticity |
| **UNIT SIX – GENE EXPRESSION AND REGULATION** |
| **DNA and its Replication** |
| Helicase |
| Origin of Replication |
| Topoisomerase |
| DNA Polymerase |
| Ligase |
| Okazaki Fragments |
| Leading Strand Replication |
| Lagging Strand Replication |
| Semi-Conservative Replication |
| Telomeres |
| **Transcription and Translation** |
| Transcription |
| RNA Polymerase |
| mRNA |
| tRNA |
| rRNA |
| Codons |
| Anticodons |
| Promoter |
| TATA Box |
| Transcription Factors |
| Pre-mRNA |
| RNA Processing |
| Mature mRNA |
| Introns |
| Exons |
| 5-GTP Cap |
| 3’-polyA tail |
| Spliceosome |
| snRNA |
| miRNA |
| RNA Silencing |
| snRNPs |
| Alternative Splicing |
| Translation |
| Polyribosomes |
| Start Codon |
| Stop Codon |
| Retroviruses |
| Reverse Transcriptase |
| **Control of Gene Expression** |
| Regulatory Proteins |
| Regulatory Sequences |
| Operon |
| Operator |
| Structural Genes |
| Inducible Operon |
| Inducer |
| Repressor |
| Repressible Operon |
| Corepressor |
| Regulatory Switches |
| Enhancers |
| Silencers |
| Activators |
| Transcription Factors |
| Mediators |
| Epigenetic Changes |
| Methylation |
| Acetylation |
| Histones |
| Euchromatin |
| Heterochromatin |
| siRNAs |
| Differential Gene Expression |
| Mutations |
| Horizontal Transmission |
| Transformation |
| Transduction |
| Conjugation |
| Transposition |
| **Biotechnology** |
| Bacterial Transformation |
| Recombinant DNA |
| Restriction Endonucleases |
| DNA Ligases |
| Gel Electrophoresis |
| Polymerase Chain Reaction (PCR) |
| CRISPR-Cas9 |
| **UNIT SEVEN – NATURAL SELECTION** |
| **Evolution** |
| Molecular Evidence for Evolution |
| Morphology |
| Vestigial Structures |
| Homologous Structures |
| Analogous Structures |
| Convergent Evolution |
| Coevolution |
| Natural Selection |
| Artificial Selection |
| Sexual Selection |
| Fitness |
| Differential Reproductive Success |
| Directional Selection |
| Stabilizing Selection |
| Disruptive Selection |
| **Population Genetics** |
| Population Genetics |
| Gene Flow |
| Genetic Drift |
| Bottleneck Effect |
| Founder Effect |
| Conditions for Hardy-Weinberg Equilibrium |
| **Common Ancestry and Phylogeny** |
| Phylogeny |
| Phylogenetic Trees |
| Cladograms |
| Molecular Clocks |
| Shared Derived Characteristics |
| Clades |
| Nodes |
| Outgroup |
| Root |
| Extinct |
| Extant |
| **Speciation** |
| Species |
| Speciation |
| Adaptive Radiation |
| Gradualism |
| Punctuated Equilibrium |
| Allopatric speciation |
| Sympatric speciation |
| Polyploidy |
| Prezygotic barriers |
| Postzygotic barriers |
| Habitat Isolation |
| Temporal Isolation |
| Behavioral Isolation |
| Mechanical Isolation |
| Gametic Isolation |
| Reduced Hybrid Viability |
| Reduced Hybrid Fertility |
| Hybrid Breakdown |
| **UNIT EIGHT - ECOLOGY** |
| **Responses of Organisms to their Environment** |
| Stimulus |
| Behavioral Response |
| Physiological Response |
| Pheromones |
| Audible Signals |
| Chemical Signals |
| Electrical Signals |
| Tactile Signals |
| Visual Signals |
| Aposematism |
| Cooperative Behaviors |
| **Flow of Energy in Ecosystems** |
| Endotherms |
| Ectotherms |
| Metabolic Rates |
| Coral Bleaching |
| Trophic Levels |
| Producers |
| Primary Consumers |
| Secondary Consumers |
| Tertiary Consumers |
| Carnivores |
| Omnivores |
| Chemoautotrophs |
| Decomposers |
| Detritovores |
| Kleptoplasty |
| Bottom-up Regulation |
| Top-down Regulation |
| **Populations and Community Ecology** |
| Population |
| Community |
| Exponential Growth |
| Logistic Growth |
| Density-dependent Factors |
| Density-Independent Factors |
| Carrying Capacity |
| Abiotic Factors |
| Biotic Factors |
| Lag phase |
| Log phase |
| K-selected populations |
| r-selected populations |
| **Biodiversity** |
| Species composition |
| Species diversity |
| Simpson’s Diversity Index |
| Competition |
| Predator-Prey |
| Niche Partitioning |
| Trophic Cascades |
| Parasitism |
| Commensalism |
| Mutualism |
| Biodiversity |
| Keystone Species |
| Invasive Species |
| **STATISTICAL ANALYSIS** |
| Null Hypothesis (H0) |
| Chi-Square Test |
| Degrees of Freedom |
| p-value |
| Descriptive Statistics |
| Mean |
| Median |
| Standard Deviation |
| Standard Error of the Mean |
| 95% Confidence Interval |
| Upper Limit of 95% Confidence Interval |
| Lower Limit of 95% Confidence Interval |

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