



Reavis High School

AP Biology Curriculum Snapshot



Unit 1: Ecology

15
Days

This unit focuses on how species, populations, and communities interact with the living and nonliving components of their environments. Also considered are the effects of the environment on species diversity, growth, and distribution over time.



Unit 2: Evolution

15
Days

Evolution by means of natural selection as proposed by Darwin is the unifying idea of biology. This unit focuses on the mechanisms of evolution, the evidence for it, and how phylogenetic trees and cladograms represent relatedness and evolutionary history.



Unit 3: Biochemistry

15
Days

The large biological molecules called proteins, fats, carbohydrates, and nucleic acids comprise the majority of the organic component of organisms. Understanding how they are synthesized, obtained from the environment, and chemically react in cells is the focus of this unit.



Unit 4: Cells

20
Days

Cells are the smallest entities which can be considered alive. They can reproduce, communicate with each other, and transport substances across their membranes. They also create and maintain internal environments chemically distinct from the environments in which they live (homeostasis). Eukaryotic cells are distinguished from prokaryotic cells by the presence of a nucleus and organelles.



Unit 5: Enzymes and Metabolism

20
Days

Cells require a constant input of free energy from their environment. This unit focuses on how cells effectively capture and harvest energy from their environments.



Unit 6: Plant and Animal Structure and Function

20
Days

Plants and animals maintain constant internal conditions (homeostasis) while receiving and responding to information from their environments. Several systems through which such maintenance is accomplished (nervous, endocrine, and immune) are studied.



Unit 7: Heredity

30
Days

This unit addresses two major topics. First, the process by which genetic information is passed from parent cell to daughter cell within the same organism, producing genetically identical cells (mitosis). Second, how sexually reproducing organisms produce sex cells (gametes) which contain half of the genetic information of the parent cells will be introduced. Patterns of genetic inheritance (Mendel's Laws) are covered in detail.



Unit 8: Molecular Genetics

30
Days

DNA and RNA are the primary hereditary molecules of all organisms. This unit focuses on how the DNA of an organism (genotype) is first transcribed and then translated into the physical protein structure of the organism (phenotype). Contemporary techniques by which scientists are currently able to modify and manipulate genetic information are also covered in depth.