EAGLE MOUNTAIN SAGINAW ISD
Curriculum and Instruction

Biology Advanced Parent Guide

Students in Biology focus on patterns, processes, and relationships of living organisms through four main concepts: biological structures, functions, and processes; mechanisms of genetics; biological evolution; and interdependence within environmental systems. Students will ask questions, plan and conduct investigations, and explain phenomena using appropriate tools and models. They will also identify problems and design solutions using engineering design practices. Recurring themes and concepts will be explored to make connections between overarching concepts. Student investigations emphasize accurate observations, collection of data, data analysis, and the safe manipulation of laboratory apparatus & materials in the field and in the laboratory. This course will have a greater emphasis on laboratory experiences, gathering and processing complex data and writing technical conclusions based on data. Texas Essential Knowledge & Skills for Biology §112.42. Science, Biology, Adopted 2021

1st 6 Weeks: Biological Structures, Functions and Processes: Prokaryotic and Eukaryotic Cell Structure, Viruses and Disease Cell Growth & Differentiation – Mitosis and Cell Cycle, Specialization Biomolecules and Cells Animal Systems – Structure and Function	**4th 6 Weeks:** Biological Evolution: Evidence of Evolution Mechanisms of Evolution Interdependence Within Environmental Systems: Ecological Relationships The Biosphere Cycling Matter and Energy
2nd 6 Weeks: Animal Systems – Structure and Function Energy in Cells Photosynthesis and Cellular Respiration Plant Structure and Function Mechanisms of Genetics: DNA Structure and Replication RNA and Gene Expression	**5th 6 Weeks:** The Biosphere: Cycles of Matter Carbon and Nitrogen Ecosystem Stability & Change: Environmental Change and Human Activity, Ecosystem Stability Biodiversity and Env. Change Ecological Succession; Population Growth Humans and the Environment Biology EOC Exam Review
3rd 6 Weeks: RNA and Gene Expression Human Genetics and Disorders Inheritance and Variation – Mendelian Genetics, Meiosis, Non-Mendelian Genetics	**6th 6 Weeks:** Biology EOC Exam Review Biology EOC Exam Homeostasis and Cell Transport Fermentation Biotechnology Scenario Based Unit

Questions? Please contact your course science teacher. Rev. 10-2-25