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BOZEMANSCIENCE

## AP Biology

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[The New AP Biology Exam - A User's Guide](#)  
[The 2013 AP Biology Exam Reflections](#)

[AP Biology Practices](#)

1 - Models & Representation

2 - Using Mathematics

3 - Scientific Questioning

4 - Data Collection Strategies

5 - Analysis & Evaluation of Evidence

6 - Scientific Explanations & Theories

7 - Scales, Concepts & Representations

## Big Idea 1: Evolution

001 - Natural Selection

002 - Examples of Natural Selection

003 - Genetic Drift

004 - Evidence for Evolution

005 - Essential Characteristics of Life

006 - Phylogenetics

007 - Speciation and Extinction

008 - Speciation

009 - Evolution Continues

010 - Abiogenesis

011 - The Origin of Life - Scientific Evidence

## Big Idea 2: Free Energy

012 - Life Requires Free Energy

- 013 - Photosynthesis & Respiration
- 014 - Environmental Matter Exchange
- 015 - Cell Membranes
- 016 - Transport Across Cell Membranes
- 017 - Compartmentalization
- 018 - Positive & Negative Feedback Loops
- 019 - Response to External Environments

- 020 - Biotic and Abiotic Factors
- 021 - Homeostatic Evolution
- 022 - Homeostatic Disruptions
- 023 - Plant & Animal Defenses
- 024 - Development: Timing & Coordination
- 025 - Mechanisms of Timing & Control
- 026 - Behavior & Natural Selection

## Big Idea 3: Information

- 027 - DNA & RNA - Part 1
- 027 - DNA & RNA - Part 2
- 028 - Cell Cycle, Mitosis & Meiosis
- 029 - Mendelian Genetics
- 030 - Advanced Genetics
- 031 - Gene Regulation
- 032 - Signal Transmission
- 033 - Genotypes & Phenotypes
  
- 034 - Increasing Genetic Variation
- 035 - Viral Replication
- 036 - Evolution of Cell Communication

037 - Cell Communication

038 - Signal Transduction in Pathways

039 - Effects of Changes in Pathways

040 - Information Exchange

041 - The Nervous System

## Big Idea 4: System

042 - Biological Molecules

043 - Cellular Organelles

044 - Cellular Specialization

045 - Organ System

046 - Communities

047 - Ecosystems

048 - Enzymes

049 - Cooperative Interactions

050 - Populations

051 - Ecosystem Changes

052 - Cellular Variation

053 - Genotype Expression

054 - Population Variation

055 - Biodiversity

## AP Biology Labs

01 - Diffusion & Osmosis

02 - Enzyme Catalysis

03 - Mitosis & Meiosis

04 - Plant Pigments & Photosynthesis

05 - Cellular Respiration

06 - Molecular Biology

07 - Genetics of *Drosophila*

08 - Population Genetics & Evolution

AP Bio Labs - Part 1

AP Bio Labs - Part 2

Chi-squared Test

Comparing DNA Sequences

Diffusion Demo

Finding Stomata

Population Modeling

Cellular Respiration Lab Walkthrough

[09 - Transpiration](#)

[10 - Circulatory System Physiology](#)

[11 - Animal Behavior](#)

[12 - Dissolved Oxygen](#)

[Osmosis Lab Walkthrough](#)

[Photosynthesis Lab Walkthrough](#)

## Supplemental AP Biology Resources

[Review - Genetics](#)

[Review - Homeostasis](#)

[Review - Natural Selection](#)

[Review - Speciation](#)

[AP Biology Test: A User Guide](#)

[ATP: Adenosine Triphosphate](#)

[Biology](#)

[Cell Division](#)

[Diploid vs Haploid](#)

[Endosymbiosis](#)

[Epigenetics](#)

[Exponential Growth](#)

[Genetics Preview](#)

[Gibbs Free Energy](#)

[Homeostasis Preview](#)

[Logistic Growth](#)

[Probability in Genetics](#)

[Q10 - The Temperature Coefficient](#)

[Sodaria Cross](#)

[Solving Hardy-Weinberg Problems](#)

[Stickleback Evolution](#)

[The Operon](#)

[Three Domains of Life](#)

[Water Potential](#)

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