

AP BIOLOGY

Chemistry of Life

- Structure of Water and Hydrogen Bonding
- Elements of Life
- Introduction to Biological Macromolecules
- Structure and Function of Biological Macromolecules
- Nucleic Acids

Cell Structure and Function

- Cell Structure: Subcellular Components
- Cell Structure and Function
- Cell Size
- Plasma Membranes
- Membrane Permeability
- Membrane Transport
- Facilitated Diffusion
- Tonicity and Osmoregulation
- Mechanisms of Transport
- Cell Compartmentalization
- Origins of Cell Compartmentalization

Cellular Energetics

- Enzyme Structure
- Enzyme Catalysts
- Environmental Impacts on Enzyme Function
- Cellular Energy
- Photosynthesis
- Cellular Respiration
- Fitness

Cell Communication and Cell Cycle

- Cell Communication
- Introduction to Signal Transduction
- Signal Transduction
- Changes in Signal Transduction Pathways
- Feedback
- Cell Cycle
- Regulation of Cell Cycle



Heredity

- Meiosis
- Meiosis and Genetic Diversity
- Mendelian Genetics
- Non-Mendelian Genetics
- Environmental Effects on Phenotype
- Chromosomal Inheritance

Gene Expression and Regulation

- DNA and RNA Structure
- Replication
- Transcription and RNA Processing
- Translation
- Regulation of Gene Expression
- Gene Expression and Cell Specialization
- Mutations
- Biotechnology

Natural Selection

- Introduction to Natural Selection
- Natural Selection
- Artificial Selection
- Population Genetics
- Hardy-Wienberg Equilibrium
- Evidence of Evolution
- Common Ancestry
- Continuing Evolution
- Phylogeny
- Speciation
- Extinction
- Variations in Populations
- Origin of Life on Earth



Ecology

- Responses to the Environment
- Energy Flow Through Ecosystems
- Population Ecology
- Effect of Density of Populations
- Community Ecology
- Biodiversity
- Disruptions to Ecosystems

Science Practices

- Concept Explanation
- Visual Representations
- Questions and Methods
- Representing and Describing Data
- Statistical Tests and Data Analysis
- Argumentation