

Biology Advanced Parent Guide

Biology is the study of structure, growth, and function of the life systems of organisms. The study will encompass a variety of topics that include: structures and functions of cells and viruses; growth and development of organisms; cells, tissues, and organs; nucleic acids and genetics; biological evolution; taxonomy; metabolism and energy transfers in living organisms; living systems; homeostasis; ecosystems; and plants and the environment. Student investigations emphasize accurate observations, collection of data, data analysis, and the safe manipulation of laboratory apparatus and 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 and Skills for Biology [§112.34. Science, Biology, Adopted 2017](#)

1st 6 Weeks:

Biomolecules
Enzymes
Characteristics of Life
Prokaryote/Eukaryote Cells (Endosymbiotic Theory)
Viruses
Transport and Homeostasis

4th 6 Weeks:

Body Systems Interactions
Plant System Interactions
Homeostasis
Cell Respiration/ Photosynthesis
Scientific Explanation for Unity and Diversity of Life

2nd 6 Weeks:

Transport and Homeostasis
DNA and DNA Replication
Cell Cycle – Mitosis (Cancer)
Protein Synthesis / Mutations
Meiosis

5th 6 Weeks:

Evolution and Natural Selection
Taxonomy (Cladograms)
Kingdoms
Symbiosis
Adaptations
Ecological Succession
Food Web/Food Chains

3rd 6 Weeks:

Meiosis
Cell Differentiation
Meiosis vs. Mitosis
Mendelian Genetics (Monohybrid/Dihybrid Crosses)
Non-Mendelian Genetics (Karyotypes/Pedigrees)
Body Systems Interactions

6th 6 Weeks:

Environmental Change/ Resources
Biogeochemical Cycles
Biology EOC Exam Review
Biology EOC Exam
Scenario Based Unit

Questions? Please contact your course science teacher.