



Mesquite ISD Curriculum Sequence Second Semester BIOLOGY

4th Six Weeks	5th Six Weeks	6th Six Weeks
<p>Students will investigate the following:</p> <p><u>Viruses</u></p> <p>Viral Structure Students will compare the viral structure to cell structure</p> <p>Viral Reproduction Students will describe viral reproduction</p> <p>Viral Infection Students will describe the role of viruses in causing diseases, such as human immunodeficiency virus (HIV) and influenza.</p> <p><u>Taxonomy</u></p> <p>Eukaryotes vs. Prokaryotes Students will practice identifying eukaryotes and prokaryotes using their characteristics as a method of identification.</p> <p>Kingdoms Students will compare characteristics of taxonomic groups, including Archaea, Bacteria, Protista, Fungi, Plantae, and Animalia.</p> <p>Taxonomy Students will define taxonomy and recognize the importance of a standardized taxonomic system to the scientific community, and will practice classification through a hierarchical system based on similarities and differences shared among groups.</p> <p><u>Plants</u></p> <p>Plant Systems Students will examine specialized cells of plants, and study the interactions that occur among systems that perform the functions of transport, reproduction, and response in plants.</p> <p>Carbon and Nitrogen Cycles Students will describe the flow of matter through the carbon and nitrogen cycles and explain the consequences of disrupting these cycles.</p>	<p>Students will investigate the following:</p> <p><u>Ecology and Nutrition</u></p> <p>Symbiosis Students will interpret relationships, including predation, parasitism, commensalism, mutualism, and competition among organisms.</p> <p>Biomes Students will understand that interdependence and interactions occur within an environmental system.</p> <p>Ecological Succession Students will understand that biological systems work to achieve and maintain balance by describing how events and processes that occur during ecological succession can change populations and species diversity.</p> <p>Natural Selection and Adaptations Students will recognize that long-term survival of a species is dependent on changing resource bases that are limited. Students will describe how environmental change can impact ecosystem stability.</p> <p>Biomolecules Students will compare the structures and functions of different types of biomolecules, including carbohydrates, lipids, proteins, and nucleic acids.</p> <p>Understanding Enzymes Students will explore the role enzymes play in metabolic and energy processes in living organisms.</p> <p>Food Chains, Webs, Pyramids Students will analyze the flow of matter and energy through trophic levels using various models, including food chains, food webs, and ecological pyramids.</p> <p>Environmental Impact Students will demonstrate an understanding of the use and conservation of resources and the proper disposal or recycling of materials.</p>	<p>Students will investigate the following:</p> <p><u>Common Ancestry and Evolution:</u></p> <p>Common Ancestry Students will analyze and evaluate how evidence of common ancestry among groups is provided by the fossil record, biogeography, and homologies, including anatomical, molecular, and developmental.</p> <p>Origin of Life Students will analyze and evaluate the evidence regarding formation of simple organic molecules and their organization into long complex molecules having information such as the DNA molecule for self-replicating life.</p> <p>Speciation and Genetic Variations Students will analyze and evaluate the relationship of natural selection to adaptation and to the development of diversity in and among species</p> <p>Genetic Drift Students will analyze and evaluate the effects of other evolutionary mechanisms, including genetic drift, gene flow, mutation, and recombination.</p>