

**MIAMI-DADE COUNTY PUBLIC SCHOOLS
DISTRICT PACING GUIDE**

YEAR-AT-A-GLANCE/ CURRICULUM MAP

BIOLOGY I		COURSE CODE: 200031001	
1ST Nine Weeks	2ND Nine Weeks	3RD Nine Weeks	4TH Nine Weeks
<p>I. Introduction to Biology/Nature of Life</p> <ul style="list-style-type: none"> A. Study of Biology B. Data Analysis C. Safety Procedures D. Equipment and Procedures <p>II. Building Blocks of Life (Carbon, Hydrogen, Oxygen, Nitrogen)</p> <ul style="list-style-type: none"> A. Survey of the Periodic Table B. Chemical Bonds C. Chemical Reactions D. Biogeochemical Compounds E. Enzymes <p>III. Biogeochemical Cycles</p> <ul style="list-style-type: none"> A. Types of Biogeochemical Cycles B. Processes Related to Cycles C. Human Impact on the Cycles <p>IV. Ecosystems and Energy Flow</p> <ul style="list-style-type: none"> A. Conservation of Matter and Energy B. Food Chains and Food Webs C. Types of Pyramids D. Organism Interactions <p>V. Introduction to Biomes and Succession in an Ecosystem</p> <ul style="list-style-type: none"> A. Biomes B. Succession <p>VI. Population Ecology</p> <ul style="list-style-type: none"> A. Population Growth Curves B. Human Population Dynamics C. Principle of Competitive Exclusion D. Human Environmental Impacts <p>VII. Cell Structure and Function</p> <ul style="list-style-type: none"> A. Levels of Organization B. The Cell Theory C. Cell Structures and Function D. Discussion of Division of Labor and Specialized Cells E. Comparison of Plant and Animal Cells 	<p>VIII. Photosynthesis</p> <ul style="list-style-type: none"> A. ATP Formation B. General Equation for Photosynthesis C. Light-dependent Reactions D. Light-independent Reactions E. The Electromagnetic Spectrum F. Factors Affecting Photosynthesis <p>IX. Cellular Respiration</p> <ul style="list-style-type: none"> A. General Equation for Cellular Respiration B. Stages C. Rates of Reactions and Roles of Enzymes <p>X. Cell Cycle and Mitosis</p> <ul style="list-style-type: none"> A. Cell Cycle B. Mitosis (Nuclear Division) C. Cytokinesis (Cytoplasmic Division) D. Differences between Plant and Animal Mitosis <p>XI. Meiosis</p> <ul style="list-style-type: none"> A. Meiosis B. Genetic Variation Resulting From Meiosis C. Comparison of Mitosis and Meiosis <p>XII. Heredity - Mendelian Genetics</p> <ul style="list-style-type: none"> A. Mendel's Experiments B. Probability and Punnett Squares C. Chromosome Theory of Inheritance D. Patterns of Inheritance E. Linked Genes and Crossing Over <p>XIII. Genetic Diseases and Human Genetics</p> <ul style="list-style-type: none"> A. DNA and the Human Genome Project B. Causes of Genetic Diseases C. Chromosomal Disorders D. Sex-Linked Genes E. Tools for Examining Human Chromosomes & Traits 	<p>XIV. DNA, Replication and Transcription</p> <ul style="list-style-type: none"> A. Experiments and History B. Structure of DNA & Chromosomes C. DNA Replication D. Transcription <p>XV. RNA and Protein Synthesis</p> <ul style="list-style-type: none"> A. RNA Structure and Review of Transcription B. Types of RNA (Structure & Function) C. Translation D. "One Gene – One Enzyme" E. Mutations <p>XVI. Genetic Engineering</p> <ul style="list-style-type: none"> A. Experiments/Contributions B. Forms of Biotechnology C. Regulation of Genes (Prokaryotes) D. Bio Ethical Issues E. Careers in Genetic Engineering <p>XVII. Theory of Evolution</p> <ul style="list-style-type: none"> A. Theories on the Origins of Life B. First Organic Molecules C. Ideas That Shaped Darwin's Thinking D. Darwin's Theory of Evolution by Natural Selection E. Evolution of Populations (Microevolution) <p>XVIII. Evidence of the Theory of Evolution and Taxonomy</p> <ul style="list-style-type: none"> A. Evidence for the Theory of Evolution B. Macroevolution C. Hominid Evolution D. Taxonomy 	<p>XIX. Prokaryotes and Viruses, Protists and Fungi</p> <ul style="list-style-type: none"> A. Prokaryotes B. Viruses C. Protists D. Fungi <p>XX. Study of Animal Diversity and Adaptations of the Invertebrate Phylum</p> <ul style="list-style-type: none"> A. Invertebrate Diversity B. Integration of Human Body Systems with Invertebrates and Chordates <p>XXI. Study of Animal Diversity and Adaptations of the Chordate Phylum</p> <ul style="list-style-type: none"> A. Chordate Diversity B. Integration of Human Body Systems with Invertebrates and Chordates <p>XXII. Human Body Systems (cont.)</p> <ul style="list-style-type: none"> A. Integumentary System B. Skeletal System C. Muscular System D. Circulatory and Respiratory Systems E. Digestive and Excretory Systems F. Nervous Systems G. Survey of Endocrine and Reproductive Systems H. Immune System <p>XXIII. Survey of Plant Diversity</p> <ul style="list-style-type: none"> A. Non-vascular Plants (Diversity and Reproduction) B. Vascular Plants (Diversity and Modes of Reproduction) C. Parts of Plants D. Importance of Plants